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California State Library

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## EXTRACT

*From an Act prescribing Rules for the Government of the State Library, passed March 8th*, 1861.

SECTION 11. The Librarian shall cause to be kept a register of all books issued and returned; and all books taken by the members of the Legislature, or its officers, shall be returned at the close of the session. If any person injure or fail to return any book taken from the Library, he shall forfeit and pay to the Librarian, for the benefit of the Library, three times the value thereof; and before the Controller shall issue his warrant in favor of any member or officer of the Legislature, or of this State, for his per diem, allowance, or salary, he shall be satisfied that such member or officer has returned all books taken out of the Library by him, and has settled all accounts for injuring such books or otherwise.

SEC. 15. Books may be taken from the Library by the members of the Legislature and its officers during the session of the same, and at any time by the Governor and the officers of the Executive Department of this State who are required to keep their offices at the seat of government, the Justices of the Supreme Court, the Attorney-General and the Trustees of the Library.

INV. 1898.

Number. 1] SAN FRANCISCO, SATURDAY, JAN. 7, 1871. [Volume I.

## Tree Culture.

### TREE PLANTING IN CALIFORNIA.

The season for tree planting has arrived nd we are frequently asked the question 'when is the best season or time to trans- plant trees?" In this climate it makes but ittle difference whether a tree is set just after the first rains or anytime during the vinter months, or in the spring just before he buds swell out into leaf. If your soil s light upland, the fall of the year is un- loubtedly the best time. While if it is a low, or heavy stagnant soil, late planting would be better. On the level, low adobe soils round San Francisco Bay for instance, before the land is really suitable for trees, t must be back furrowed into ridges, where the rows of trees are to be set and he drillfurrow should be left open, with a ower cross drain to conduct away all sur- plus water. Under draining of such soils s, if not absolutely necessary, at least very dvisable; and unless there is good drainage, t is better to wait until near spring before planting trees on such low heavy grounds.

On ordinary soils it makes little or no ifference, if the work is well done and the urface of the ground is left loose and free f weeds, when the dry season sets in. One thing is worth considering, however; rders for trees should be sent to your urserv man early in the season, so that the est trees and the best varieties can be eserved or at once procured. Young, hrifty trees should be chosen in preferance o older ones, if you wish to have a fine rchard. We have known people that ere in a hurry to have a bearing orchard ght away, to make the mistake of getting lot of large trees, with stumpy roots, egardless of all precedent, only to blame omebody for "bad luck" which is sure to llow.

If you are in a hurry to have a fine bear- ng orchard *soon*, get one, and two year old ees, of good thrifty growth, and well peued wood. Trees that are forced in rowth, too late in the season, should be unned as they are tender, and not sure thrive.

When the *terminal bud* is full and perfect, a thrifty looking nursery tree, you may [illegible] being all right, if the roots n, de- ed, and have not been serious- by the dirce- "You nursery men to have a paper, ls dig trees and allow t from posed to the sun and mordial ier, and then transport irst fos- without protection. om auy everely reprehensible, s. Mr. many failures to make the fact appear all right to White well versed in such rocks, well de- honest nurscry-man, s of that nent of trees under ls, seem y perhaps be mak- t of the tion) s a few *never put anything* al Neva- ots. Manure raked orizon of tree is all right; of the ediate contact with it, it induces rot, and blight, and works a positive injury.

An upright position of stalk, and an even spreading of the roots, with the ends pointed a little down, in a natural position, is right. Then press the earth closely about them, so as to leave no open spaces under or around the roots. Any one can set trees, if he will use a little common sense and observe natural principles, and be successful.

Evergreens, and other trees and plants in pots and boxes, may be transplanted at any time of the year, if properly shaded and watered, but our rainy season is really the best in every respect.

"CALIFORNIA SPECIMENS."

### CALIFORNIA FRUIT AND VEGETABLES.

Much has been said and written of the equable and balmy climate of California—a climate unrivalled even under the beautiful skies of Italy. Much has also been said of the soil of its beautiful valleys, which yields harvests most bountifully to the slightest touch of cultivation; and yet the picture has not been overdrawn. That for these reasons our state affords superior inducements to settlers is a supposition true, to a large extent, even now; but likely to be much more so at a more distant day, when certain industrial, agricultural and commercial problems, shall be better understood, and more fully carried out than they are at present. Like any other new country, California, with all its natural advantages, has its drawbacks to the mere working man—the bone and sinew of every land—who comes hither expecting to depend upon his labor, alone, for immediate means of support. Our markets are necessarily limited, and the uncertainty and high price of labor, has hitherto prevented the establishment of those extensive manufacturing operations wich furnish ready employment for labor in the older states; and provide an abundant market for farm produce.

The introduction of a more diversified system of farming, toward which our population is now being inclined, will greatly facilitate the incoming of emigration, and furnish the stepping stone for other important industrial and commercial improvements, which will open a still wider door to the employment of the millions of people in other lands who are looking anxiously to this rising empire of the Pacific.

In order to satisfy our readers abroad that what has been said of the wonderful productions of the soil of the Pacific Coast is fully borne out by facts and figures, we herewith submit an engraving which has been faithfully prepared from a photograph of a pile of fruit and vegetables, which was hastily collected in the Pacific Fruit Market, of this city, on the 27th of September 1767. They were not unusual specimens; but such as can be collected at almost any day, during six months of the year, in any of the larger markets of the Pacific Coast. These photographs have been extensively copied by artists and circulated largely in various parts of this and other countries. Mr. A. D. Richardson had an engraving made from one of these photographs and published in his book entitled "Beyond the Mississippi."

The engraving herewith presented has been prepared by our own artist, from a copy of the original photograph furnished us by Mr. C. W. Weston, the well known San Francisco fruit dealer. The human figure introduced, is nearly six feet high, and was included in the photograph to show the relative size of the vegetable and pomological productions. Referring more particularly to the engraving—the two beets upon the right thereof rest upon the floor, and if their tops, which were wilted, had stood erect, they would have reached fully up to the chin of the human figure. Although they were dug while *still* growing, they nevertheless weighed respectively 38 and 59 pounds!

One of the pears shown is a Duchess d'Angoulême and weighed 30 ounces; specimens of the same variety have been raised in this state which weighed *seventy ounces*! The apples shown are of the Gloria Mundi variety and weigh from 23 to 29½ ounces, each.

The corn has 24 rows to the ear, and produced four ears to a stalk. The bunch of grapes (Tokay) held in the right hand of the figure weighed 11 pounds. The sunflower, partially shown at the feet of the figure was 24 inches across its face. An egg-plant is shown 26 and a cabbage 54 inches in circumference; one of the quinces weighed 31 ounces, while the sweet potatoes, squashes, melons, pumpkins, etc. were of like mammoth proportions.

We may state in this connection that an onion has been shown at an agricultural fair in this state which weighed 77oz. and measured 22in. in circumference; a tomato 26in. in circumference; cabbage heads weighing from 43 to 53 pounds; water melons 65 pounds; a red beet 5 feet long, 1 foot in diameter and weighing 118 pounds and a squash which weighed 265 pounds! These were extraordinary productions—none of which class of productions, except the sunflower mentioned, happened to be in the market at the time the photograph, from which we have copied, was taken. A celebrated writer says that nothing is so false as facts except figures; but the pictorial representation of most of the facts above given can be verified by sun pictures, which can't lie and which are within the ready reach of any person in this city.

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Five Crops of Wheat from One Sowing.—A Yolo county farmer has raised five crops of wheat from one plowing, sowing and harrowing. It is said that his ground averaged 30 bushels to the acre. One hundred and fifty bushels from land tilled but once is certainly very good and profitable returns; but would not proper tillage, at least every second year, have given a greatly increased yield over that obtained from consecutive years of volunteer crops?

## MECHANICAL PROGRESS.

THE COTTERILL LOCKS.—*The Engineer* gives a description of these new patent locks, which we condense:—"The padlock, being without a rivet hinge, could only be forced with great difficulty. The hoop is in one piece with the bolt, and simply slides up and down to open and shut. The street door lock or latch has two keys; one only need be used during the day; by the aid of the other a cover is thrown over the first keyhole, preventing the insertion of the key, and backing up the tumbler with a strong stop plate to prevent the bolt being forced. This lock is applicable to small safes, office doors, etc. The keys are spindles with cams cut on them. The key being a number of eccentric circles, each differing, working in the centre of the tumblers, the lock is perfectly powder proof. Robberies are often committed by copies or impressions of the keys being taken; this is impossible with the Cotterill lock. The key working in the center of the levers gives a great advantage over all locks, the keys of which work on the edge of the levers, making it very much more difficult to pick or force. The keyhole being so small, any instrument inserted for picking fills it up, so that no second instrument can be inserted which will have the least effect. The safe or street door lock with two keyholes is doubly secure, as it forms two separate and distinct locks; the last or bottom key in locking throws a steel plate over the top keyhole, making it in every way safe from the burglar. Besides, in banks or large jewelry establishments two clerks may be present, each with his own key to open the safe, yet the lock can be made so that the principal may have a master key to open the two. The great advantage of the padlock is that the shackle is not fixed to the lock by a pin, but slides in and out of the lock, requiring a key to open it, yet it will lock itself. The keyhole is covered by a spring drop, which requires the point key to open it, so that no dirt can get into it, and wet is kept out of the body of the lock."

USES OF THE BESSEMER METAL.—"A correspondent of the 'Maschinen Constructeur' says that he has seen Bessemer metal used with great advantage for making the piston-rods of steam hammers which were used for hammering steel. Wrought-iron pistons and piston-rods of the same dimensions were used up in a short time, by the change of the iron from a fibrous to a granular structure, in consequence of the repeated concussions to which they were subjected. Bessemer metal has also been used for locomotive axles with excellent results. Its use for this purpose, as well as for boiler plates, is continually increasing in Europe, though we have not heard of its application to either purpose in this country. The fact that it resists the oxidizing effects of a flame much better than wrought iron is a strong argument for its use in boilers. It is only about 13 years since the first introduction of Bessemer metal, and though its adoption for rail making has been contested, step by step, until it proved itself far superior to other iron, it is now almost universally commended for that purpose."—*Eng. and Min. Journal.*

WIRE ROPE BRIDGE.—At the Landore Siemens Steel Works, near Swansea, is an arrangement for carrying the matter from some excavations across a stream where vessels are frequently passing. Two steel wire ropes are stretched across, each bearing a "runner" with grooved wheels, from which is suspended a truck; and the runners are both attached to an endless wire cord which passes round a pulley on each bank, so that the loaded truck, descending by its own gravity to the opposite bank which is the lowest, draws back at the same time the empty one. To allow the passage of a vessel, the ropes are lowered to the bottom of the stream at its middle, by running forward the abutement over which they are strained; and this is afterwards drawn back by a hand winch worked by two men, the final tautening being accomplished by screw couplings to which the hauling chains are hooked.

CARBOLIZED VULCANITE.—The *Scientific American* has seen specimens of rubber goods, all made of the same materials and in the same manner, but a part of which were carbolized and a part not. All had been used in the same manner and for the same length of time. "The uncarbolized rubber and cloth were in a rotten and damaged condition, while the carbolized was apparently as strong and sound as when new."

PEAT FOR GAS.—T. H. Leavitt, of Boston, whose notes upon the use of peat fuel for locomotives and in iron works we have alluded to, writes the *Gas Light Journal* on peat for gas making. We give an extract or two from his letter:—Prof. Johnson of Yale College says "a retort of two feet width, one foot depth, and eight or nine feet length, must receive but 100 lbs. of peat at a charge. The quantity of gas yielded in a given time is much greater than from bituminous coal. From retorts of the size just named, 8,000 to 9,000 cubic feet of gas are delivered in 24 hours. The number of retorts requisite to furnish a given volume of gas, is much less than in the manufacture from coal. On the other hand the dimensions of the furnace are considerably greater, because the consumption of fuel must be more rapid, in order to supply the heat which is carried off by the copious formation of gas." * * Dr. A. A. Hayes of Boston, reports an experiment with 16 lbs. of peat from Wisconsin. The quantity being so small the charge was made up with Picton coal. 134 lbs. Picton coal alone, yielded 536 cubic feet of gas: 5 feet being equal to 17 candles, or the whole to 1778 candles. The same quantity (134 lbs) of Picton coal with the 16 lbs. of peat added, yielded 620 cubic feet of gas: 5 feet of which were equal to 29 4-10th. candles. In his report he says "There are only two or three cannel coals known which afford so much illuminating material, placing this peat in the first class of gas materials. It exceeds all common cannel coals, and of course is far above any bituminous coal, and can be worked with *poor coal* to make *good gas.*"

DISBURDENED SLIDE VALVE.—The *Artisan* has this notice of a device which is the subject of a recent English patent. "In order to relieve the slide-valve from the pressure of the steam or fluid upon its back, so as to lighten the friction against the valve face as far as is consistent with maintaining a sufficient contact, the inventors form the valve with a passage through it and a face at its back, which works steam-tight upon a plate carried by a cylinder passing through the bonnet or steam-chest cover by a suitably packed gland. This cylinder excludes the steam from the back of the valve more or less, according to its area. If the engine be non-condensing, the area of the cylinder will be somewhat less than that covered by the valve. For a condensing engine, the cylinder may be of larger area than the valve, and apparatus will then be provided to prevent the cylinder receding from the back of the valve when there is no proper vacuum in the condenser."

THE LAUNCH OF THE "THOROUGHFARE," the new steamer built for freight purposes by the C. P. R. R., which occurred on the 24th ult., was interesting as being that of the first of its class ever used on our coast. It is 165 feet long, 50 feet wide, has a double track, and can accommodate 14 to 20 freight cars. It was built under the superintendence of Mr. P. H. Tiernay. The engines, with 22-inch cylinders and 7-foot stroke, were built at the works of the railroad company at Sacramento. The steamer is very strongly constructed, and its launch was made the occasion of quite a little jubilee.

THE "PNEUMATIC DISPATCH." In the subterranean room adjacent to the entrance of the Broadway pneumatic tunnel, a small line of tubing has been arranged in connection with a blower to test some improvements recently suggested in the pneumatic system of transmitting mail matter. On a late visit of Secretary Robeson to the tunnel, the apparatus was put in operation, and a large mail of letters and newspapers sent through the tubes at a velocity of *sixty-three miles an hour.—Artisan.*

GRAINING WITH STENCIL PLATES.—We see this noted as the subject of a recent patent. A pattern of the grain of any wood is taken with tracing paper, and transferred to a plate, which is cut accordingly. This is placed upon the graining color, freshly laid on, and rubbed over with a cloth which removes the color at the openings. The plate is then removed, and the work finished with the ordinary graining tools.

AEROSTATION.—The Paris correspondent of the London *Engineer* writes that the French Academy of Sciences "has expressed its opinion in a very decided manner against aerostats heavier than the air moved by steam or other power; but it gave some countenance to a proposition by an engineer, M. Sorel, who uses a sail as a rudder, and a screw simply to produce a difference between the velocity of the machine and that of the wind. The balloon is, in fact, retarded by the screw, and thus resistance is obtained."

## SCIENTIFIC PROGRESS.

THE "MUDLUMPS" OF THE MISSISSIPPI.—The *American Naturalist* for December has a notice of an abstract of a paper upon this subject, by Professor Hilgard, the State Geologist of Louisiana, read before the American Association. We quote: "The Mudlumps are islands formed by upheavals of the bottom, off the mouths of the Passes, inside the bar. They often rise in mid-channel, obstructing navigation and diverting the current, and at times bringing up objects long ago lost from vessels. They form a number of pretty large islands, especially near the mouth of the South-west Pass. On them we frequently find springs of liquid mud, accompanied by bubbles of combustible gas; these springs often exhibit all the phenomena of mud volcanoes—extensive cones of mud, with an active crater in the middle. Most of the material of the Mudlumps seen above water, bears evidence of having once belonged to active cones, now extinct. The conclusion reached is, that the mud is the same as that which is deposited on the "blue clay bottom" of the Gulf, outside the bar, in a semi-fluid state. In its annual advance, the bar covers this mud stratum, which exists equally higher up the Passes; the increase in weight by vegetation, alluvion, etc., of the new formed land above, as well as that of the bar below the mouth, causes the bottom to bulge upwards at the points of least resistance, *i. e.*, in the deepest channel. Attention was called to the fact, that of all rivers known, the Mississippi is the only one exhibiting either mud-lump action, or the peculiar narrow lands of bank, advancing rapidly toward deep water, which are known as "necks," and are obviously dependent on the mudlumps for their origin."

PROTOCHLORIDE OF COPPER.—We take the following from the *American Chemist* for December. It was communicated by Dr. Bœttger:—"When protochloride of copper is placed in weak hydrochloric acid, and submitted to electrolysis, the electrodes being made of copper, the anode becomes covered with snow-white crystals of chloride of copper, while there is deposited on the cathode a thick layer of very loosely-adhering spongy metallic copper. When the latter is well washed, and next placed in a small flask along with a filtered solution of bleaching powder (hypochlorite of lime), that salt is partly decomposed, yielding, at first, very pure oxygen gas, but afterward a gas (not specified) which extinguishes the light of a burning taper."

INFINITE SLOWNESS OF FORM CHANGE.—"Suppose one foot of coal represents fifty generations of coal plants; and that each generation of coal plants took ten years to come to maturity—then each foot-thickness of coal represents 500 years. The beds of coal in one field may amount to a thickness of fifty or sixty feet, and therefore the coal alone, in that field, represents 25,000 years. But the actual coal is but an insignificant portion of the total deposit, which may amount to three miles of vertical thickness. Suppose it to be 12,000 feet—which is two hundred and forty times the thickness of the actual coal—is there any reason why we should believe it may not have taken two hundred and forty times as long to form? I know of none. But, in this case, the time which the coal field represents would be 6,000,000 years. * * The coal Flora, viewed in relation to the enormous period of time which it lasted, and to the still vaster period which has elapsed since it flourished, underwent little change while it endured, and, in its peculiar characters, differs strangely little from that which at present exists. The same species of plants are to be met with throughout the whole thickness of a coal field, and the youngest are not sensibly different from the oldest. But more than this. Notwithstanding that the carboniferous period is separated from us by more than the whole time represented by the Secondary and Tertiary formations, the great types of vegetation were as distinct then as now. The structure of the modern club-moss furnishes a complete explanation of the fossil remains of the *Lepidodendra*, and the fronds of some of the ancient ferns are hard to distinguish from existing ones. At the same time it must be remembered that there is nowhere in the world, at present, any forest which bears more than a rough analogy with a coal forest. The types may remain, but the details of their form, their relative proportions, their associates, are all altered. And the tree-fern forest of Tasmania or New Zealand gives one only a faint and remote image of the vegetation of the ancient world. Once more an invariably-recurring lesson of geological history at whatever point its study is taken up—the lesson of the almost infinite slowness of the modification of living forms—the lines of the pedigrees of living things break off almost before they begin to converge."—*Prof. Huxley.*

PHOSPHATE OF LIME—SOURCES AND DISTRIBUTION.—Dr. Lankester notices, in *Nature*, a paper by Professor Dyer on this subject. We quote a part of the notice: "Mr. Dyer points out the abundance of phosphate of lime in igneous rocks, but hesitates about tracing its origin in such beds either to direct chemical combination, or to the inclusion of organically-formed phosphate in the rocks in question. He does not, in short, discuss the possibility of the combination of phosphoric acid and lime in the primeval state of the globe without the intervention of life, which one distinguished geologist at least denies. Mr. Dyer traces the occurrence of tricalcic phosphate in the various sedimentary deposits with great care. He considers the many structureless masses of phosphatic deposits which occur 'as residuary evidence of formerly existing life, of which they are to some extent the measure,' as graphite is in other cases. A greater influence in the production of these masses is attributed to animal than to vegetal life, though marine plants are stated to be especially rich in phosphate of lime, and have undoubtedly played their part in its introduction into sedimentary strata. Mr. Dyer mentions that the recent Brachiopod Lingula has 86 per cent. of phosphate of lime in the mineral ingredients of its shell; and the occurrence of large quantities of phosphate of lime in the great Laurentian and Silurian formations is noticed by him in detail, as well as its occurrence in Devonian and Carboniferous limestones. In emerging to the group of mesozoic strata, we leave behind almost entirely those veins and beds of 'phosphate' which occur in the older and more changed rocks, where the segregation of the phosphate of lime has been more completely effected, owing to the greater age of the beds. In mesozoic and tertiary strata we find those nodules which have so erroneously been confused with 'coprolites.' Mr. Dyer accepts the history of the origin of these nodules which I have advocated in describing those which occur below the Suffolk Crags. Clay has a remarkable power of detaching phosphate of lime from its solution in carbonated water; and the phosphatic nodules are bits of clay which have become imbedded with great quantities of bones, and in some cases, probably, with sea-weed too; whence, by the intervention of gas-charged water, they have extracted the phosphate; hence all beds of phosphatic nodules occur near to argillaceous strata of special character."

PHOSPHORESCENCE IN RAREFIED GASES.—M. Sarasin details experiments undertaken to show the cause of phosphorescence in rarefied gases after the passage through them of an electrical discharge. One of his conclusions is that this phenomenon is due to chemical action. The gas is decomposed by the current, the oxygen contained in it is partially converted into nascent oxygen, or ozone, throughout the entire mass of the gas. In this condition it has a very strong tendency to unite with the other elements present; and, indeed, as soon as the current ceases it unites with them. This re-combination of the nascent oxygen or ozone takes place with energy, and may rationally be supposed to be accompanied by a generation of heat, which in its turn brings about the phenomenon of light which we call phosphorescence.

NEVADA FOSSILS.—Mr. Meek, in s[illegible] to Professor Leidy, for publicatio[illegible] scriptions of some fossils collected [illegible] U. S. Geological Survey, under the [illegible] tion of Clarence King, Esq., says: [illegible] will please state, in presenting the [illegible] that the trilobites described in i[illegible] Eastern Nevada are decidedly pri[illegible] types, and, so far as I know, the f[illegible] sils of that age yet brought in fr[illegible] locality west of the Black Hil[illegible] King's collections also establish [illegible] that the rich silver mines of the [illegible] Pine district occur in Devonian [illegible] though the carboniferous is also [illegible] veloped there. The Devonian bed[illegible] district yet known by their fossi[illegible] mainly to belong to the upper pa[illegible] system. Mr. King, however, h[illegible] fossils from Pinon Station, Centr[illegible] da, that appear to belong to the h[illegible] the Upper Helderberg limeston[illegible] New York series."

# CORRESPONDENCE.

## Notes of Travel in Colusa and Yolo Counties.

[WRITTEN FOR THE PRESS.]

To persons resident in, and familiar with Yolo and Colusa counties, no explanation of the accompanying map of Grand Island is necessary. But as the work of reclaiming this section is one of the most extensive in the State, and therefore of more or less interest to all, I submit a few explanations.

Bridgeport, shown in the upper end of the map, is situated near the north end of Grand Island, six miles south of Colusa, and about eight miles north of the line of Yolo county. It consists of a store, blacksmith shop and a few dwellings. Eddy's Landing, six miles south of Bridgeport, is similarly situated and there is a ferry for crossing the Sacramento River at this point. Grand Island is a village of about 100 inhabitants, situated one mile south of Eddy's Landing, and is a very promising little place. John Bader is the village blacksmith, and C. J. & G. E. Diefendorff are the principal merchants. Knight's Landing, the principal shipping port in Yolo county, is situated at the lower end of Grand Island, on the west bank of the Sacramento River, and about 10 miles north of Woodland, the county seat of the county. It contains about 500 inhabitants and just now is quite a lively place, on account of the extensive levee (now being built by Reclamation Company No. 108), which gives employment to some 400 or 500 men.

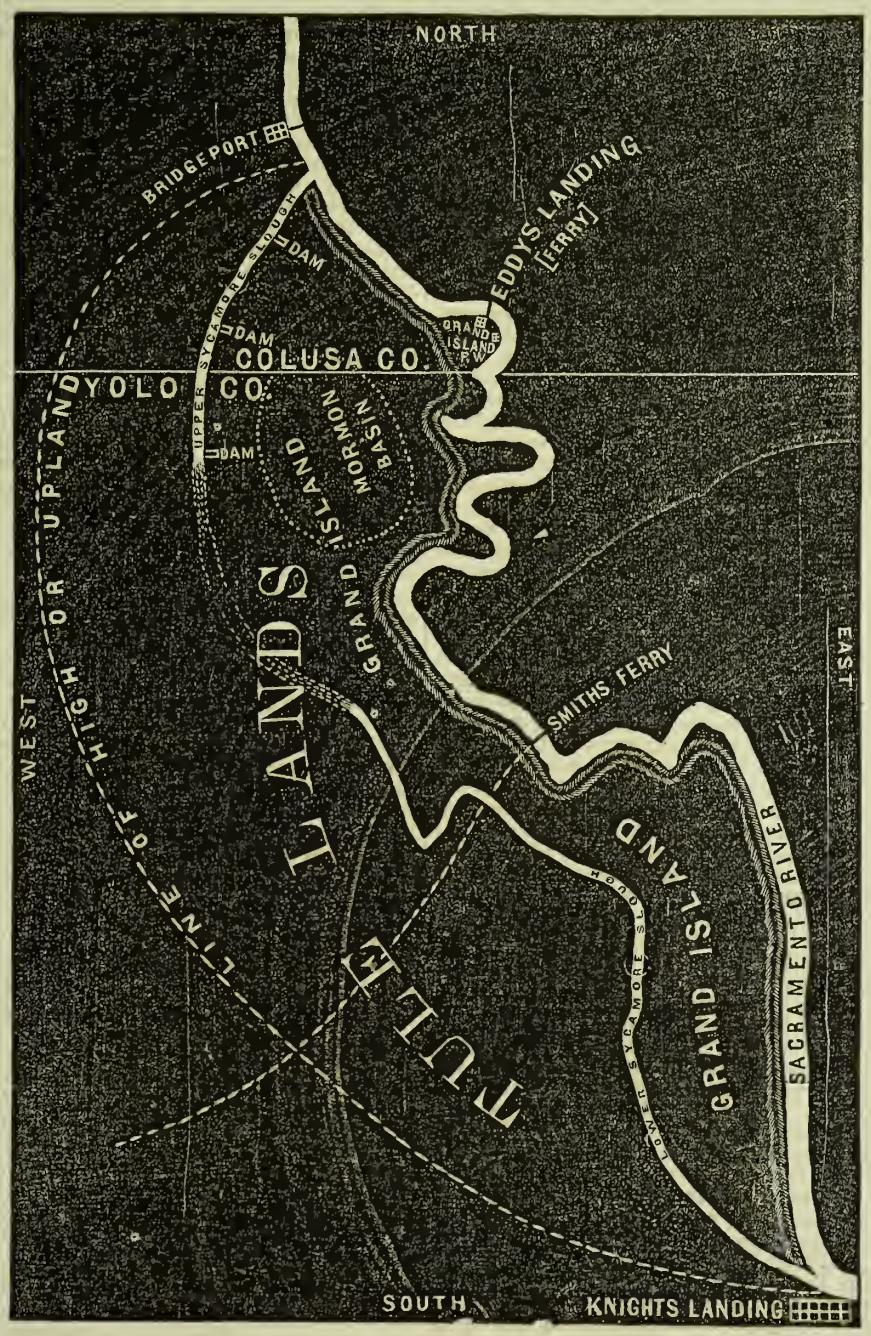
### Reclamation and Irrigation Plans.

A. H. Rhodes, Lewis A. Garnett and Chas. F. Reed are the Trustees of this company, and Capt. William Blanchard is managing counsel. These parties own 42,000 acres of swamp and overflowed lands. The district contains 72,000 acres, commencing at Knight's Landing on the south and running to Upper Sycamore Slough (near Bridgeport), 40 miles distant by the river. The imaginary line (see engraving) on the west bank of the Sacramento River, is to represent the course of the levee now constructing, which will be some five miles shorter than the course of the river. J. M. Lemon, Esq., of Suisun, is the contractor of this immense undertaking, and it is estimated that it will cost $140,000, or about $2 per acre, to reclaim.

The levee is built four feet high, 20 feet wide on the bottom by four feet wide on top. About 15 miles are now completed, and weather permitting, the entire work will be completed by the last of this month (January). A small portion of this island, just above the Yolo county line, and known as the "Mormon Basin," has been previously reclaimed, and produced 40 bushels of wheat to the acre last year. At the upper end of the island, some seven miles south of Colusa, this same company are putting three large dams in the Upper Sycamore Slough, and erecting flumes, for the purpose of irrigating this entire tract during the driest season. The imaginary line on the extreme west of the engraving represents the high land, to which point the company's claims extend. The supposition is, that if this company are successful and thoroughly reclaim this section it is now not worth one dollar per acre, in one season it will be worth $15 per acre—a splendid fortune for its proprietors, and perfectly feasible of success. Mr. Reed conceived the original idea and sought capitalists in San Francisco who joined him in this enterprise.

### Mr. Reed's Ranch.

He proposes personally to seed 1,000 acres of wheat and 500 acres in barley. He has a fine ranch stock of various kinds, including the best breeds extant. He purchased of Col. Younger, of San Jose, his thoroughbred bull, "Jeff Davis," paying therefor $1,000. This bull received the first premium at our last State Fair. He also purchased of J. Guill, of Chico, his thoroughbred cow, "Nellie," for $500. In addition, he has numerous breeds of thoroughbred horned cattle. Of horses, he has colts of the Black Hawk breed, sired by Black Eagle, a horse which Mr. Reed purchased of Jones & Rochnell, of Vermont, for $5,000. On Mr. Reed's place he has a steam engine, which is used for supplying his house with water; also for the stock in his fields. The water from the tanks supplies a fountain in front of his residence, and then passes by pipes to his fields for the young stock. He is also the owner of a large warehouse in the town, the capacity of which is over 5,000 tons. The specimen of wheat I send you, is called *Tousselle;* and from seven pounds sowed by C. Barney (3¼ miles southwest of Knight's Landing), 240 pounds were reaped. The specimen of seven pounds was from the




Department of Agriculture at Washington, to Chas. F. Reed, Esq., and $5 per ounce was refused for the same at the last Chico Fair. This wheat will average 65 pounds per bushel.

At Knight's Landing, Messrs. Rhodes, Eves & Co. own a very fine flouring mill, run by a 40-horse power engine, and turn out about 20,000 barrels of flour annually, besides ground feed, barley, corn meal, etc. Messrs. Laugenour & Brownell, of this place, are the principal shippers of wheat, barley and wool. For the 12 months just past, 10,000 tons of wheat and barley, and 25 tons of wool were shipped. The capacity of their warehouses is 9,000 tons.

### Fletcher's Steam Ditcher.

A. Fletcher's steam ditcher, now successfully at work ditching on the farm of Chas. F. Reed, is 41 feet long, 12 feet wide and 12 feet high, has an upright boiler (8 feet long, 44 inches in diameter, and with 109 2-inch tubes), attached to which are two engines of 7-inch bore and 12-inch stroke, which with 100 pounds of steam and 150 revolutions, give 24½ horse-power. The machine stands on four wheels. The forward or propelling wheels are eight feet in diameter, with 2-foot face, and are attached to the forward shaft like the driving wheels of a locomotive. To one of these wheels is attached an internal gear, 6-feet diameter, 5-inch face and 2¼-inch pitch, in which works a 10-inch pinion, which is connected with the engine by a combination of gearing so arranged that by the working of four clutches the machine can be propelled either forward or back from one to 10 miles in 10 hours, without any increase or decrease of the speed of the engine. The hind wheels are six feet in diameter and one foot face, work loose on a crooked axle similar to the hind axle of our large city trucks. The hind part of the machine rests on a rocker placed on this axle, to which are attached tiller-chains, which pass around the forward end of the machine and are worked by a worm gear with a crank, which guides or steers the whole machine.

A few feet forward of the middle of the machine is an iron wheel, seven feet in diameter, to which are attached four knives, angular-shaped, and which extends 12 inches each way laterally. This wheel revolves about 30 times a minute, cutting a ditch two feet wide and 4½ feet deep. Upon each side of this cutting wheel are knives extending from the bottom of the wheel upward and outward, like the sword cutter of a plow, which trim the outer edge or side of the ditch, and give the slope, or flare, as desired. Following this wheel is a scraper, the point of which comes under the wheel, and extending backwards and upwards is an apron or belt of india rubber, two feet wide, upon which the wheel drops the dirt, cut and pulverized fine. This is carried back and up to the rear of the machine, where it drops on to a top or side apron, which carries it to either side of the ditch. This side apron is arranged so that it will carry the dirt either to the right or left, by moving a clutch. As the cutting apparatus is working, the whole machine is moving forward, and the quantity of work it does is regulated by giving it a fast or a slow motion forward, without changing the speed of the engines. It costs about $5,000, weighs seven or eight tons, and was constructed by I. H. Small, corner of Beale and Market streets, San Francisco.

### Woodland.

Woodland, the county seat of this (Yolo) county, is one of the finest looking towns, for its size, in the State. It probably contains 1,000 inhabitants. Over two-thirds of its buildings are fire-proof brick. They have as fine county buildings here as anywhere in the interior; a splendid college building, ranking among the first in the State, not only as to size, beauty and material, but also in the aggregate attendance of its pupils; also a fine bank, known as the Bank of Woodland, with a capital stock of $200,000; and several manufactories. The Yolo Brewery building and its surrounding shrubbery is a noticeable feature near the suburbs. Jas. Sibley manufactures all kinds of doors, sash, scroll work, sawing and planing; and C. Elliott, Esq., manufactures all kinds of carriages, buggies, sulkies, express and lumber wagons, also Hiller & Elliott's patent improved carriage construction, of which an illustration with full comments were published in your issue of September 24th. Mr. E. employs regularly 10 men, and has on hand specimens of nearly every vehicle known in his splendid two-story fire-proof brick building, 60 feet deep by 84 feet front, situated in the upper end of the village, on its principal street. Gray & Wood are the principal dealers in hardware and agricultural implements, and Dr. D. D. Hunter presides over its best hotel. L. P. MC.

## San Francisco Notion versus Boston Notion.

EDS. PRESS:—In your last issue, you notice a Boston device by which runaway horses can be instantly detached from their carriage. But is not the San Francisco invention of Dr. Le Plongeon (recently patented through your office), by which runaway horses can be instantly checked and controlled and kept by the carriage, infinitely preferable? Detached runaway horses may do much harm to others, but Le Plongeon's contrivance prevents all this. His halter is cheap, can be fitted to any bridle, and is well worthy of a trial. It can be found at Main & Winchester's, Battery street.

[Personally, we should greatly prefer Dr. Le Plongeon's method to the other, and coincide fully in the opinion of our correspondent in believing that it is at least "well worthy of a trial."—EDS. PRESS.]

## Cool Impudence.

A couple of New York lawyers send us a request to insert an advertisement in our paper, to the effect that they will obtain divorces anywhere, anyhow and for anybody, and without any publicity. We suppose the last means that they propose to obtain divorces without the knowledge of more than one of the parties interested.

This matter of obtaining divorces seems to be quite a flourishing business in the States beyond the mountains. Almost every day we see accounts of most disgraceful events of the kind. To such a shameful extent are these things carried on, that people are becoming aroused to the necessity of taking strong measures in the matter; and one New York judge has declared from the bench that he will mete out heavy punishment to legal parties who carry through the improper divorce cases by unrighteous means.

However our Pacific Coast population may compare in other respects with those of the Atlantic Coast, we have not yet reached the point attained there in this respect. We consider it exceedingly cool, not to say impudent, on the part of the lawyers referred to, to send us such a proposition; and as we do not propose to play the part of pimps, we decline inserting their advertisement.

INTERESTING TIDE FIGURES.—The height of the tide is from 5 to 12 feet on our Atlantic coast, and from 2 to 4 feet in the central Pacific ocean. In the Bay of Fundy it is from 50 to 70 feet. At this last locality the waters of the in-coming tide are raised so high that, as they advance, they seem to be pouring down a slope in a turbid waterfall of great extent. In the Tsien-tang River, in China, the advancing wave rushes on like an advancing cataract, 4 or 5 miles broad and 30 feet high, and speeds up the stream for 80 miles at a rate of 25 miles an hour! The change from ebb to flood tide is almost instantaneous. In the Amazon river, the incoming tide passes up the stream in five or six waves, each 12 to 15 feet high, which follow one another in rapid succession.

# Home and Farm.

## THE NEEDS OF AGRICULTURAL COMMUNITIES.

FOR THE PRESS—BY DR. E. S. CARR.

[Prof. of Chemistry and Agriculture in the University of California.]

As the Army Scout, who goes before to report obstacles in the way of progress, and the strength of the enemy, though he claims no capacity for generalship, feels himself as truly a soldier as any man in the ranks, so I who do not own a foot of land, offer you some reflections upon the needs of Agriculture and Agricultural Communities, gathered during twenty years hard fighting in the cause of *Industrial Education.*

I claim too as early and intimate an acquaintance with this pursuit as the sage of the New York *Tribune*, for I have ploughed when ploughing was not a pleasant ride over flowing fields, and mowed among boulders and Canada thistles where every bushel of corn cost more in patience and muscle than a ship load of California grain. I could match Mr. Greeley's experience on the barren hills of New Hampshire with my own on the Manor of Rensselaer; I also know the hardness, the unattractiveness of farm work; yet at the Summit of Life, looking at the ground I have passed over, and comparing the farmer's life with other callings, I can say there it none as useful, on the whole as pleasurable, or which rightly understood and followed, calls into such constant exercise the whole range of human faculties. It holds this place in the Oldest Scriptures the Oldest Literatures, and yet there is no question of more vital importance before the Nation to-day, than this. How shall we educate our youth so that there shall be *more farmers and more mechanics in the land?* How shall we raise their pursuits to the rank they deserve in the Hierarchy of the Sciences? It is in vain to eulogise a calling whose votaries forsake it with every opportunity, and whose children turn from it with ill concealed disgust. Congress might give every acre of tho unappropriated public domain to found Agricultural and Industrial Colleges, making them not only free but giving a bonus of lands as a reward of attendance and their halls would remain empty, until the relations of labor to Human Nature are understood and carried out, until out of a sense of loss, failure and one sidedness, the farmers shall resolve that his children be as carefully cultured as the fields, that they shall grow up in pleasant homes, and until he 'lays up' for them—not dollars and cents alone, but 'capital for after pleasures of thought and memory.'

Let us reason together about this business of Agriculture; wherein does it fail to meet the demands of Human Nature—the higher nature? Why are we here in California, as elsewhere, looking to the more degraded classes of foreigners for permanent laborers in our important industries? Is there any real antagonism between labor and culture, or is it only because labor is of the hands alone, and not of hands and heart and brain, together, that it stultifies and belittles us?

The whole educational world has been roused, in the last few years, to find a remedy for the growing distaste of American youth for those employments most vital to the public welfare. We are beginning to realize some of the primary truths of social science, such as this—*the foundation must be as solid as the superstructure.* If the people who live by and represent our great industries are ignorant and uncultivated, we can build over them no political or social edifice which will endure. There can be no healthy, living community which is not made so by the life blood of intelligence circulating freely through all its members, the Church and College and Factory and Farm, must be brought into closer relations with each other, ere either can render their best to Human Science.

How shall we bring this about? The *Salvation* that is to say, the Civilization of California depends upon doing it, for whether she will or no, California must be the center of vast forces, either of incalculable good or evil.

I reply—*By education*; and by this I do not mean mere schooling; but a training which shall ennoble labor until the measure of service becomes the measure of greatness.

This training ought to begin with life, and the father and mother should be the first teachers. I have seen a good many natural and unnatural curiosities in my day, but I have never seen a child who hated the country, or who did not think it lovely to live on a farm. If you can find just the place where your boy and girl begin to develop a contrary sentiment, you will know exactly the seat of a trouble in your home or your neighborhood that needs remedy, and in nine cases out of ten you will find it to be this:—You have left the social nature of man, and this ought to be a very large part of him, out of the account.

It is not reasonable to expect young persons, at the age when social attractions are the strongest, to be willing to dig and delve, and submit to the privations which many remember as a part of their own youth, but which ought to belong to a past condition of things. When I remember how often the growing boy was overworked, how short his time for study and recreation, the disadvantage with which he entered cultivated society, I do not wonder that the farmer's son turns toward other occupations, or that the ceaseless cares of the farmer's wife, in homes where beauty had not softened the hard outlines of utility, should discourage and disgust her daughters. Families who have struggled long and hard to gain a competency, no sooner accomplish this than the country home is abandoned for town life—where it is thought there is more to be *enjoyed.*

The love of country life seems to be dying out among Americans. What shall we do to make our paternal acres represent here, as they do in Europe, social standing, intelligence, leisure and culture? The highest ambition of the European emigrant is ownership of his land; we must confess to the lack of this sentiment among the higher classes of our own people—a fact greatly to be deplored, and which augurs ill for our future prosperity.

There are many places in the West where the social and political economist might have learned valuable lessons in the last 25 or 30 years. One of these is a portion of the Valley of the Rock River in Wisconsin, which within my own remembrance has been twice colonized—once from New York and New England, the advance of the wave which settled Michigan—and secondly by Germans and Scandinavians. The first came and took up large tracts of land, which they cropped year after year with wheat, burning their straw and returning nothing to the soil. They cut down the sparse timber of the oak openings, and the climate being unfavorable to fruit-growing, left nothing in its place. By the time their lands were well fenced, comfortable houses and barns and school houses erected, and chills and fever had been subdued, they discovered that their crops were not so heavy as formerly—there were more frequent droughts, more "chinch bugs."

Many of the pioneers sold out at a great sacrifice and went to repeat the same practice in Missouri, Kansas, or on the Pacific Coast, or sunk personal influence and capital in the towns in attempts to lead a life for which their previous habits unfitted them. Meanwhile the hardy Norwegian peasants who had taken up the less desirable portions of wild land, saving, in European fashion, every scrap of manure, planting trees and vines, and settling more in communities, grew rich, and in many cases were able to buy up the improved homesteads of their American neighbors, until in some locations the entire nationality of a district has been changed—certainly not for the worse, if the accelerated increase of the population, and the value of the land are considered. Wisconsin, Iowa and Minnesota have gained immensely in gaining this *home-making* element. In our own State we have a notable example, in the thrifty town of Anaheim, of the results of social, in contrast with isolated settlements.

Whenever we become alive to our own real interest we shall be less greedy of immediate gains, more craving of neighbors than of acres. We shall learn to apply the principles of co-operation in the purchase and use of machinery and in supplying food and clothing for our households.

The rapid growth and wonderful prosperity of such communities as that of Vineland, proves a genuine love for rural life, where it is not purchased by the loss of social privileges. And so the growing tendency of city population towards suburban life, as shown in the formation of our numerous homestead associations, is another proof that Nature is still consistent with herself.

In these cases *Horticulture*, the original fine art, which weaves a web of beauty around the lowliest home, becomes the link uniting city with country. The cultivation of the small garden spot, its harvest of pure and simple pleasures begets a longing for the wider fields and freer life of the farm.

To the stranger in California, the clump of lillies blooming in mid winter by every cottage door, the vines wreathed around porch and window speak more for the character of her people than the product of her mines or the wealth of her commerce.

No *social organization, however attractive, will suffice permanently to elevate our industries; this can be done only through education.*

I am aware that there is a prejudice concerning "book farming," and that mother wit and plenty of manure are considered the great essentials of successful agriculture. That kind of farming has had its day, just as pans and rockers have had their day in mining.

When you think that science is simply the record of experience in these matters, giving the reasons why—a history, so to speak, of experiments and their results; when you think whether it would be gain or loss to have all the agricultural and horticultural journals and manuals removed, all statistical information withheld, and the transmission of the most valuable knowledge on these subjects left to tradition, you are prepared to estimate what science has done and is doing for us. Still more, my "practical" friend, go back to the implements which your grandfather, who was "no fool, sir," hoed and harvested and "thrashed" with, buy a little wheel and a big wheel, and a reel and a loom and a dye tub for your wife, and tell me, after using them a year, what you think of the service which inventors of machinery, and improvers of the varieties of plants, and discoverers sent out by our institutions to find whatever can be impressed into man's service, and *newspaper men* are worth to the world.

When I meet a mechanic who points to successful men who have made their lucky hits without much education, and who is inclined to follow his calling in a mindless, empirical way, realizing none of its connections with great material and social laws, I say, "My friend, all your interests are at the mercy of men who have built up vast fortunes, secured to themselves monopolies, made peace and war, burdened you with taxation *in spite of you, because your craft has been only handicraft.*" An instinct of self-preservation will drive the industrial classes to *Education*, should all other motives fail.

I am aware that there has been a gulf between the abstract and practical sides of Agriculture; a gulf pretty much bridged over, however, in those countries where this pursuit is the most successful and the most honored. This has been done by a system of instruction which, by infusing it with actual knowledge of facts and principles, has made it intelligent, and raised its rank to that of the professions.

A Native Evergreen Ornamental Shrub, and Hedge-plant.—The *Ceracus illicifolia*—a native of our coast mountains—called by some the California Holly, is one of the finest lawn shrubs, at this season of the year to be seen in our travels. It stands close shearing and may be trained in almost any shape, to suit the taste. The favorite style seems to be a conical shape with the base close to the ground; although it is liable to get thin in its lower branches if not raised a foot higher. Its natural habit of growth is umbrella-form.

This plant is much used for ornamental hedging, and is getting to be quite a standard ornamental hedge plant. The leaves are a bright clear green, sharply serrated, and quite dense, when properly trained. Even throughout the summer mouths it is a beautiful shrub, but during the winter, when desciduous trees are bare, the *Ceracus illicilfolia* is a pleasing attraction wherever planted. The best hight to train this plant in hedge is about three to four feet. It then shows a vigorous face without being either scattering or stunted.

Salt Butter in England is considered very little better than hog's lard, and is never brought to any respectable person's table. It is used occasionally on toast, and a good deal in making pastry, but fresh butter and fresh meat are eaten by everybody in comfortable circumstances, except that cold boiled ham and rashers of broiled bacon are very common for the breakfast.

Sugar from Sweet Potatoes.—A gentleman in New Orleans from 52 pounds of sweet potatoes, with rude machinery for extracting the juice, and by the addition of some ingredient known only to himself, has lately made two and three-quarters gallons of beautiful golden syrup. He thinks he can make it at a less price than cane syrup.

## MANURING LANDS IN CALIFORNIA.

The proper time to apply manure to land in California, where dry and rainy seasons follow each other, is in the fall or early winter. The rains then dissolve and carry its soluble salts—the strength of the manure—into the soil. Land that is freshly plowed, and lays rough in furrows, is in the best condition to receive its supply of manure. It is admissable to spread that from the stable upon the surface, and either let it lay exposed, or else lightly work it into the surface soil—the latter is preferable.

Thoroughly rotted manure may be plowed under; but it is best not the first season to deeply cover coarse manure and straw. It does not so readily decompose beneath as upon the surface of the soil. During summer, coarse manure on or near the surface, acts as a mulch to protect the under soil from drouth; while if fallowed deeply under, it leaves the soil in such loose condition that it dries out sooner, and the capilary action from below is also retarded. On laud that is to bo irrigated, this latter consideration is of less importance.

The mechanical effect of manures should be regarded of equal importance to the chemical. The latter advantages are derived from such portions as are held in solution in water, along with the earthy salts of the disintegrated soil.

Plants never *eat*; they *drink*, and *breathe.*

There is no country where good manure, properly applied, will make a better showing than in this state; but there are always conditions of soil and seasons, as well as of the manure, that must be understood and observed, to obtain the best results.

The lands on this coast, generally, are sadly lacking in the vegetable mould so essential to the life of the soil where it is cropped year after year. This want may be to a great extent supplied by plowing under the straw, now so generally buried. Green crops, and barnyard manure, might also be profitably employed in the same way in many localities. But where manure is to be plowed under in land exposed to drouth, it should be as uniformly distributed as possible, and also be plowed under before the rains are over, so that the soil can settle; otherwise the ground will soon dry down to the buried straw or manure, which, under such circumstances, will be detrimental, rather than otherwise to the growing crop.

One intelligent farmer, who had a field that was quite foul, and which had been impoverished by constant cropping, met with complete success, by the following treatment:—He thoroughly plowed his land in early winter, then spread it over with ordinary stable manure—a generous coating—and harrowed it well in. A splendid crop of weeds sprung up from tho soil and manure. When they were a few inches high—in March—he sowed on his seed, and then, with a large plow-tooth cultivator, graded to a 2½ inch cut in depth, cultivated and cross cultivated his land, covering the seed grain and destroying the weeds. The grain came up clean, and made a large yield of superior quality.

The Cal. State Agricultural Soc. holds its annual meeting for the election of officers in Sacramento on the 27th, as may be seen by notice in another column. We hope members will manifest sufficient interest to secure a large attendance and adopt progressive measures which shall increase the vigor and usefulness of the society.

Agricultural Implements.—A joint stock company is in contemplation in Sacramento for the manufacture of agricultural implements in that city on an extensive scale. This is a move in the right direction and can be made to pay.

Fifty Dollars to the Acre.—Mr. C. M. Opdyke informs the Santa Barbara *Press* that he has sold squashes from 2¼ acres of ground to the amount of $100, after taking out enough for his own use.

## THE CULTIVATION OF POPPY.

[By Dr. L. Lanszweert.]

A recent analysis of a sample of opium obtained from poppies raised in Novato, Marin County, by Mr. Baudrye, proves that with proper care the culture of the poppy for opium, and oil from its seeds, would be remunerative to the California agriculturist. Although the amount of morphia in this sample was only 5.75 per cent.,—a small percentage compared to the yield obtained from opium produced in Hancock, Vermont, by Mr. Robbins, 15.75 per cent., as stated in the *Alta*, Nov. 2d, 1870; still, even this yield shows that opium of excellent quality can be produced in this state.

It should be borne in mind that the commercial value of the article depends on the richness of morphia and other alcaloides, which yield will depend on the nature of the ground on which the poppy is cultivated, the quality and quantity of manure employed, the state of maturity of the pod from which it has been gathered, and the atmospheric influences to which the cultivation of the poppy is subject. For these reasons comparative analyses of the several samples of opium obtained in this state would be the most valuable, as such analyses would decide the most favorable place for the culture of the poppy.

It is not necessary to enter into the details of the cultivation of the poppy; still the following summary of experiments made in France, since 1855, has established the facts:—

1st. That French opium may be placed, as to quality, by the side of the best opium from the Levant; the chances of adulterations being much greater for the latter.

2d. That its extraction is remunerative and easy.

3d. According to the analysis of H. H. Benard and Deschamps the percentage of morphia in this indigenous opium was from 16 to 22.

4th. That Messrs. Benard and Cottas, of Paris, have intimated to the cultivators of La Somme, one of the departments of France where the cultivation of the poppy has been conducted on a large scale, (over 40,000 acres) that all the opium they collect will be received by them at the price of $16 to $20 per kilogramme, 2.2 pounds, according to its quality.

The yield of seed upon the above acres was 385,168 bushels, valued at 4,480,000 francs, which gives an average of 352 francs, or about $30 per hectare. 2½ acres.

The value of the opium crop is on the increase. The expenses of extraction vary from $4 to $6 per kilogramme for dry and marketable opium. The price varies from $14 to $15, at a standard of 10 per cent. of morphia only. Two kilogrammes of the milky juice, containing opium, yield about one kilogramme of dry opium. It is advisable, to facilitate the keeping of the ground in order as well as for the collection of the opium, that the seeds should be sown in rows at intervals of from eight inches to nearly a foot.

By encouraging this new production an important service would be rendered to the country population, by the employment it would afford to women and children, who are more apt to this work than men. The most effectual means of encouragement would be to diffuse information upon the subject, and to show the advantages to be derived from it by every possible means. It might be necessary to engage instructed teachers to practise their pupils some hours for a few days in incising the capsules and collecting the juice. Much time, otherwise lost by many, would thus be utilized and rewarded with immediate profit.

As soon as the incision is made the juice flows out and may be collected. In 24 hours it is dry. The stock of tools required for the extraction is of the simplest kind:—a knife and one or two plates would be all that would be needed.

The greatest yield of good opium in India is stated at 41 pounds per acre, and the average at 20 to 25 pounds. To this opium is frequently added an inferior matter, obtained by subjecting the poppy heads to pressure, and even by boiling the heads in water and concentrating the extract. The percentage of morphine in the opium used by the Chinese for smoking is from two to five. As already stated, the commercial value of opium depends on its richness of morphia, and the following table shows the average percentage of this alcaloid in opium in soft or dry state, and may be a guide in the selection of seed for varieties to cultivate:

Average Percentage of Morphia in various Opium.

| | Soft State. | Dry State. |
|---|---|---|
| Turkish or Constantinople Opium | 12.35 | 14.78 |
| Smyrna or Anatolia | 12.35 | 14.72 |
| Alexandria or Egypt | 6 00 | 8.20 |
| Persia (containing 8 per ct. of Narcotine) | | 11.37 |
| India, Benares, Putna, Malwa | | 6.50 |
| Algeria | | 12.00 |
| French Department of Landes (General Lamarque) | | 18.00 |
| French Departme t of Loir and Cher White Poppy (E. De Morgan) | 14.99 | 17.22 |
| French Purple Poppy (Aubergier of Clermont) | | 14.96 |
| French Pavot oeillette (Odeph) | | 21.00 |
| Do do do (Benard d' Amiens) | | 17.22 |
| Do do do (Renard) | | 22.88 |
| Do do do (E. De Morgan) | 15.00 | 17.30 |
| Do do do (LePage de Gisors) | 13.79 | 15.46 |

Three varieties of poppies are cultivated in France under the following names:—*Pavot a' huile, Pavot noir, Pavot oeillette.* According to the researches of M. Roun, of Rochefort, the Pavot oeillette furnishes the best opium.

The consumption of opium by the Chinese in California is estimated at over 2,000 pounds monthly. The value obtained by Mr. Baudrye, for his California opium, from a Chinese firm in this city was at the rate of *seven dollars per pound.* From the seeds a better and sweeter article of salad oil and for other culinary purposes may be produced than the most of the article sold here under the euphonious name of olive oil. The average yield of oil from the poppy seed is from 25 to 27 per cent., and the pressed seed cakes are valuable for fattening fowls, etc.

San Francisco, Dec. 12, 1870.

By reference to our advertising columns, persons desirous of entering upon this important branch of industry may learn where they can obtain the seed which produces the best and most profitable quality of opium.

## RELATIVE FOOD VALUE.

As fodder, the straw of our leading grain crops grades as follows—the best first: Oat, barley, wheat, rye. It is doubtful whether there is a better root than the potato for feeding for milk. A farmer in Ohio has found that 36 quarts of carrots gave him 32 pounds of milk, and 36 quarts of potatoes gave him 40 pounds of milk. The other food given the cow was dry hay.

Dr. Wiggins, inspector at Providence, R. I., has been comparing milk with other foods as to cost, and his results are given as follows:

"I estimate sirloin steak (reckoning loss from bone) at 34c. per pound as dear as milk at 24c. a quart; round steak at 20c. as dear as milk at 14c; eggs at 30c. a dozen as dear as milk at 20c. a quart. Many laborers who pay 17c. for corned beef would consider themselves hardly able to pay 10c. for milk, when, in fact, they could as well afford to pay 15c. If the money expended for veal and pork were expended for milk, I doubt not it would be an advantage both to the stomach and pocket, especially during the warm season. Relatively speaking, then, milk at 10c., or even 12c., a quart is the cheapest animal food that can be used."

## AGRICULTURAL REPORTS—SEEDS.

Having had numerous enquiries for copies of the Annual Agricultural Reports, we addressed a note to the Commissioner Capron, from whom we have received the following reply:—

Editors of Pacific Rural Press. Sirs.—Your application for copies of the Annual Report for 1869, has been received. In answer I regret to state that the limited number allotted to this department by Congress, will prevent me from complying with your request.

The Annual Report of this department is printed by Congress and mainly distributed by its members to their constituents upon application by letter or otherwise. Out of two hundred and twenty-four thousand five hundred copies ordered by Congress, but twenty-three thousand are allowed for the use of this office. It will doubtless require this entire number to supply our regular statistical correspondents, the agricultural societies and clubs, library associations, and foreign exchanges, all of which we are expected to supply from this limited number.

Very respectfully, yours, etc.,
Horace Capron, Commissioner.

It will be seen from the above that those of our friends who wish these reports should apply to the members of Congress from their respective districts. The Commissioner states in another letter that:

"The major portion of the seeds intended for distribution, the coming season, were ordered from Paris, and I am fearful the department will not receive them in time, if at all.

Nothing on hand now but Swedish oats, and barley, samples of which I have sent you today.

# THE SWINE HERD.

## CURRYING HOGS.

Prof. Johnson, the well known agricultural writer relates an experiment which he made of the use of friction in the treatment, of hogs, the skin of which animal is much like that of the human race. He treated six pigs with a curry-comb for the space of seven weeks, and left three others in the same pen untouched. The result was a relative gain of *thirty three* pounds more in the weight of the animals so treated, than the neglected ones, together with a large saving in the amount of food respectively fed out. This result was due to the fact that by means of friction, in the use of the curry-comb, all the functions of the body were more perfectly performed—the skin was kept free from filth and the pores in a condition to perform thair functions to the best advantage. The same advantage is thereby gained for the pig which accrues to the human system from bathing, friction and general cleanliness.

A calculation has been made from similar premises by which it is estimated that a man, by proper care of his skin, may save near thirty-one dollars a year, in the value of food from that which his system will require, when bodily cleanliness is neglected. Every horse fancier knows and appreciates the value of friction and cleanliness in the care of his favorite animal; and numerous experiments are on record of the large increased yield of milk obtained by the careful and frequent currying of cows. Convenient scratching posts should always be provided for animals, and especialy for swine, in the absence of more painstaking care.

## CLEAN PIGS AND DIRTY PIGS.

Pigs enjoy the reputation of having a real liking for dirt; and certainly, the way in which they are kept on some farms would show that their owners are determined to give them ample opportunities for carrying out this liking. No notion can, however, be more erroneous than this, as none is certainly so productive of loss to the keeper. Let any one not convinced of this, try the two modes of pig-keeping—the dirty and the clean—the food in both cases, and other general treatment being the same; and the result will show him which of the two is the best in the end. A great deal depends upon the mode in which they are housed. Mr. Raines, of Mills, adopts the following: A large out-house is inclosed at the sides, so as to be warm and dry. The floor is paved, and sprinkled over with burnt clay, and ashes obtained by burning weeds; in this the pigs are fed; while for resting and sleeping they have a compartment railed off at the other end, and which is amply provided with clean straw. In another case, the principle of box feeding has ben applied, the pigs being kept in a pit, into which the manure from the ox or cow stables and the horse stables is put. The pigs tread this down, and enjoy themselves amazingly. In one case, where this plan has been adopted, the farmer states that his pigs "have given him a profit of their meat and left the dung —as good as guano —for nothing."—*Mark Lane Express.*

Profit of Raising Hogs.—About a year ago F. O. Staples of Suisun, purchased two small pigs and put them in a floored pen near his stable, feeding them during the year on slops from his kitchen, and corn which cost him just $18. He recently sold the hogs to Bibler, Williams & Co., for $56—the two weighing 932 pounds.

Immense Hogs.—In company with Ashbery and Steinmitz of the Woodland Market, we (*Yolo Democrat*) took a look at some of the fine stock on hand. A couple of hogs are worthy of particular mention; the largest of which measures six feet seven inches in length, from snout to root or tail; two feet eleven inches from hip to hip, and in girth seven feet three inches. The estimated weight of the two porkers is 860 and 775 lbs respectively.

How to Fat a Hog Quick.—An Ohio hog-grower says that the following treatment will make the biggest hog out of a pig in twelve months: Take two parts of barley, two of corn and one of oats. Grind them together; then cook and feed cold. He says it is the cheapest food, and that any pig of good improved breed can be made to gain a pound a day until a year old.

# OUR POULTRY NOTES.

## ADVANTAGES OF BLOODED FOWLS.

It seems difficult to convince many persons that a ten dollar fowl may be more economical to breed from, than one that costs only one dollar; yet nearly every one is ready to admit the advantages of blooded horned stock on a farm.

Many farmers who can readily see that the same amount and quality of food will produce varying results in the return of milk, butter or beef, according to the breed of the animal fed, are slow to apply the same arguments to fowls; and that, too, without any reference whatever to the less importance of the latter in the general economy of a farm. The matter of the selection of fowls is regarded quite too much as a mere individual fancy.

It has required full half a century to force the conviction of the importance and value of blooded stock upon the minds of the farming community generally; but from what has been accomplished during the last decade, we have reason to believe that an equal advance will be made in the quality of our poultry within a very short time. As an evidence of the progress being made in this direction, we note the frequent

### Importation of Blooded Fowls

at this port, designed for different parts of the Pacific coast.

Our attention has been especially called during the past week to a recent importation by Messrs. Nichols & Willard, who have a choice collection of blooded fowls across the Bay in Brooklyn. Among those just received were buff Cochins; black African bantams, a very small, fine fowl, weighing less than one pound each, and kept chiefly for fancy; Houdans; dark Bramahs, and the Aylesburg ducks—a very fine layer and table bird, and one which brings double the price of any other duck in the London market.

Bone Dust for Poultry.—Last winter I procured two barrels of bone, intending to use it for Irish potatoes and other garden crops. My wife appropriated some of it for her roses in the flower garden, by simply strewing it on the surface of the ground around the bushes. The fowls have free access to the garden, and were discovered eating the meal very eagerly. Thinking that it might be of service to them, we gave them some for several weeks, and I assure you that it was but a short time before the eggs began to come in such numbers as we had never known before. If a nest was broken up to prevent a hen from setting, it was but a few days before she was laying again; and thus it continued to the present time. One hen has taken possession of a barrel that has some bone meal in it, and is laying in the meal. Whether she will lay the barrel full or not, time will show. My wife thinks that care and bone meal are great institutions for her poultry-yard and very extraordinary in their effect; but as the hen does an unusual amount of cackling, she fears it may bring on bronchitis. The manuring of hens to make them lay, we think is original, but we have no idea of taking out a patent for it, and hence leave the discovery open to the use of all who may choose to try it.—[Exchange.

A Rare Collection of Poultry.—Mr. R. B. Woodward, in view of the great and growing interest which is being felt in the introduction upon this coast of rare and blooded fowls, has made arrangements for the introduction into his Gardens, on Mission street, of a full collection of all the choice varieties which are attainable. This collection will not only form a new and important attraction to the sight seers who visit that famous place of resort; but will also serve a most important end in creating a more healthy and improved interest in a large and important branch of home industry.

High Priced Fowls.—Among the novelties exhibited at a recent poultry show in Connecticut was a pair of buff hens, said to be valued at $1,000.

# AGRICULTURAL INDUSTRY

## Cotton Culture in California.—No. 1.

BY JOHN L. STRONG.
[Written for the PRESS.]

It is difficult to define the precise limits within which cotton may be successfully produced in California. With reference to climate, the isothermal lines may be taken as safe latitudinal boundaries.

Reference to a physical atlas will disclose the fact that nearly the entire state lies within the cotton zone. At latitude 36° the isothermal line of 60°—which is assumed as the northern boundary of the "cotton belt" of the United States—curves northward. Following the western slope of the Sierra Nevadas, it extends beyond the 40th parallel at Fort Heath, and then curves downward again following the eastern slope of the Coast Range mountains until it reaches the Santa Barbara islands, where it again turns northward.

Limiting the southern boundary of the "cotton belt" of the United States to the isothermal line of 70°, we descend, in California, to San Diego. The question of profitable production on the vast arid plains embraced in this region must be determined by practical tests in the future. One test made in 1870 on these plains in Merced county, with seed sent from the writer's plantation on the Mississippi river, resulted in a fine yield of cotton; while corn planted beside it perished from the effects of drought. But leaving out these arid plains, there remains an immense area within which corn is now successfully and profitably produced, without irrigation. We may safely assert, that wherever corn can be grown without irrigation, cotton will be a profitable crop, supposing the interval between spring and autumn frosts to be sufficiently long to admit of its maturing. This necessary interval may be stated to lie between the 1st of May and the 15th of October. The October frost is supposed to be a freeze, such as will harden the earth and blight all vegetation—"a killing frost." A light frost, which only causes the leaves to drop and dries up the sap in the stalk, is beneficial to cotton in hastening maturity. On all such land as above described, that will return to the planter a yield of 30 bushels of corn, per acre, he may safely calculate to gather 500 pounds of lint cotton per acre.

The importance of the successful inauguration of cotton production to the future prosperity of California, cannot be over estimated. A stranger, traversing the state, finds labor without employment from the time the grain crop is planted until the harvest begins; and from the close of the harvesting season until planting is resumed. In the intervals which elapse between these two working seasons, an idle population haunts the villages, towns, and cities, and the fruits of idleness are everywhere visible. To the amelioration of the condition of the working classes, the efforts of the wise and good are constantly directed; and he who succeeds in such efforts deserves the benison of his kind. It is said with truth, that "he who causes two blades of grass to grow where but one grew before, is mightier than the conqueror of a city." With how much greater emphasis may it be said of him who calls into existence a great industrial enterprise, profitably employing idle populations, repressing thereby vice and crime, and giving a mighty impetus to the development of the prosperity and wealth of the state. It is in this spirit, and with no meaner purpose that the writer has sought to introduce the culture of cotton in California. Whether his efforts be successful or not, he claims the merit of unselfish endeavor.

The rules which govern the true and scientific culture of the cotton plant are general, and are, therefore, to a certain extent applicable to all conditions of climate and soil. All general rules are subject to modification. In culture—and especially in that which claims to rest upon a scientific basis—these modifications are determined by the tests of practical experience—the safest of guides. Practical tests develop the peculiarities of climate and soil. Thus while the general principles which govern culture in the moist region of the Mississippi river bottom, are the same as those which must be adopted, in practice, in the dry climate of California, practical experience teaches us that there are special differences in both climate and soil which render necessary changes in the prevailing systems of preparation, planting, and cultivation of that region, in order to insure success in our own.

The true principles of culture in both climates involve a thorough preparation for planting, by deep breaking and perfect pulverization of the soil. It is rendered necessary by the *nature* of the cotton plant, which neither climate nor soil can change. Depending for sustenance upon one main or *tap root*, which strikes down deep into the earth in search of nourishment, its downward progress must be unobstructed; else to the extent of that obstruction its perfect development is retarded. But in the climate where the abundant moisture generated by the "Gulf Stream" is diffused, the water in the planting season, often lies upon the surface for two or three days consecutively, even though the soil be broken to the depth of ten inches or more. Hence the necessity for planting upon "raised beds." For the germination of the seed the plant requires a generous warmth.

In our dry climate, on the contrary, the absence of precipitation during the planting season admits of level planting, in fact demands it. While the variable climate of the Atlantic States affords the planter no certain criterion upon which to base his plans for cultivation, we have uniform and changeless seasons. In the one case, there may be alternate floods of rain and parching droughts; in the other a single principle governs your system—that of providing for the absorption of the greatest quantity of moisture and its gradual exhaustion to supply the even development of the plant.

We lay down then, as an inflexible rule for the observance of the California planter—level planting.

The soil should be first broken to the greatest possible depth, then thoroughly harrowed. The land is thus prepared to absorb all the moisture that falls. The soil is made light, loose, and is readily warmed by the sun, and a rapid germination insured when the seed is deposited.

The rows should be "marked off" in spaces. A rule which will apply almost universally is—four feet each way. But this is subject to modification in the case of very strong soils, where the plants should have more distance—say five feet east and west, and three feet north and south. The time for planting will be as early as possible after the latest frosts of spring.

The seed must be deposited in the checks, by hand, from eight to ten seed in each check. The best and simplest method of carrying the seed, is to have the hand or laborer who plants the seed, wear a long apron made of burlaps or some cheap, coarse material, fastened around his neck by a strap. He will gather it over his left arm in the form of an open bag. This will be filled with seed and dropped by the right hand.

For covering the seed so dropped, either of two methods may be adopted. 1st. One hand may follow the sower with a hoe, covering carefully to the depth of from two to three inches, or 2nd. A harrow may be used, constructed as follows: Take a piece of 3 by 4 hard wood, 18 inches in length. Leave space in the center to fit on the stock of a common shovel plow; then fill with ordinary harrow teeth at intervals of one and a half inches. Run this over the rows covering the checks. This ends the work of planting.

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BEET SUGAR.—The San Jose beet sugar enterprise is now in a fair way of going into early operation. A large amount of stock has already been taken, and arrangments have been made to procure seed for the spring planting. The enterprise may be considered as fairly inaugurated.

Sacramento has not given up the manufacture of beet-sugar. Machinery has been sent for, and the managers are determined to succeed.

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CAREFUL FARMING PAYS.—Charles L. Sharpless is a farmer who carries the precision and exact noting of the counting-room, where he has amassed a great fortune, to the farm; and what he knows is valuable, because he can give his knowledge in figures. For instance, he says he can winter a cow in the best condition and at the greatest profit on this daily ration: Hay, 15 pounds; meal, 8 quarts; carrots, 4 quarts. He feeds about equal meals morning, noon and night. It is doubtful whether anybody has better Jersey cattle than Sharpless.

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DOGS—WHAT IT COSTS TO KEEP THEM.—If all that the dogs of this country eat were fed to hogs, it would make $50,000,000 worth of pork. And these dogs do no good, to say nothing of the 800,000 sheep they kill.

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A TROY gardener has raised a grape crop of over 6,000 pounds on a space of less than 1,000 square feet.

## California Agricultural Notes.

MORE MULTICAULIS TREES.—Dr. J. Strentzel, of the Alhambra Farm, in Contra Costa county, is planting 2,000 *morus moretti* mulberry trees and 1,5000 *multicaulis* cuttings. Mr. John Thorpe, of Placer county, is also planting 2,000 mulberry trees—one-half of the *moretti* variety, and the other half *multicaulis*. A number of the neighbors of Mr. T. are also planting a less number each.

OPIUM CULTURE.—C. W. Reed, the well known orchardist and nursery man of Yolo county, is preparing to enter into opium culture this coming season.

IMPORTED PIG.—Cary & Mitchell, of Colusa, have a little pig which they have just imported from St. Louis, two and a half feet from "tip to tip," which weighs 144 pounds.

COAL OIL FOR "SCAB."—Parties are using oil from the San Fernando oil springs, for the purpose of healing scab in sheep. It is said to be an excellent remedy.

WOOL STATISTICS.—The statistics of the San Fransisco wool trade show a receipt of about twenty million pounds here besides what may have been retained for manufacture at the Marysville, Stockton, and other interior mills; and it is estimated that the increase next year will be fully 25 per cent.

BIG THINGS.—The San Diego *Union* has seen a beet weighing 61 pounds and a sweet potato weighing 17½ pounds, both from the Sweetwater Valley in that neighborhood. The latter was eaten a few days before the notice was made, and found to be mealy and sweet.

HOPS IN OAKLAND.—The Oakland *News* says that 4,600 pounds of hops, of excellent quality, were raised, the past season, on the Haas place, near the San Leandro bridge. This yield was from cuttings planted last February—the yield being about equal to that of old vines.

R. B. SMITH, ESQ., who resides on the west side of the San Joaquin, in Stanislaus county, has already sown over 3,000 acres in wheat, and calculates before the seeding season is over to have in upward of 8,000 acres in grain.

STRAWBERRY PROFITS.—A widow lady, of Santa Cruz, received over $500 for strawberries grown on half an acre of poorly tended ground last season. The cultivation and care of small fruits might be made both a pleasure and a profit to females in this State, as it already is in many of the Eastern States.

JEROME C. DAVIS, of Yolo county, has been sporting a pair of $8,000 horses in Washington City. They have beaten 2:30.

A WILD GOOSE, of the "Houker" species, weighing 14 pounds and seven ounces, was shot in Tehama county, Dec. 20th.

GOLD IN THE CRAW.—A mallard duck, shot near Castroville, last week, had several particles of gold in its craw.

THE LOCHER STEAM PLOW AT WORK.—The Chico *Enterprise* says the Locher steam plow is engaged on the Henshaw ranch, in Hamilton township. Its work is thirty acres per day and ten inches of soil turned up. It is, we are glad to say, a success; and must result in a revolution in this item of agriculture in our county, as well as a handsome fortune to its proprietor.

## Eastern Agricultural Notes.

LARGE POULTRY ESTABLISHMENT. — A man in Lowell, (Mass.) has built a poultry establishment capable of containing 3,000 hens.

SINGULAR FARM PRODUCT.—It is said that a farmer in Massachusetts made $2,000, last year, by selling burdock roots.

IT IS SAID that pork will be lower this winter than for the past ten years, as the Western markets will be over-stocked.

WHEAT IN ILLINOIS.—Winter wheat is looking well in Illinois. The quantity sown this fall is much larger than heretofore. The prospect for the coming crop is the finest ever known in that section.

ILLINOIS is shipping milk direct to New York City—six car-loads a month—but it is condensed first.

CHEESE MAKER'S CONVENTION. — Two thousand cheesemakers are expected to meet in convention in Utica, N. Y., on the 10th of this month. There will undoubtedly be some valuable talk there. Several prominent dairymen will deliver especial addresses.

POTATOES IN COLORADO. — Colorado seems to lead off in potatoes. A farmer on the Cache, near the new town of Greeley, reports a yield of 248 pounds of tubers from 1¼ pounds of the Early Rose. The *N. Y. Tribune* doubts the report.

## BEET SUGAR—A SUGGESTION.

The success of the Beet Sugar Factory in Alameda County is attracting the attention of capitalists and agriculturists in many parts of the state, and already there are companies forming in many localities for the purpose of purchasing land, planting beets and manufacturing sugar therefrom. We are glad to see this. It will be of great benefit to the state in many ways. We shall be glad to assist all such enterprises by disseminating reliable information concerning all departments of the business. We would mention a fact in this connection which shows a degree of wise prudence in the Alvarado Company, and which is at least suggestive to all other companies to be organized for similar purposes. Before purchasing their land and before expending much money anywhere, they sent a quantity of beets produced at or near their contemplated location to Illinois, where their present Superintendent was then engaged in a beet sugar factory, and had them manufactured. Thus they in advance obtained a demonstration that the beets grown at Alvarado were of good quality for sugar making.

Would it not be equally wise and prudent for other companies to avail themselves of the skill of the Superintendent and the machinery of the Alvarado Company to determine the character of the beets grown at their contemplated localities? We would like to see a test made with beets grown on alkaline soil.

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ORANGES IN YOLO.—J. W. Snowball, of Knight's Landing, has left at the office of the Yolo *Democrat* some oranges raised by himself. That paper says: "Mr. Snowball has one tree 12 years old with a hundred oranges glistening upon its branches, and another 10 years old with quite a number; and we are informed that Mr. St. Louis, of the same place, has a thousand oranges now ripening. The question is not what can, but what cannot be raised in this county."

We would remark that we are well acquainted with both Snowball's farm and that of St. Louis, and know that they are no more protected from the north or south winds than are locations generally on the Sacramento River. We also know from personal experience that the orange tree will live and thrive well where the water will kill the peach, plum, apricot, nectarine and cherry. As this is the season for planting trees, the above hints should be read and remembered in connection with the above facts as stated by the *Democrat*. The orange tree will grow from the seed of any ripe orange as readily as the apple tree will grow from the seed of the apple.

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ANNUAL WASTE OF IRON ON A FARM.—A London paper, sometime ago, made a calculation as to the amount of iron wasted in the cultivation of land. On a certain farm of 450 acres, it was found that there was an annual consumption of 4 pounds to the acre. But this was considered too high for the average, on account of special conditions, and the consumption generally was computed as between two and three pounds per acre yearly.

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EGGS.—New York, we are told, devours about a million of eggs daily, which is one egg to each inhabitant. For about three cents per inhabitant, this great city deprives the country of three hundred and sixty-five millions of possible chickens yearly. We reflect on this fact every time we pay six bits for a descendent of a rooster.

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THE POTATO had about as hard a time as the tobacco plant in its early introduction among European nations. For more than two centuries its use was strongly opposed, until at last Louis XV wore a branch of its flowers in public, and this royal sanction overcame popular prejudice and the consumption of the root became universal in France.

# MISCELLANEOUS.

## The Census of 1870.

The increase in the population of the United States during the last ten years is less than has been commonly supposed. The increase in our Pacific states, more especially in California, during the last year, has also been less than was expected previously, although it cannot be complained of. We publish the following comparative tables of population from the best sources at our command; and for reference they will be found particularly valuable. The figures have been carefully revised and corrected.

CALIFORNIA.

| Counties. | 1870. | 1860. | Inc. | Dec. |
|---|---|---|---|---|
| Alameda | 24,218 | 8,926 | 15,292 | |
| Alpine | 686 | New Co. | 686 | |
| Amador | 9,600 | 10,933 | | 1,333 |
| Butte | 11,315 | 12,107 | | 792 |
| Calaveras | 8,896 | 16,302 | | 7,406 |
| Colusa | 6,171 | 2,274 | 3,897 | |
| Contra Costa | 8,468 | 5,328 | 3,140 | |
| Del Norte | 2,113 | 1,992 | 121 | |
| El Dorado | 10,326 | 20,562 | | 10,236 |
| Fresno | 6,336 | 4,605 | 1,731 | |
| Humboldt | 6,109 | 2,694 | 3,415 | |
| Inyo | 1,952 | New Co | 1,952 | |
| Kern | 2,335 | New Co | 2,335 | |
| Klamath | 1,678 | 1,803 | | 125 |
| Lake | 2,873 | New Co | 2,873 | |
| Lassen | 1,331 | New Co | 1,331 | |
| Los Angeles | 15,100 | 11,336 | 3,764 | |
| Marin | 6,775 | 3,334 | 3,441 | |
| Mariposa | 4,572 | 6,243 | | 1,671 |
| Mendocino | 7,025 | 3,967 | 3,058 | |
| Merced | 2,810 | 1,141 | 1,669 | |
| Mono | 431 | New Co | 431 | |
| Monterey | 9,889 | 4,739 | 5,150 | |
| Napa | 7,155 | 5,515 | 1,640 | |
| Nevada | 19,134 | 16,447 | 2,687 | |
| Placer | 11,376 | 13,270 | | 1,894 |
| Plumas | 4,490 | 4,363 | 127 | |
| Sacramento | 27,102 | 24,145 | 2,957 | |
| San Bernardino | 3,934 | 5,554 | | 1,620 |
| San Diego | 4,789 | 4,326 | 463 | |
| San Francisco | 150,272 | 56,805 | 93,467 | |
| San Joaquin | 21,064 | 9,434 | 11,630 | |
| San Luis Obispo | 4,786 | 1,782 | 3,004 | |
| San Mateo | 6,648 | 3,214 | 3,434 | |
| Santa Barbara | 7,788 | 3,545 | 4,243 | |
| Santa Clara | 25,269 | 11,912 | 13,357 | |
| Santa Cruz | 8,782 | 4,945 | 3,837 | |
| Sierra | 5,337 | 11,389 | | 6,052 |
| Shasta | 4,191 | 4,360 | | 169 |
| Siskiyou | 6,851 | 7,629 | | 778 |
| Solano | 16,396 | 7,170 | 9,226 | |
| Sonoma | 19,679 | 11,867 | 7,812 | |
| Stanislaus | 6,510 | 2,245 | 4,265 | |
| Sutter | 4,550 | 3,390 | 1,160 | |
| Tehama | 3,597 | 4,044 | | 447 |
| Trinity | 3,173 | 5,125 | | 1,952 |
| Tulare | 4,544 | 4,638 | | 94 |
| Tuolumne | 8,171 | 16,229 | | 8,058 |
| Yolo | 9,913 | 4,716 | 5,197 | |
| Yuba | 10,865 | 13,671 | | 2,806 |
| Total | 557,375 | 380,016 | 222,792 | 45,430 |
| Increase | | | 177,359 | |

OREGON.

| Counties. | 1870 | 1860 | Inc. | Dec. |
|---|---|---|---|---|
| Baker | 2,663 | | 2,663 | |
| Benton | 4,553 | 3,074 | 1,479 | |
| Clackamas | 5,992 | 3,466 | 2,526 | |
| Clatsop | 1,255 | 498 | 757 | |
| Columbia | 863 | 532 | 331 | |
| Coos | 1,638 | 384 | 1,254 | |
| Curry | 514 | 393 | 121 | |
| Douglas | 6,154 | 4,514 | 1,640 | |
| Grant | 2,252 | | 2,252 | |
| Jackson | 4,759 | 3,736 | 1,023 | |
| Josephine | 1,204 | 1,622 | | 418 |
| Lane | 6,438 | 4,780 | 1,658 | |
| Linn | 8,717 | 6,772 | 1,945 | |
| Marion | 9,964 | 7,088 | 2,876 | |
| Multnomah | 11,513 | 4,150 | 7,363 | |
| Polk | 4,711 | 3,625 | 1,086 | |
| Tillamook | 408 | 95 | 313 | |
| Umatilla | 2,875 | | 2,875 | |
| Union | 2,555 | | 2,555 | |
| Wasco | 2,489 | 1,689 | 800 | |
| Washington | 4,260 | 2,801 | 1,459 | |
| Yamhill | 4,999 | 3,245 | 1,754 | |
| Total | 90,776 | 52,464 | 38,730 | 418 |
| Increase | | | 38,312. | |

NEVADA.

| Counties. | 1870 | 1863 * | 1860 |
|---|---|---|---|
| Churchill | 196 | | |
| Douglas | 1,216 | 1,500 | |
| Elko | 3,448 | | |
| Esmeralda | 1,553 | 4,000 | |
| Humboldt | 1,916 | 4,500 | |
| Lander | 2,815 | 6,500 | |
| Lincoln | 2,185 | | |
| Lyon | 1,840 | 3,500 | |
| Nye | 1,087 | | |
| Ormsby | 3,666 | 3,500 | |
| Pah Utah | 765 | | |
| Roop | 133 | | |
| Storey | 11,373 | 18,000 | |
| Washoe | 3,253 | 3,500 | |
| White Pine | 7,190 | | |
| Total | 42,636 | 45,000 | 6,857 |
| Decrease 1863 to 1870 | | 2,364 | |
| Increase 1860 to 1870 | | 35,779 | |

* Estimated.

WASHINGTON TERRITORY.

| Counties. | 1870 | 1863 | 1860 |
|---|---|---|---|
| Chehalis | 380 | 285 | |
| Clallam | 394 | 270 | |
| Clarke | 3,081 | 2,384 | |
| Cowlitz | 730 | 406 | |
| Island | 626 | 294 | |
| Jefferson | 1,270 | 531 | |
| King | 2,164 | 427 | |
| Kitsap | 847 | 544 | |
| Klikitat | 329 | 230 | |
| Lewis | 889 | 384 | |
| Mason | 273 | 162 | |
| Pacific | 679 | 420 | |
| Pierce | 1,411 | 1,115 | |
| Skamania | 133 | 285 | |
| Snohomish | 675 | 77 | |
| Stevens | 678 | 674 | |
| Thurston | 2,246 | 1,507 | |
| Wahkiakum | 223 | 42 | |
| Walla Walla | 5,302 | 1,917 | |
| Whatcom | 991 | 352 | |
| Yakima | 409 | .... | |
| | 23,750 | 12,306 | 11,168 |
| Increase 1863 to 1870 | | 11,444 | |
| Increase 1860 to 1870 | | 12,582 | |

IDAHO TERRITORY.*

| Counties. | 1870 |
|---|---|
| Ada | 2,600 |
| Alturas | 750 |
| Boise | 4,700 |
| Idaho | 1,119 |
| Lemhi | 1,300 |
| Nez Perce | 950 |
| Owyhee | 1,725 |
| Oneida | 621 |
| Shoshone | 500 |
| | 14,265 |

* Estimated.

MONTANA TERRITORY.

| Counties. | 1870 |
|---|---|
| Beaver Head | 721 |
| Big Horn | 38 |
| Choteau | 517 |
| Deer Lodge | 4,356 |
| Gallatin | 1,578 |
| Jefferson | 1,537 |
| Lewis and Clark | 5,030 |
| Madison | 2,864 |
| Meagher | 1,387 |
| Missoula | 2,555 |
| | 20,583 |

UTAH TERRITORY.

| Counties. | 1870 | 1860 |
|---|---|---|
| Beaver | | 785 |
| Box Elder | | 1,608 |
| Cache | | 2,605 |
| Davis | | 2,904 |
| Iron | | 1,010 |
| Juab | | 672 |
| Kane | | .... |
| Millard | | 715 |
| Morgan | | .... |
| Rich | | .... |
| Rio Virgin | | .... |
| Salt Lake | | 11,295 |
| San Pete | | 3,815 |
| Summit | | 198 |
| Tooele | | 1,008 |
| Utah | | 8,248 |
| Wasatch | | .... |
| Washington | | 691 |
| Weber | | 3,675 |
| | 86,864 | 39,229 |
| Increase | | 47,635 |

ALASKA.

Total population in 1870 ..... 12,000

NEW ENGLAND STATES.

| | 1870. | 1860 | Inc. | Dec. |
|---|---|---|---|---|
| Maine | 630,426 | 628,279 | 2,147 | |
| New Hampshire | 317,916 | 326,073 | .... | 8,157 |
| Connecticut | 537,998 | 460,147 | 77,851 | |
| Massachusetts | 1,448,055 | 1,231,066 | 216,989 | |
| Rhode Island | 217,319 | 174,620 | 42,699 | |
| Vermont | 333,235 | 315,098 | 18,137 | |
| Total | 3,484,949 | 3,135,283 | 357,823 | 8,157 |
| Increase | | | 349,666 | |

MIDDLE STATES.

| | | | | |
|---|---|---|---|---|
| New York | 4,370,346 | 3,880,735 | 489,611 | |
| New Jersey | 780,000 | 672,035 | 107,965 | |
| Pennsylvania | 3,800,000 | 2,906,115 | 893,885 | |
| Delaware | 125,000 | 112,218 | 12,782 | |
| Maryland | 780,000 | 687,049 | 92,951 | |
| Total | 9,855,346 | 8,258,152 | 1,597,194 | |
| Increase | | | 1,597,194 | |

SOUTHERN STATES.

| | | | | |
|---|---|---|---|---|
| West Virginia | 447,943 | 376,742 | 71,201 | |
| Virginia | 1,209,607 | 1,219,337 | .... | 9,730 |
| North Carolina | 1,072,000 | 992,622 | 79,378 | |
| South Carolina | 735,000 | 703,708 | 31,292 | |
| Georgia | 1,185,000 | 1,057,286 | 127,714 | |
| Florida | 189,995 | 140,424 | 49,571 | |
| Alabama | 1,002,000 | 964,201 | 37,799 | |
| Mississippi | 834,190 | 791,395 | 42,795 | |
| Louisiana | 715,384 | 709,002 | 6,382 | |
| Arkansas | 486,103 | 435,450 | 50,653 | |
| Texas | 850,000 | 604,215 | 245,785 | |
| Kentucky | 1,323,264 | 1,155,684 | 167,580 | |
| Tennessee | 1,258,326 | 1,109,801 | 148,525 | |
| Total | 11,308,812 | 10,259,867 | 1,058,675 | 9,730 |
| Increase | | | 1,048,945 | |

WESTERN STATES.

| | | | |
|---|---|---|---|
| Ohio | 2,652,302 | 2,339,592 | 312,710 |
| Indiana | 1,688,169 | 1,350,428 | 337,741 |
| Michigan | 1,184,158 | 749,113 | 435,045 |
| Illinois | 2,540,216 | 1,711,951 | 828,265 |
| Wisconsin | 1,052,166 | 775,871 | 276,295 |
| Minnesota | 460,037 | 172,023 | 288,014 |
| Iowa | 1,082,933 | 674,690 | 408,243 |
| Missouri | 1,714,102 | 1,132,012 | 582,090 |
| Kansas | 353,182 | 107,206 | 245,976 |
| Nebraska | 116,838 | 28,481 | 88,357 |
| Total | 12,844,103 | 9,041,367 | 3,802,736 |

PACIFIC STATES.

| | | | |
|---|---|---|---|
| California | 557,375 | 380,016 | 177,359 |
| Nevada | 42,636 | 6,857 | 35,779 |
| Oregon | 90,776 | 52,464 | 38,312 |
| Total | 690,787 | 439,337 | 251,450 |

TERRITORIES.*

| | | | |
|---|---|---|---|
| Alaska | 12,000 | | |
| Arizona | | | |
| Colorado | | | |
| Dakota | | | |
| Idaho | 14,265 | | |
| Montana | 20,583 | | |
| New Mexico | | | |
| Utah | 89,864 | 39,229 | 47,635 |
| Washington | 23,750 | 11,168 | 12,582 |
| Wyoming | | | |

*We can find only partial returns.

RECAPITULATION.

| | 1870. | 1860. | Inc. |
|---|---|---|---|
| New England States | 3,484,949 | 3,135,283 | 349,666 |
| Middle States | 9,855,346 | 8,258,152 | 1,597,194 |
| Southern States | 11,308,812 | 10,259,867 | 1,048,945 |
| Western States | 12,844,103 | 9,041,367 | 3,802,736 |
| Pacific States | 690,787 | 439,337 | 251,450 |
| Total | 38,183,997 | 31,134,006 | 7,049,991 |

Chicago has one hundred Protestant churches, two theological seminaries and two Universities, beside the Garret Biblical Institute; and yet its record of crimes places it among the worst cities of its size in the world!

THE cows of San Jose have taken to swallowing gold coins of late. The inhabitants rejoice thereat, believing that the breed of golden calors will shortly increase.

## Lake Tahoe.

[WRITTEN FOR THE PRESS.]

My wanderings having brought me to this beautiful spot, I have had an opportunity for resting a short time from my labors, and send you a few lines from this mountain lake. I left the rail-road at Truckee Station, at which point I arrived at 3.30 A. M., and thence came by stage to the lake.

Truckee is a famous lumber station. Here is a large number of saw-mills, steadily cutting the logs into proper shapes and sizes, and in quantities sufficient to supply the railroad and many districts along its line. Here a large planing mill has been in successful operation during the past year, and here a San Francisco party is about erecting large smelting works, this position having been chosen in great part on account of the abundance of fuel and the existence of the very best of water privileges.

From Truckee to Tahoe City, a distance of 15 miles, one has a delightful ride in the fine stages of Messrs. Burke and Campbell. The road leads through a pass in the Sierra and follows the windings of the Truckee. At Tahoe City we secure rooms at the excellent Tahoe House, kept by W. B. Lyon, and then wander out to enjoy the fine scenery. Here is one of the grandest of all mountain lakes, stretching out 35 miles in length and fifteen in breadth, and hemmed in by snow-capped hights.

From our host of the Tahoe House we can procure horses for riding or boats for a sail. Embarked on the lake we can visit Carnelian Bay, to seek for agates, or Sugar Pine Point, or the Glenbrook House, or a hundred other delightful localities. Or we can fish with rod and line, or (at night) with spears and torches. Three varieties of trout,—the silver, the speckled, and the black, as they are called,—the white fish, and other kinds, give us delightful sport on the clearest and purest of all waters. The largest fish ever captured in this lake, as far as known, was taken out last year, and weighed 29 pounds. This was sent on to President Grant.

### Boats on the Lake—Hot Springs.

There are two schooners on the lake, of about 20 tons each, for pleasure parties. Messrs. Howland and Coy have a small steamer, the "Truckee," for the same purpose. It is 40 feet long, 9 feet beam, and will carry some 50 passengers. The boat was built by A. Rewrick and cost $2,500. The 15-horse power engine and other machinery was manufactured by Lockhead and Co., of San Francisco. The "Emerald," another small steamer, 46 feet long and 10 feet beam, was sent up to the lake by Ben Holladay. The engine has been taken out, and a new one is to be put in, and everything made complete for next season.

Near the mouth of the Truckee River, I noticed still another steamer being built, which will cost about $15,000, and which will be the largest on the lake,—100 feet long and 20 feet beam, with a 70-horse engine. This is owned by H. Burk, Esq., and is to be a ferry boat for the transportation of passengers, wagons, etc., to different points on the lake. It is a side-wheeler, is constructed of the pine timber found in the vicinity, and will be finished next June. The builder is Mr. A. Rewrick.

Mr. W. B. Campbell owns a very pleasant place here known as the Hot Springs, where he is building a fine hotel and cosy cottages for the accommodation of families and parties visiting the lake. He is providing every accommodation, and the hot baths added are quite a feature. With all the improvements, this will be a most delightful place for a summer resort.

There can be no real, complete enjoyment without due attention to bodily comforts. If my notes are mostly concerning the preparations made for the last, they are no less valuable and hardly less interesting than if they were only concerning the natural beauties of the place. Perhaps months of travel may have had something to do with the tone of my letter, making it less romantic but more statistical with regard to the creature comforts. Still I think they will prove acceptable to the reader, although not quite after the general order of such letters.

### Lake Donner.

Quite different from Lake Tahoe, yet not less interesting, is Donner Lake. Only 3½ miles long and one mile wide, it still has a peculiar beauty of its own, which causes one to hesitate long before awarding it a second place. Formed by the side and terminal moraines of an old glacier, hemmed in by woods and mountains, with its own natural curiosities and its own historical tragedy, well stocked with fish, and with pleasant hotels, it will ever attract many visitors who seek for the beautiful.

The tragedy which gave name to the lake has been widely told, yet may be new to some of your readers. About a quarter of a mile from the Grant House are still to be seen the indications of a cabin. Here a party of immigrants, from Illinois, were imprisoned by the snow in 1846. They suffered terribly, but finally a portion succeeded in getting away. A man named Donner, his wife and a German remained. Those who escaped brought back a rescuing party, who found Donner and his wife dead and the German alive, but alive from subsisting on the body of Mrs. Donner, whom he was suspected of having killed to preserve his own existence.

In the year 1863 there was quite a mining excitement in this section, on the Truckee River. Many claims were located, shafts were sunk, tunnels run in, and a town sprang into existence. But the results did not justify the expectations, the excitement died away, and now there is no one here to work or prospect.

From Donner we return to Truckee, where, either going to or coming from the lakes, we stop at Mr. W. B. Campbell's fine hotel. The trains arrive here early in the morning, but the accommodations and the kindness of mine host reconcile the traveler fully to the early hour. Mr. Campbell likewise runs the stages; and as all his charges are moderate and all his works good, I can recommend his house and his line to all visitors; and I can heartily recommend all to pay these lakes a visit, being confident that they can nowhere spend a pleasanter summer. W. H. M.

ANCIENT AQUEDUCTS.—Many have believed that the Ancients were ignorant of the law that fluid in pipes will rise to the level of its source, because in all the ruins of their aqueducts, the channel is a regular slope. Some of the aqueducts, as works of magnitude, are not inferior to the great wall of China, or the Egyptian pyramids; yet at the present day, a single pipe of cast iron is made to answer the same purpose, and even more perfectly. It is now ascertained, however, that it was not ignorance of the principle, but want of fit material for making the pipes, which cost our forefathers such enormous labor.—*Dr. Arnott.*

ALL THE GOLD IN THE WORLD.—Estimate the yard of gold at $10,000,000, (says an English writer), which it is in round numbers, and all the gold in the world might, if melted into ingots, be contained in a cellar 24 feet square and 16 feet high. All the boasted wealth already obtained from California and Australia (up to 1858) would go into an iron safe nine feet square and nine feet high,—so small is the cube of yellow metal which has set populations on the march, and roused the world to wonder.

COFFEE.—The coffee-plant is a native of Abyssinia. Thence it spread into Arabia and thence to Egypt and Turkey. From the last-named country it was brought to England in 1650. It grew quite rapidly in favor here and became fashionable, as may be inferred from Pope's lines:—

"Coffee, which makes the politician wise,
And see through all things with his half-shut eyes."

A NEW GUN has been manufactured by Krupp, and sent to the Prussian army before Paris for operations against the French balloonists. This gun is of cast steel, the barrel being five feet long with 1½ inch bore. It rests on a column and can be turned in any direction.

THE first silver money was coined at Rome, 482 years after the foundation of that city. The fact that the mint was in the temple of Juno *Moneta*, gave origin to our word "money."

THE *Examiner*, speaking of the Porter-Grant letter, says the worst bottle a man can indulge in, sometimes, is the ink bottle.

PACIFIC RURAL PRESS

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PRINCIPAL EDITOR.....W. B. EWER, A. M.

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SAN FRANCISCO:
Saturday, January 7, 1871.

### A CARD.

Having seen the prospectus of the PACIFIC RURAL PRESS, and believing there is great need in our comparatively new agricultural districts of such a journal as therein proposed, the undersigned do not hesitate to state that from the standing reputation and success of its publishers, (Messrs. Dewey & Co., proprietors of the SCENTIFIC PRESS,) we believe the new journal will be worthy of universal trial by our agricultural and rural population, and that its publication will be fruitful of much usefulness to its subscribers and in forwarding the development of our natural wealth and prolific resources.

CHAS. F. REED. President State Agricultural Society.
DR. J. S. CURTIS, Yolo Co.
WM. H. PARKS, late Prest. North'n Dist. Ag Society.
ROB'T BECK, Sec'y Cal State Agricultural Society.
C. T. WHEELER. Member state Board of Agriculture.
ROB'T HAMILTON, member St. Board of Agriculture.
E MILLS, Member State Board of Agriculture.
I. N. HOAG, late Sec'y State Agricultural Society.
O C. WHEELER, formerly Sec. State Agricultural Soc.
G. N SWEZY, Prest. North'n Dist. Ag. Society of Cal.
J. K. DO'K, Prest. San Joaquin Agricultural Society.
ROB'T WATT. State Controller.
JOHN BIDWELL, Prest. Chico Ag. Society.
EZRA S. CARR. Prof. of Agriculture and Ag. Chem., Cal. State University.
E. J HOLDEN, formerly Prest. San Joaquin Ag. Society.
HARMEN BAY, Prest. Upper Sacramento Ag. Society.
E. HALLET, Secy. Upper Sac. Ag. Society.
R. B. SWAIN, Prest. Chamber of Commerce, S. F.
H. N. BOLANDER, Prest. Bay Dist. Hort'l Society.
A. S HALLIDIE, Mechanic Institute of the city of S. F.
HENRY KIMBALL, Prest. Odd Fellows Library, As'n S.F.

## OUR WEEKLY CROP.

After digging and delving for years on our coast, working with hand and with brain, we have at last succeeded in raising our first crop of purely agricultural produce, which we present to our readers in this initial number of the RURAL PRESS. What we have provided, we will here sum up.

The preparation of our land is the first step in farming. The Grand Island Irrigation Scheme is well described and illustrated, as one epoch of land cultivation, and the Use of Manures (a homely but important subject) is also treated of. Then we are ready for further steps. Shall we raise Cotton? The first of a series of articles on its cultivation, is here given. Do we intend paying attention to Silk Culture or Poppy Culture? All of these are treated of in articles which show the peculiar requirements of our coast, and which are to be continued. What we can do in the way of Cultivating Trees, is here shown. What our prospects are in the Manufacture of Beet Sugar, with a new and cheap process thereof, and the advantages of raising Melons rather than beets, are all told. Our California Fruits are described and illustrated. Finally our Market Reports give much valuable information to farmers and others.

Besides our manual labor, we should attend to the improvement of the mind. One of California's most eloquent lecturer has written down for us some excellent ideas on the Needs of Agricultural Communities. Not to fall behind the age, we keep a concise record of Mechanical and Scientific Progress, and one of our Coast Inventions. And we learn of the growth of our country from the comparative tables of the Census, a little dry perhaps, but excellent for reference.

So far we have had pretty solid fare. But the illustration of our beautiful Yosemite Valley brightens up the scene, and a wanderer tells us of our mountain lakes, Tahoe and Donner. The illustrated description of Woodward's Gardens gives us an idea of what has been and can be done here in the way of Ornamental Gardening.

Our Home Circle and Household Reading take up two pages devoted to the family,—a short story, a little sentiment, and some fanciful ideas are given as a fitting desert to our meal.

With this sample of what we can do for agriculture on our coast, we commence a new career which, it is to be hoped, may result in benefiting our readers and ourselves.

[From our Sample Issue, Dec. 17, 1870.]

## THE PACIFIC RURAL PRESS.

In presenting to our readers the preliminary or sample number of the PACIFIC RURAL PRESS, we do not claim that it is what it should be, by any means; but the efforts of the publishers in conducting and building up the SCIENTIFIC PRESS, is sufficient guarantee that no efforts will be spared to elevate their new paper, as fast as circumstances will permit, to such a standard of excellence and usefulness as will make it worthy and fit to represent the great and growing agricultural interest of the Pacific Coast. All we ask is the prompt and hearty co-operation of our friends in extending to it such a support as will warrant the necessary outlay to make the paper what it should be. Being already provided with an able corps of writers and workers in every department, a well equipped office, and a reputation for integrity and energy, which has been accorded by a generous public and which has proved of the highest pecuniary value, we venture upon our new enterprise with the fullest assurance of success.

The object of the paper will be to please, interest and instruct all who peruse its columns. It will contain nothing which can offend the most fastidious—nothing which will either directly or indirectly inculcate improper ideas or principles in the minds of either old or young. Our only aim will be to benefit and interest.

No pains or reasonable expense will be spared to make the paper what its patrons desire to have it, and what its proprietors mean to make it. Earnest labor, thought and study will be exercised to this end.

Its miscellany will be neither trashy or trifling; and while it will be designed to elevate and instruct, it will at the same time be made to interest and please.

The farmer will find the AGRICULTURAL DEPARTMENT well filled with really useful information, designed especially for use and practice on the Pacific Coast.

The Housewife will find something in every issue to assist her in economizing her means or in adding to the comforts of her home and the luxuries of her table.

The Home Circle will always find much of interest and instruction for both old and young. Useful lessons will be given in the amenities of life, and in the simple laws of health. The children will not be forgotten; as we propose to establish a department for their especial benefit. We shall give an original New Year's story for the children in the first regular issue of the RURAL.

Our illustrations and embelishments will be of a high order—having utility and the elevation of taste and thought in constant view. Nothing in this line will be presented to pander to a vitiated taste. Improvements in this direction will be our constant aim. The beautiful California illustration which we present to-day, is one of a series of similar ones which we have already on hand and which will be given from time to time; to be followed by others of equal or greater interest and beauty of execution.

The publishers aim to make the PACIFIC RURAL PRESS, just the paper which Californians and other residents on this Coast should select as the one above all others which they would desire to SEND TO THEIR FRIENDS IN THE EAST, as a representative of California interests and as a remembrancer to the "old folks at home," that they are not forgotten in this far off land of gold, and busy industry.

## TAKING YOUR HOME PAPER,

If it is a good one, is not only a pleasant duty, but a profitable investment. We do not expect the people of this coast to patronize the PRESS alone because it is printed on the Pacific Slope, but if, all things considered, it is equally as good a paper for their purposes as any other, we certainly should have the preference, as a *home journal*, supporting *home interests* and developing home resources. We have the advantage of the situation, and we intend to produce a paper with which the agriculturists of the Pacific Coast will be satisfied, and of which they will be proud. The publishers of this paper never failed of fulfilling their promise. Give us a trial and see if we fail you now.

THANKS to our cheerful co-workers who encouraged us to start and have practically aided us in successfully commencing this new paper. We feel a friendly obligation for every kind word spoken and written. They inspire a desire to merit them truly.

## BEET SUGAR ITS PROSPECTS—A NEW PROCESS.

Industry is a great success in California. On the 17th day of November last, the Alvarado Sugarie made its first sugar. No difficulty occurred. The machinery worked well, and every process was a success from the beginning. Better sugar we never saw. There are several methods of making beet sugar. By the Alvarado method, the beets are washed and rasped, and the juice is extracted by a centrifugal screen. Defecation is effected by lime, and purification by carbonic acid gas, and by animal charcoal. They use a vacuum pan for the final boiling; and, again, centrifugals for extracting the molasses from the crystalized sugar. The machinery for this method is complex and costly. The mill and all its appointments cost $125,000. Its capacity is 50 tons of beets a day, producing four tons of sugar—which shows eight per cent. of sugar in the beets. The cost of production scarcely exceeds seven cents, and the average market price may be quoted at 12 cents per pound, leaving a good profit. They paid $3.50 per ton for beets delivered. This may advance some hereafter. Twenty-five tons is about a fair yield per acre, to good culttvation. Chinese labor is employed in the mill, and it gives good satisfaction.

The Co. has 3¼ tons of seed for 1871, and 600 acres of land will be put in beets. It may be mentioned that this sugarie is under the working direction of Messrs. Otto & Kleinau, experienced German manufacturers.

Alvarado is some 25 miles from San Francisco, on the opposite side of the Bay; and the land thereabouts is a very rich loam, with a moist subsoil.

A year before the Alvarado mill was built, the Sacramento City Company, organized by Mr. Wadsworth, put up an experimental mill, and proved the fact that our beets were good for sugar. Under this assurance, a 70-ton mill was ordered in Germany, and an experienced superintendent engaged. The company, however, conceived the idea that it would be prudent to verify Wadsworth's experiments by a new trial under a French gentleman, who held out inducements. Thus the year was lost and with it the honor of priority. The company now feels encouraged, and it is seeking in Germany for machinery, which will probably be of more recent improvement; and we may expect its erection in time for this year's crop of beets. Six thousand pounds of seed are on hand for planting in the spring.

### A New Process.

The new process of extracting the saccharine matter from the beets, that is supplanting all others in Europe, is called "Robert's Diffusion Process." It differs materially from that employed at Alvarado.

Mr. Julius Roberts' system claims to extract the saccharine juice leaving behind the impurities. The beets are cut into slices one-sixteenth of an inch thick, and treated with some cheap chemical. A pressure of five or six atmospheres is applied. It is claimed that this chemical either renders the alkaline elements insoluble (?) or prevents their exit from the cells of the beet; so that the water extracts only the sugar. This being accomplished, centrifugals, which are so costly, and which take so much steam power and attendance, are dispensed with. Defecation is comparatively trifling, and two-thirds of the workmen are not wanted.

Mr. Wadsworth, who learned this process in Europe, where more than a hundred factories have adopted it, hopes to find parties to join him in putting up a sugarie here. Persons desirous of advancing the interest of their neighborhood, far more than can be done by a college of any sort, may address Mr. W. at Sacramento. He has a full supply of beet seed and a European contract for works at an advantageous price.

In the Roberts diffusion process, it is of no consequence how much alkali is in the soil or beets; for the alkalies are prevented from interfering with the sugar.

We may also hope soon to have a melon sugarie. Watermelons contain the same sugar as beets. But an acre of melons yields more than an acre of beets. The cultivation and gathering cost less than half, and the manufacture is still cheaper; for there are no impurities to be removed. Melon sugar gives a fine table syrup of fruity flavor, and the seeds yield a table oil of fine quality. The pulp is also superior for feeding stock. The mode of making melon sugar is very simple; and Mr. Wadsworth, who understands it, recommends a melon sugarie to begin on, to be followed, after a time, by combining with beets. Melons are of two classes—summer and winter melons; which give a long period of steady work for a sugarie. We venture to recommend Wadsworth's melon sugar project to earnest consideration, especially on account of the very small comparative cost of the works required and the superior production of melons in California; in places, too, where beets will not grow to perfection.

## CORRESPONDENTS.

We are authorized to announce the following, among the well known writers on this coast, who will write regularly or occasionally for the columns of the PACIFIC RURAL PRESS: Prof. Ezra S. Carr, of the University of California; I. N. Hoag, Sacramento; W. Wadsworth, Sacramento; T. M. Logan, M. D., Sacramento; Rev. O. C. Wheeler, Sacramento; E. S. Holden, M. D., Stockton; J. S. Harbison, Sacramento; S. H. Herring; Dr. Anderson, of Santa Cruz; besides several others—ladies and gentlemen—whom we may be at liberty to announce hereafter.

OUR ADVERTISERS.—A more worthy list cannot be found in any journal. Much of the limited space allotted to advertising is already engaged.

TO CORRESPONDENTS.—We have a large number of communications on hand marked for insertion—among which are favors from "W. W.," of Sacramento; "F. M. S.," of San Diego; "A. B. B.," of Petaluma; "S. H. H.," who writes from San Mateo and Pescadero; and "E. P. H.," San Francisco. We have also several others, some of which we have not yet had time to examine.

SAMPLED.—We acknowledge the reception of a sample box of sugar from the Alameda Beet sugar factory, the like of which is now being manufactured at that establishment. We hail it as an evidence of the successful inaugration of a new and important productive industry on this coast. The sample before us is a beautiful article of granulated sugar, white as the driven snow and beautifully crystalised. No better sugar of the kind has ever been seen on this coast.

The product of the pioneer sugar works of California is now before the people of this coast. It is a very superior article, beyond all question, and can be furnished as cheap as that obtained from any other source. Consumers here should give the enterprise a helping hand, by calling for and using home made and *home grown* sugar, in preference to that of foreign growth. By so doing this business may be encouraged until we shall be able to produce all our own sugar, and thereby save some four millions of dollars that we now send abroad for this important necessary of life.

MUSIC.—Mr. Louis F. Gehrke, of Chicago, sends us a couple of collections of waltzes of his composition, entitled "Sounds from the Minnesota," and "Charms of Night."

## CHROMOS.

The engraving which we print on this page is from the celebrated chromo-lithograph of Hill's Yosemite, a scene which has been *painted at* by every artist who has ever visited this coast and become familiar with the subject, either by visiting the valley or by the aid of the numberless photographic views from time to time brought out. But of all who have attempted the difficult task of reproducing in colors on canvas a general view of the valley (we believe this is conceded by every one conversant with art matters) no one has yet produced a picture of this beautiful scene which excels the one referred to. The best proof of this is the fact that the painting sold for a large price to a representative Californian, who is thoroughly conversant with the scene Mr. Hill essayed to portray.

It is true that many good, and some very fine, works of art have been produced, founded on the much-hackneyed Yosemite; but they were generally like the stories "founded on fact,"—a resemblance—but one rather difficult to trace. Now we need something more than a resemblance. Scant meed of praise would our Eastern friends award an artist of the present day who should paint Niagara Falls in any other manner than as the scene actually exists. To make a pretty picture, by taking liberties with nature and allowing the pencil to roam over the canvas wherever fancy dictates, is one thing; to portray nature upon canvas is quite another matter. The last only is *true* art.

Much has been written of late about chromo-lithography. Many suppose it to be an American invention and comparatively new. This is not so. The process has been in use nearly a century and was first discovered in Munich, Germany. A knowledge of chromo-lithographing would convince any one that it could not well have been invented in any other locality, seeing that all lithographing is done upon a peculiar kind of stone found only in Bavaria in the neighborhood of Munich. Watt would have stood a poor chance indeed to have been the inventor of steam had he lived in a country where fire was unknown.

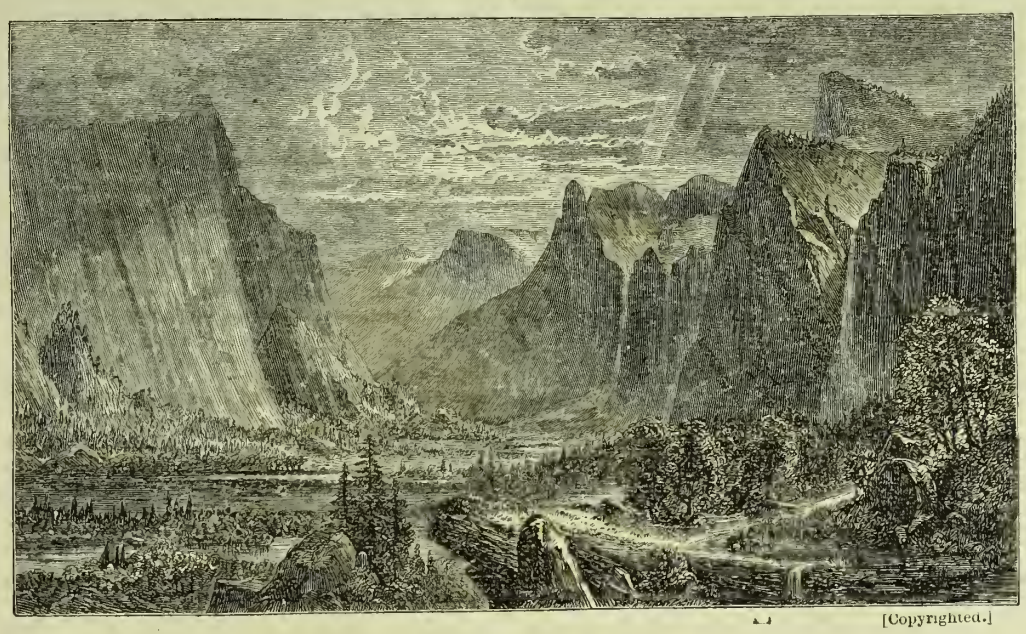
The advance of chromo-lithography, however, goes to show that not so much results from the *invention* as from *adapting* to the popular demand or taste. This last is what Mr. L. Prang, of Boston, has done. Facsimiles of paintings by this process are of no recent date; but the bringing out of popular subjects, executed in a superior manner, from the finest paintings, has made the United States not the cradle but the drawing-room of the art. In a future number we propose giving some reasons why we excel Europeans in this branch; and we shall from time to time print engravings from the most popular American chromos.

The chromo of Hill's Yosemite has met with good success on this coast, and all attempts to equal it have so far failed. It is the only chromo published by Prang which has been exclusively a subscription picture.

We have often heard laments that we have no public art gallery in this city. What public spirit has failed to produce is supplied, however, to a great extent by private enterprise. There is a good collection, where one can profitably cultivate the finer sensibilities, at the establishment of Messrs. Snow & Roos (Goupil's depot), 21 Kearny-street. These gentlemen are the agents of Mr. Prang for this coast, and at their place, besides other artistic efforts, the choice productions of Prang & Co. can be seen. Those living at a distance can benefit by the institution by sending for the catalogues and price lists, which are furnished free on application, together with engravings of some of the most popular chromos.

## HILL'S YOSEMITE.

In regard to the engraving of this beautiful and renowned California valley, which we present to our readers this week, a few words concerning the principal points indicated may be acceptable to those to whom the features of the place are not familiar. On the left hand, or north side, is El Capitan, or Tutucanula as the Indians call it, which rises up from the valley to a hight of 3,600 feet. On the right hand are the cliffs on the face of which is seen the Bridal Vail Fall, about 1,000 feet in hight. Behind this is a part of the Cathedral Rock which rises up 3,000 feet. Further back, about the center of the picture, is Sentinel Rock, with its obelisk, itself 1,000 feet high, rising up to over 3,000 feet above the level of the valley. Then comes the Half Dome, a crest of granite 4,737 feet high, and with the face toward Tenaya Creek *absolutely vertical* for 2,000 feet down from the summit; while in the background is seen North Dome, 3,568 feet in elevation above the valley. Add to these figures the elevation of the valley itself, 4,060 feet above the sea, and we get some respectably high figures.



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YOSEMITE VALLEY.

## EXTENSION OF BUSINESS — TWO PAPERS.

The rapidly increasing circulation of the SCIENTIFIC PRESS, and the broad field which it had undertaken to fill, suggested, some months since, to the publishers of that paper the propriety of issuing *two editions*—one for the mining and the other for the farming interests of the Pacific Coast. The success of that enterprise has been beyond our most sanguine anticipations; and now, at the urgent solicitations of numerous friends and correspondents we have determined to give a still greater distinctiveness to our efforts in behalf of these two leading industries of this coast, by advancing the two *editions* to separate and independent journals.

The SCIENTIFIC PRESS will continue, as heretofore, to represent and encourage the Mining Interest, while our Agricultural Industry will be represented and sustained by the PACIFIC RURAL PRESS, the first regular number of which is to-day presented.

The acknowledged advantages already derived from our late system of two separate editions will be greatly enhanced by the issue of two independent journals, and each class of our readers will receive additional benefits; while from the words of encouragement and assurance which we are constantly receiving, we feel the fullest confidence of still larger and more numerous accessions to our list of readers and subscribers than we have been favored with heretofore.

Of course much of the miscellaneous matter which usually appears in the SCIENTIFIC PRESS, is equally appropriate for the PACIFIC RURAL, and will accordingly appear in both journals, for we shall not be able to find anything better. Either paper will be served to subscribers, as they may desire. Both are of the same size and price, and the yearly volumes will commence and expire at the same time; hence no difficulty or confusion will arise at any time by transferring names from one subscription list to the other.

Many of those who are now forming or are about to commence the forming of clubs for the PACIFIC RURAL PRESS will notice that this arrangement may greatly facilitate their efforts, as their lists may include names for both papers.

To this brief preliminary announcement of enlargement of business we will only add that the prospects of the SCIENTIFIC PRESS were never so brilliant as now, and our ratio of increase of subscription never so large, notwithstanding the great depression in business which has so long prevailed.

All who have visited us within the past few months will bear us out in saying our office presents a busy scene in its every department, whether in our Patent, Editorial, Printing or Engraving Rooms. The efforts to keep pace with the increasing demands of business are taxing the energies of the publishers and their various corps of assistants to their utmost. But we are never weary of well doing, and shall still continue, as heretofore, to do all in our power to interest and instruct our readers.

RAPID GROWTH OF POPLARS.—We have seen this season, in the nursery owned by John Rock, of San Jose, Carolina poplars that have grown 15 feet high from cuttings, planted last spring—the average hight of the lot being ten feet. The Lombardy poplars from cuttings of the same age have attained about the same size. These trees grow rapidly for several years, making large trees very soon, the wood of which is valuable for fuel. The timber of the Lombardy poplar is very straight and strong, and where kept sheltered from the weather makes good framing timber for buildings. It is much used for this purpose in some districts.

There are Lombardy poplars on Mr. Rock's place three years old, that stand 30 feet high, and are four inches in diameter of trunk. Many of these trees are being planted for street and ornamental purposes. The natural growth of the Lombardy poplar is spiriform; but if cut back at 12 to 30 feet high, it will become branching, and make a spreading head.

## OUR HEAD.

Having spent considerable time in preparing and embellishing our head (by which term, to avoid any possible misunderstanding, it may be well for us to say we mean that which stands at the top of the first page of the PRESS), we may be permitted to call attention to its general appropriateness.

As the labor of the mechanic is of the utmost importance to the farmer, as the value of improved agricultural implements cannot be over-estimated, it will be perceived at once that it is eminently proper to place at the foundation of all things rural, designs to this effect; wherefore there are to be seen below, the hammer, the anvil, the saw and other mechanical tools on the left, and the plow, the harrow, the scythe, etc., the simpler forms of farming instruments, on the right. Also, on the right, is seen a waving field of grain, falling before the improved harvester, whose excellent working is indicated by the smile on the farmer's face, not visible at present, because the head is not turned in this direction. The richness of our soil is shown by the luxuriance of the crops, and by the full heads of grain, entwined with the blossoming wild flowers, in the upper right-hand corner, and the fruit and grapes in the other upper corner.

Close by the grain-fields are designs illustrative of three other departments included within the scope of our paper:—stock-raising, poultry-raising and pomology. Here too is indicated the peculiar character of our Western Slope. Where else in the world can a man be found plucking pears from a shade tree? or roosters of larger size than children? The size of that rooster will enable us at all times to utter a most lusty and prodigious crow.

The central design indicates that the grand scenery of our coast will receive its proper share of attention at our hands. The financial proprietor wished a saw-mill erected at that water-fall; but although the spirit of improving all natural resources, thus evinced, was commendable, yet the artistic editor absolutely refused any such infringement on the realm of fine arts.

The railroad train and telegraph and the spirited head of the noble horse, explain themselves, and properly have an elevated position. The industry of the conductors of this journal is indicated by the bee-hive; our readers will obtain the sweetest and purest honey therefrom. The fine mansion on the left, with the handsome grounds, shows that the PRESS will not only tell its readers how to attain a handsome competency, but also give them designs and plans for building pleasant homes. Finally the rustic letters of the name denote the solidity and value of our paper combined with a due appreciation of the beautiful, as the fanciful vegetation takes its abode on the sturdy forest trees.

Such is a brief and partial account of the hints given by our head. As we have taken considerable care and trouble in the preparation of this very commencement of our paper, and have called to our aid the best available talent,—the well-known artists, the Nahl Brothers, having helped us in the present instance,—so we intend for the future to spare no pains, and to bring into requisition the labors of those best qualified to make the PACIFIC RURAL PRESS, the most practical, complete and seasonable agricultural paper of the coast and the one best adapted to the wants of our people.

## Co-operation with the Local Press of the Pacific States.

Not intending that our paper should interfere with the patronage of the local papers of the interior—which are the head sources of our local news, and the nurseries of our best literary men—we will make more liberal offers for clubbing the PRESS with publishers of newspapers on this coast than those announced by the most far-reaching proprietors of eastern journals. Ours will be the most populor paper that publishers on this coast can club with their own, and subscribers can receive it at once, and in case of change of residence, can quickly inform us of their new address, and be sure of getting every number of the paper promptly. Publishers in the interior should send for our special rates for clubs. We will not only "live and let live," but are disposed to "live and help live."

BY OUR LADY EDITORS.

## ALWAYS TAKE A KISS.

There's a jolly Saxon proverb
Which is pretty much like this,
That a man is half in heaven
When he has a woman's kiss;
But there's danger in delaying—
And the sweetness may forsake it;
So I tell you, bashful lover,
If you want a kiss, why, take it.

Never let another fellow
Steal a march on you in this;
Never let a laughing maiden
See you spoiling for a kiss;
There's a royal way to kissing,
And the jolly ones who take it
Have a motto that is winning—
If you want a kiss—why—take it!

Any fool may face a cannon,
Anybody wear a crown,
But a man must win a woman
If he'd have her for his own;
Would you have a golden apple,
You must find the tree and shake it;
If the thing is worth the having,
And you want a kiss, why, take it.

Who would burn upon a desert,
With a forest smiling by?
Who would give his sunny summer
For a bleak and wintry sky?
Oh! I tell you there is magic,
And you cannot, cannot break it;
For the sweetest part in loving
Is to want a kiss, and take it!

## WAS IT A DREAM?

**A New Year's Story for Children, Old and Young.**

BY NELL VAN.

[WRITTEN FOR THE PRESS.]

It was the last night of the year, and we were all at grandfather's spending the holidays, as was our custom, and had assembled around the blazing fire, after our games were over, to chat together and tell stories before going to rest. On either side of the wide fireplace sat grandfather and grandmother in their old-fashioned arm-chairs, while Uncle Ned, who sat in our midst, was amusing the youngsters with tales of early California life.

"Now my lads," said grandfather, during a pause, "you shall have my story, and when it is done, tell me, was it a dream?

"It was a bitter cold winter's night—that New Year's eve, long ago, when your grandmother and I, with our six boys and girls gathered around our fireside, talking over the past and forming new resolutions and plans for the future. Robert was about entering college, as he may remember, and was full of bright anticipations. He can tell you how many of them have been realised.

"His mother and I felt sad at the prospect of a separation, and urged him to keep a sharp look out, and avoid the companionship of all who might lead him astray. We charged him, above all things, to abstain from even a taste of spirituous liquors and tobacco—the acknowledged enemies to health and morality."

At this I well remember little Ned's bold remark, "that he did not care, *he* was going to smoke and drink just as soon as he was as big as Rob., 'cause father did, and so did *all* the men." A sad earnest look from that gray eye of mother's checked the boy; but he soon asked, in a quieter tone, "When will a fellow get to be a man, if he don't learn to smoke and drink while he is young? I believe in it anyhow."

"Were those my youthful sentiments, father," spoke a deep-toned, manly voice at our side; "if so, I out-grew them before reaching manhood; for I early made a vow which I have never broken, to live my life through without knowing the difference in the taste of the various kinds of liquors, and to never touch tobacco."

Grandfather continued, "Now at this time my prospects in life were fair, as I held the position of book-keeper in a large forwarding house in New York, and being of a social turn I was in the habit of taking an occasional smoke and glass of wine with a friend. I had often received a reproachful glance from mother's soft gray eye upon returning after an evening spent away, and any brief allusion to the smell of tobacco smoke in my clothes caused a slight twinge of conscience. Her early experiences in life had taught her how much suffering the love of strong drink brings into a family; and I had been plead with from time to time to join one of the 'teetotal societies,' as they were called. But my reply invariably was, that such societies were intended to reclaim the drunkard rather than to restrain the moderate drinker, such as I claimed to be, who needed no such check to prevent indulging to excess. Moreover, I was resolved I should never take a pledge that circumstances might force me to break.

"Well, my lads, upon that night our advice to the boy sent many a home thrust into my bosom, and I was glad to turn the conversation to other subjects. We drew out the girls on their various plans for self-improvement, and strove to awaken in them desires for becoming practical and useful. Then, with tender thoughts and throbbing hearts, we bade each other good night and separated.

"I lay awake a long time that night, restless and unhappy, till at last I dropped into an uneasy slumber, from which I was suddenly awakened by a gentle touch upon my forehead, and opening my eyes, saw in the pale moonlight, the figure of a woman standing by my bedside. I spoke aloud—'Is it you, Susie?' supposing it to be our eldest girl; your Aunt Susan, boys, who married and died in the same year, poor child! A soft voice answered, 'Do you not know me, Richard?' It was Esther's voice, and I thought I must be dreaming. I rubbed my eyes and pinched myself to be sure I was awake. Just then I heard a distant clock striking the midnight hour; while before me stood the girlish form and well-remembered features of that darling sister who had been my guardian angel from my boyhood.

Though younger by two years, I had ever looked up to Esther for guidance, as she did to me for protection. We never had a thought but the other shared it; and when heart-broken and sad, because of a misplaced affection, she turned to me for comfort and consolation, I felt how utterly unworthy I was of the love and confidence of such a truly noble woman.

"Her life from this time became one unwearied effort to reclaim the outcast, and to improve the mental and moral condition of all young persons within her reach. She often gathered about her, on Sunday afternoons, a number of children of all sizes, and, sitting under the shade of a large tree, would amuse and interest them for hours with stories and good, motherly talk on the virtues of cleanliness, industry, temperance and health. She walked for miles around, stopping at houses and giving books to the farmers' wives to read, and spending evenings, both conversing and reading, with the farm hands, who flocked around her as eagerly as if she had been a fortune teller.

"What Florence Nightingale was to the dying soldiers' bedsides, your Aunt Esther was to these New England homes.

"But there came a time when we heard from her no more! Where she had gone we knew not, and all we could ever learn was that she was last seen journeying alone near the foot of the White Mountains. Brother James started in search of her, and though he scoured the country in every direction, making inquiries of all he met, he never gained any further tidings. I had always believed that Esther would return to us again, alive and well; and as I looked into the familiar face, on that eventful night, I said, half aloud, 'It is indeed Esther, and I told them she would surely come home again—or am I dreaming?'

"Again I heard her gentle voice assuring me it was no dream, but her own self standing before me, at the same time bidding me listen to her warning, which was to save more than one human soul from a sorrowing future.

"She then described a lovely country through which she had been wandering, and the beautiful children who were her companions; and that she had learned many a lesson since we parted, which she desired to share with me. She charged me to remember that if one wished to impress a truth upon the plastic mind of youth, a practical illustration of it, in the daily walks of life, had a far wider influence than any amount of mere words of counsel. One vicious companion may contaminate a whole crowd, and one example of virtue may create a desire for well doing among hosts of earnest hearts. In like manner should parents beware of censuring children for faults already their own, and should strive to stimulate them to good works by themselves living up to their highest ideal; thus proving the truth of the adage—'Example is better than precept.'

"Overcome with emotion, and anxious to give expression to my feelings, I sought to clasp the loved form to my heart, when she vanished, and I was alone with the unconscious sleeper at my side. I cannot tell how long I lay pondering over the truths thus solemnly presented, and forming new resolutions which kindled in my heart a desire to struggle with temptation till I should be victorious.

"The wrestlings of that night were never forgotten. At breakfast, the next morning, I related to my wife and children the events of the night, and also the effects produced upon myself; and as I glanced from one to another of that tearful group, and felt the holy calm gathering about us, harmonizing and uniting us more closely than ever before, I asked the question, 'Was it a dream?'

"From that day I became a rising man. Studiously avoiding my former companions, whose habits soon appeared distasteful to me, I never was known to taste either liquor or tobacco again, and formed new friendships among a noble class of men, against whom I had hitherto been prejudiced, on account of their strict views on subjects of temperance and reform. Though I never quite reached my standard of excellence, yet having the full possession of all my faculties, I was enabled to think clearly. The result was, I rapidly rose from the position of book-keeper, with which I had been content for years, to that of proprietor, and finally became possessed of wealth, which, properly invested, yielded a handsome income. Our present beautiful home was purchased, and here our children have grown up to bless us.

You know the rest, my lads, and how great is our enjoyment to bring the children and grandchildren together, to gladden our hearts during the holiday season. And now, my dears, WAS IT A DREAM?"

## Beauty an Evidence of Perfection.

Beauty, whether in plants and animals, or in men and women, is the grand external sign of goodness of organization and integrity of function; and the highest possible beauty can indicate nothing less than perfection in these particulars. In the proportion, therefore, that we approach physical perfection, we become beautiful; "the idea of beauty" being, as the learned Dr. Pritchard truly says "synonymous with health, and a perfect organization." Physical goodness (or health) and beauty will always be found to bear a strict relation to each other, the latter being everywhere the sign or symbol of the former. A lack of beauty in any member or system of the body indicates a lack of goodness or health in that member or system. A deformity of limbs shows clearly enough a want of goodness in the locomotive system; a bad complexion not less certainly indicates something wrong in the vital system; and a malformation of the brain, made manifest by the shape of the cranium, is a sure sign of want of balance or symetry in the mental system.

## Don't Cultivate the Mind at the Expense of the Body.

The distinguished Dr. Spurzheim says: "Experience has demonstrated that of any number of children of equal intellectual power, those who receive no particular care in childhood, and who do not learn to read and write until the constitution begins to be consolidated, but who enjoy the benefit of a good physical education, very soon surpass in their studies those who commence earlier, and read numerous books when very young. The mind ought never to be cultivated at the expense of the body; and physical education ought to precede that of the intellect, and then proceed simultaneously with it, without cultivating one faculty to the neglect of others; for health is the base, and instruction the ornament of education."

TRUTHS are at first clouds, then rain, then harvests and food. The philosophy of one century is the common sense of the next. Men are called fools, in one age, for not knowing what they were called fools for averring in the age before. We should so live and labor in our time that what comes to us as seed may go to the next generation as blossom, and that what comes to us as blossom may go to them as fruit. This is what we mean by progress.

HE that would have a wife without a fault must remain a bachelor.

## THE BRIGHT NEW YEAR.

Janus, of old, is made immortal, through the name of his fair bride, the Queen Month, to whose merry Court cometh ever, with its young voice of joy and love, the bright New Year. We in the city are rejoicing with holidays, and there are sounds of gladness wherever young children gather round a happy fire-side, from which Comfort and Love are not banished, by the hard hand of Necessity, that knoweth no changes, save those of labor, and want and pain. Daily and nightly the city exhibits scenes, that almost rival the marvelous legends of Fairy Land.

Let us not forget in our own rejoicings, the unfortunate ones, who stand amid the cruel storm, crying for shelter, or sit by the way-side, with mute gestures imploring bread. But may all who rejoice in good gifts, give also to such as can not repay again, except in the blessing of the poor. The good deed in its simplest form, shall not fall to the ground inert; but it shall spring up, and bear blessings, a thousand fold. The country, too, exhibits its own peculiar phases of enjoyment. Over the plain, perching on the hill-side, nestling in the valley, or half hidden in a chink of the mountains—wherever the cottage fire smiles to make the landscape beautiful with a home of love, or the prouder mansion rears its stately front, there are gatherings of the young and happy—now here, now there; while from over our Eastern borders comes the sound of merry sleigh-bells, that lend their inspiring music, and announce the coming of gay groups to the festive scene, mingled with the ringing chime of young voices, that make the keen night air musical.

They gather round the glowing fire-side, with cheeks and eyes brightening with health, love and joy; and as the evening glides on, and the apples are duly named, bright cheeks are seen to blush at the many pointed allusions. When the nuts and jokes are all cracked, they make the circle smaller that they may draw nearer to the aged grand-sire, who tells the thrilling stories of the adventurous California pioneer, wilder and strange in the sheer truth than the broad fictions of the Arabian Nights. He tells them that when he met the grizzly face to face, the bear was as much astonished at the man as the man at the bear. An hour thus passed swiftly away, and happy as the little circle may be, we must abruptly bid them good night, and close our New Year's talk with the following:

**Canzonet for January.**

Children of the human race,
Wheresoe'er your dwelling place,
Touched with smile or tear.
Whether cabin hall or cot,
Shadow forth your earthly lot—
Hail the bright New Year.

Ere the circle is begun
Or a grain of sand hath run
From Time's unopened sphere,
With a deep and earnest thought,
Round this genuine season wrought—
Hail the glad New Year!

Whether with life's tide shall flow
Floods of joy or depths of woe,
Seasons bright or drear;
Yet if ye are true and just,
Ye may hail, with perfect trust,
The fair, the glad New Year!

Soothe to-day the heart of Sorrow,
So shall angel Hopes to-morrow
Gild the darkest fear;
Every hand has work to do;
Then with purpose strong and true—
Hail the bright New Year!

F. H. MC D.

HOSPITALITY.—The Hindos extend their hospitality to their enemies, saying: "The tree does not withdraw its shade even from the woodcutter."

GARMENTS of beauty may cover, but they can never impart worth to abandoned characters.

HE that makes himself an ass, must not take it ill if men ride him.

LOVING hearts are like beggars; they live on what is given them.

# HOUSEHOLD READING.

## Sunshine.

Sunshine is of almost as much importance in gaining or retaining health as good air. Who does not know how much more a bright and sunny day gladdens and invigorates both the strong and the weak than one overcast with clouds? Let the bright sun shine into your dwellings; draw the curtains and swing back the blinds that the sun may dry up the dampness which feeds the mould and fungus that breeds disease; that drives the rose tint from the face and lips. Let the glorious sunshine have free access to every part of your house where it is possible for it to enter. It will bring light and life, and sometimes imparts vigor when all other means fail.

The nations of antiquity seem to have understood and appreciated the blessings of sunlight far more than we moderns do. The most refined of those nations generally held their public meetings in the open air. Their schools were for the most part in groves or in porticoes—colonades, supported upon lofty pillars, beneath which the air and sunlight had the freest access. The magnificent Coliseum of Rome was without a roof. Little is the wonder that many of them, in the simplicity of their understanding, were induced to pay divine honors to the sun, as the source of life, light and heat.

Every lady exhibits wisdom and care in securing all possible available sunshine for her pet plants. She would sooner see them die than linger out a sickly existence in the shade. Sunlight and air are of no less importance to the beautiful, animated flowers of the household, than to the lillies, the geraniums and the fuchias.

Too little attention is paid to this particular in the construction of our dwellings. Set them so that the sunlight will find its way into the largest possible number of rooms. Rooms upon the northerly side of houses can often be constructed with bay windows, or with recesses, by which a side light can enter, and the room be enlivened and warmed by the sun for a shorter or longer time. An hour's sunshine in a room is well worth arranging for. Secure every ray of the winter's sunshine that is possible, for the little ones and for the infirm and sick, who cannot go out of doors to reach it. Such persons, if kept in rooms with only north windows, will suffer as much from the lack of sunshine, as will plants which are compelled to vegetate in the shade. Let us give not only the feeble ones, but all and every one the fullest measure of sunshine.

How we Eat and Drink.—Dr. Dio Lewis, in his "Talks about People's Stomachs," gives the following picture of the way in which too many Americans are in the habit of "bolting" their food at meals, and washing it down with floods of liquids: "Well, then, let me tell you, that during my six years' residence in America I saw nothing which surprised me so much as the way in which the Yankees eat and drink. Why, I really think it is worth an admission fee to stand at the end of a dining-room and see a hundred Yankees at the dinner table. Each one has something to eat in one hand and something to drink in the other. When the food hand goes up the drink hand comes down, and when the drink hand goes up the food hand comes down. It always reminded me of one of those walking beams on a steamboat—when one end is up the other end is down. Now, sir, I think that is the reason the American people are such dyspeptics. Why, sir, I believe that in a world's exhibition of dyspeptics your country would show more in number, and stronger in quality than all the rest of the world."

Domestic Economy is a science—a theory of life which all sensible women ought to study and practice. No young lady is fit to be married until she has been thoroughly educated in the deep and profound mysteries of the kitchen. See to it, all ye who are mothers, that your daughters are accomplished by an experimental knowledge of good housekeeping.

## A New Bread Fruit Tree.

Dr. Steven, of New York, writes as follows of a Bread Fruit tree which is a native of Brazil, and largely employed by them for food. The Dr. writes:—"The plant resembles very closely our sassafras; it has the same rough bark and the same palmate leaf. The food is derived from the root, and it probably produces a larger amount of food from a given area of ground than any other plant. A yield of 3,000, 4,000 or 5,000 bushels to the acre is not uncommon, and the cultivation is of the roughest kind. In fact, it has no cultivation, except planting. The universal South American knife, the machete, is used to cut a hole in the sod, the plant is inserted, and left to take its chance. It is sure to take its chance however. It will root out all other plants, and connot itself be destroyed. The root is grated in mills, the milk flows away, and the pulp is dried for food. The milk is wasted by the hogshead. I have seen a river white with it for a long distance below the grating mill. This milk is poisonous, and it contains the saponaceous principle."

The ordinary bread fruit tree of the tropics, as is well known, produces a soft spongy fruit which is generally eaten as plucked from the tree. It may also be sliced and dried, and in that condition kept for quite a long time, and ground or pounded into a kind of flour or coarse meal.

The Tallow Tree.—A tree called the tallow tree, grows in China, the fruit of which contains a seed covered with a white, solid, fatty matter, which the natives convert into candles. It is proposed to introduce this tree into South Carolina, the south of France, and Algeria, where there is every prospect of its being successfully cultivated. In China it forms vast forests, and gives rise to a considerable branch of local commerce. The government of British India has introduced it throughout the different regions of the Peninsula, it now being ascertained that it grows equally as well in the Punjaub and the north-west provinces as in China. The fatty matter produced by the tree favorably compares with the finest tallow, and when manufactured into candles, burns with a clear, white flame of great brilliancy, and emits neither smoke nor disagreeable odor.

## The Way the Money Goes.

New York city spends $8,500 per day for bread, and $10,000 a day for cigars. The United States invests $40,000,000 annually in the cigar trade alone, and $600,000,000 annually for tobacco in other forms, including expense of producing. The annual expense to the human family is not less, yearly, than $1,000,000,000. Liquor is sold in the United States amounting, in the year, to $600,000,000, one-fifth the total amount of the National debt; or, according to Commissioner Wells, the total amount disposed of per annum is $1,000,000,000, enough to pay the debt in three years.

It is time our wives, mothers and sisters, were alive to the importance of their influence upon this subject, and felt it their sacred duty to use every means in their power to keep this giant monster from ruining, not only the fortunes of many, but the souls and bodies of our best men and women! Only think of the vast amount of money expended in the actual degradation of mankind! And just imagine the suffering, disease, starvation and crime sure to follow the sale of liquor! The Chinese government will not license the sale of opium to its people, knowing its evil effects upon mankind; though a large revenue would accrue to the government by so doing. Would that our government were equally humane to its people. If woman has an influence upon society—and all admit that she has—let it be for its elevation, and let us begin now to make public opinion a temperance one—by voice, by pen and by example.

L. P. J.

Adversity overcome is the brightest glory, and willingly undergone, the greatest virtue.

## Household Receipts.

Corn Bread.—An Original Receipt.—To make corn bread equally well without as with eggs was discovered by a California miner who recently communicated the method to us. Our friend occupied a "camp" and of course did his own "cooking." On one occasion finding himself short of meal for his corn bread, he eked it out by mixing therewith a quantity of cold "mush" which had been set aside from a previous meal. His astonishment was great at perceiving the decided improvement the previously cooked meal produced on his "corn bread." He repeated the experiment with the same result, and has since communicated the discovery to many, all of whom are unanimous in pronouncing cooked meal as good as eggs to make corn bread light. Mix liberally, say one third.

Good Rolls.—The famous Parker House rolls are said to be made in the following described manner: Make a hole in two quarts of flour, and pour in one pint of curd milk that has been boiled, with a cup of butter melted in it. Add a quarter of a cup of sugar and half a cup of good yeast. Let it stand without mixing two or three hours. Salt to taste. Then knead it, and set it to rise a few hours; then mold it, and rise again in the pans before baking. The rolls require about fifteen minutes to bake in a quick oven.

Sweet Apple Pickles.—Three pounds of sugar, one quart of vinegar, one peck of apples. Dissolve the sugar in the vinegar, steam the apples until tender; let them boil up until clear in the sugar and vinegar. This is very nice for sauce.

To Keep Moths Away.—Take a piece of flannel, wet it with turpentine, and put among your woolen clothes and yarn.

Cold Soap may be made as follows:—20 pounds of grease, 22 pounds of potash, three-quarters of a pound of rosin.

## Mechanical Hints.

To Polish Marble, etc.—Marble of any kind, alabaster, any hard stone, or glass may be repolished by rubbing it with a linen cloth dressed with oxide of tin (sold under the name of putty powder). For this purpose a couple or more folds of line should be fastened tight over a piece of wood, mat or otherwise, according to the form of the stone. To repolish a mantelpiece it should be first perfectly cleaned. This is best done by making a paste of lime, soda and water, well wetting the marble, and applying the paste. Then let it remain for a day or so, keeping it moist during the interval. When this paste has been removed the polishing may begin. Chips in the marble should be rubbed out first with emery and water. At every stage of polishing the linen and putty powder must be kept constantly wet. Glass, such as jewelers' show-counter cases, which become scratched, may be polished in the same way.—*Scientific American.*

To Bend Mahogony or Walnut Moulding.—Take two pieces of lumber, one to fit the inside, the other the outside of the moulding (the lumber of course cut to the curves required;) soak the moulding in boiling water for ten minutes; then put it between the pieces of lumber; then cramp them together slowly bending the moulding; let it stand for three days; and it will be fit for use.

Spots on Mahogany.—Stains and spots may be taken out of mahogany with a little aquafortis or oxalic acid and water, rubbing the part by means of cork, till the color is restored; observing afterwards to wash the wood well with water, and to dry and polish as usual.

White Polish for Light Woods.—Take white (bleached) shellack, 3 oz.; white gum benzoine, 1 oz.; gum sandarac, ½ oz.; spirits of wine or naptha, 1 pint, in which to dissolve.

Oil Cloths.—To ruin them—clean them with hot water or soap-suds, and leave them half-wiped, and they will look very bright while wet and very dingy and dirty when dry, and soon crack and peal off. But if you wish to preserve them, and have them look new and nice, wash them with soft flannel and luke-warm water, and wipe thoroughly dry. If you want them to look extra nice, after they are dry, drop a few spoonsful of milk over them, and rub them with a small dry cloth.—*Western Rural.*

Gold Liquid is made by mixing bronze powder with gum water; a little spirits of wine will make it keep better. The proportions are easily ascertained by trial. Pieces of glass are put in the bottle to assist in shaking up the heavy powder, which would settle at the bottom.

## Life Thoughts.

When lovers quarrel the only presents not returned are kisses.

The road to ruin is always kept in good repair, and the traveler pays the expenses of it.

He that is good will become better, and he that is bad, worse; for virtue, vice and time, never stop.

Few take care to live well, but many to live long; though it is in everybody's power to do the former.

Reading, says Lord Bacon, makes a full man; conversation a ready man; writing an exact man.

Reflect before you act, but, when the time for action arrives, stop thinking.

No snow falls lighter than the snow of age; none heavier, for it never melts.

Our prayers and God's mercy are like two buckets in a well—when the one ascends, the other decends.

A Good Thought Well Spoken.—No young woman, says a contemporary, ever looks so well to a sensible man as when dressed in plain, neat, modest attire, with but little ornament about her person. She looks then as though she had worth in herself, and needed no artificial rigging to enhance her value. If a young woman would spend as much time improving her mind, training her temper, and cherishing kindness, mercy and other good qualities, as most of them do on extra dress and ornaments to increase their personal charms, she would at least be recognized among a thousand—her character would be read in her countenance.

## A Sentiment from the "Plow."

San Jose, Dec. 15th, 1870.

Messrs. Dewey & Co.—*Gents*: I cannot refrain from an expression of satisfaction at the prospect of at last getting a first-class agricultural newspaper in this State. Had the "sample number," now before me, emanated from an unknown source, I might have felt some doubt as to the success of the enterprise; but, being a constant reader of the Scientific Press, I feel well assured that the same talent and enterprise exhibited in that journal will also be carried into your new enterprise, and will prove a guarantee of *its* success also. Moreover, a long and intimate acquaintance with your firm, as business managers and patent agents, still further increases my confidence in the ability that leads and the stability that will secure success for your new paper, the Pacific Rural Press. The need of such a paper on this coast has long been felt; and the present time, for many reasons, appears to be a most opportune one for starting.

Not only is farming now taking the lead of all industrial pursuits, but our farmers are feeling the need of a more intelligent and diversified culture. Our agricultural resources and possibilities are almost unlimited; but as yet we are only in the infancy of our development.

Our Eastern agricultural journals lead those of Europe; and have not we on the Pacific Coast a right to expect even to equal or excel our neighbors of the East? The acknowledged ability, independence and freshness of our Eastern magazines, over the staid, classical European literature is apparent. But we of California can boast of an *Overland Monthly* that outshines them all—that in its bold freshness and sterling ability, sparkles with lustrous brightness. Why, then, can we not support and maintain a *Rural paper* that will lead? Surely we have the country for it, and I believe that we have the people also.

Our California experience is already invaluable to us, but is something that our Eastern papers cannot comprehend. What we want is a progressive, California agricultural paper, that will take the lead in the promulgation of plans and ideas for the development of the agricultural resources of the State.

As a friend to this enterprise, and as a farmer in the field, you may reckon me as one of your subscribers; and as the season progresses, I may occasionally add my mite to contributions for its columns.

Yours truly, Plow.

The Pueblo Land Case, at issue between the trustees of the city of San Diego and the holders of the ex-mission grant, and which involved the title to nearly all the land property within the city limits, has been decided in favor of the city.

## SEASONABLE ARTICLES.

I. N. HOAG, EDITOR, SACRAMENTO.

Under this head we shall present in each number of the RURAL, well considered original articles and suggestions upon agricultural and horticultural subjects. The particular subjects will be chosen with reference to their special adaptation to the seasons with a view to inducing immediate trials or tests of the practicability and correctness of the suggestions advanced, on the part of our agricultural readers.

Owing to the peculiarities of the soils and climates of the Pacific coast, agricultural and horticultural operations are found to require very different management here from that practiced in most other countries. Hence the lessons inculcated by eastern and foreign journals on agriculture and horticulture, however well timed and valuable in the countries where they are published, are almost wholly inapplicable and valueless here, both as to time and substance. We shall endeavor to bear these facts continually in mind and present our readers with fresh thoughts and suggestions adapted to the immediate wants and necessities of our own cultivators of the soil.

Again, as a result of the completion of the overland railroad and the probable building of others across the continent in the immediate future, and the consequent changes in our industrial relations with other portions of the world, it becomes necessary for us to bring about such changes in our agricultural and horticultural operations as will enable us successfully to compete with the agriculturists and horticulturists of those countries with whom we have thus been brought in more immediate contact.

We shall give all the new relations arising from these changes of circumstances our careful and constant attention and study, and endeavor to keep our readers well informed as to the bearing and influence of these relations on their different business interests.

Nearly all the greatest and most important questions touching the agricultural interests and productions of this coast remain yet to be solved. Indeed in our hurry and eagerness to make money we have scarcely thought of them. Have we yet any definite idea as to what should become our leading staple agricultural and horticultural products? In other words as to what we should produce only for home consumption—and what we can with the greatest profit and benefit produce for our exchanges—for commerce? All these great questions remain yet to be answered, and the sooner we give them our attention the better.

One of the most common and least justifiable mistakes of all new American agricultural communities, is the sameness and limited variety of crops, and neglect and consequent rapid exhaustion of the soil. Our people here are no exception to this rule. They have fallen into this common mistake and are already suffering its consequences. We shall endeavor to keep before our readers inducements to change this course and to adopt the opposite system of culture—the cultivation of a diversity of crops—the careful and judicious nursing and improvement of the soil.

We believe that one of the most important and necessary conditions to the agricultural and general prosperity of a country is a division of the land into moderately small farms, the titles to which should be in the cultivators themselves.

To bring about this condition of things on the Pacific coast in an amicable manner and in the interest of all concerned will be our constant aim and untiring endeavor. The settlement of the mountain counties, and the cultivation of those extensive and rich hillsides and valleys in products adapted to their soils and locations, will claim our earnest attention and constitute one of our most cheerful tasks.

The introduction of improved breeds of hogs, sheep, cattle, horses and all other varieties of stock, and a discussion of the rules of breeding of each will receive our liveliest co-operation and consideration.

In short, to whatever will healthfully and permanently advance the material interests of the coast and of the country we pledge our cheerful and unwavering support and attention; and in this manner and in no other shall we strive to deserve, and hope to secure the patronage and assistance of a descerning and intelligent people.

## SILK CULTURE.

We are almost daily in receipt of inquiries in regard to this industry in California. Many of these inquiries are from our own citizens who contemplate entering into the business, and many from people in the Eastern States, who are thinking of coming to this state for the same purpose. The inquiries cover all the practical operations of the business from the nature of the soil to be chosen for the cultivation of the mulberry, to the completion of the cocoons and making the eggs for the propagation of the worms. The inquiries being so general, and coming from so many quarters, we conclude that our opinions as stated in this paper last week—that the Franco-German war is most favorable to the successful and profitable prosecution of the industry in the United States, and especially in California, are generally concurred in, and that people are about to engage in it very generally. Being generally ignorant of the details of the business they are earnestly seeking the necessary information. We shall therefore, as far as we are able, give that information, and thus once for all answer all inquiries. And first as to

### Location and Soil.

There are many things to be taken into consideration when about to select a location for the silk business. As to the mulberry tree, it will grow and flourish where almost any other tree will grow. It will grow on swamp lands when the surface is covered with water from three to six months in the year almost as surely and thriftily as the willow. It will flourish upon the hard dry soil of the open prairie lands and strike deep down into the earth its straight tap-roots in search of moisture. Or if planted on the hill or mountain side it is still at home and is still one of the most hardy and rapid growers. Being so hardy and so well adapted to all localities and soils, and at the same time possessing such a dark green luxuriant foliage, the mulberry tree, and more especially the Alba and Moretti, make most excellent trees for shade and ornament. We consider them in this respect superior to the locust or Lombardy poplar, now so much in use in this state.

In selecting a location for the silk business, however, there are other things of more importance than the rapid growth of the tree. The soil must be sweet, containing no alkali or other mineral substances obnoxious to insect life and health. It should not be too rich or moist, for such soils are likely to force too much water into the leaf of the tree, and such leaves are apt to predispose the worms to disease. Again the location should be chosen so as to avoid the fogs of the coast and the cold sea breezes of the broad open plains. A plenty of air is good both for the health of the tree and the worm, but that air should not bring too much moisture for the leaf of the tree, and should not be too cold for the worm. As a general thing a soil that will grow good wheat or produce good corn or make good grapes, combined with a climate which in the spring is dry and uniform—not bringing too great extremes between day and night—may safely be selected for successful silk culture. In our own state, after adhering to the above rules, one can scarcely go amiss of good locations. I am of the opinion, however, that the very best localities are to be found in the foot hills either of the Sierra Nevada or coast range mountains. In these localities the difference between the temperature of day and night is considerably less than in the broad valleys. It is a fact that the cocoons made in the foot hills and sheltered locations in the valleys are generally more compact and contain more silk and that of a stronger fibre. Such is the experience, not only here, but in other silk growing countries as well.

Mr. F. O. Adams, Secretary of the English legation in Japan, has, in accordance with the instructions of his government, been giving a great deal of his time for the past two or three years to investigating this industry in that country. His statements are uniformly to the effect that the greatest success attends the efforts of those whose plantations are among the hills where the soil is light and somewhat gravelly and the atmosphere uniform and dry in the spring of the year.

Thus it will be seen that a rather poor and light soil is better for silk culture than that which is very rich, and a rather dry soil better than a damp one. When land has become exhausted by constant cropping with wheat, the mulberry will thrive and produce good and valuable leaves for the worms, and will at the same time recuperate the soil. Silk culture, fruit culture and grape culture go well together, and the conditions of soil and climate adapted to the one are well adapted to the other. Silk culture will insure the first returns and requires the least expenditure; and may be looked to for an income while waiting for grape vines and fruit trees to come into bearing. We will next speak of the varieties of mulberry trees and mode of cultivation.

## MELONS VS. BEETS FOR SUGAR.

The following very interesting and instructive article from W. Wadsworth, we take from the Sacramento *Union* of Dec. 31st:—

The sugars from cane, maple, beets, parsnips, the sweet-gourd and all the varieties of melons, when manufactured perfectly pure, are chemically identical. In Hungary and Italy there are numerous large establishments for the manufacture of melon sugar. I have seen them. The cost of melon sugar as compared with beet sugar, is in favor of the melon. Every German or French authority on the culture of beets for sugar, admits the necessity of at least two, and recommends three, deep and thorough plowings of the land to properly fit it for the culture of beets. With melons it is quite otherwise. To secure the largest yield and best beets, the seed should be planted in rows two feet apart and from eight to ten inches apart in the row. Melons are usually planted in hills, six to eight feet apart, but they are better planted in rows twelve feet apart, and eight inches apart in the row. For beets all the land—for illustration say fifty feet in width—must be plowed at least twice. For melons, only four beds, twelve feet apart and each only four feet wide, or sixteen feet in width of plowed land against fifty for beets.

The great expense of beet culture is in the hand-hoeing and weeding of every row, and in most lands as many as three of these weedings are required in a season, before the leaves are large and spreading enough to keep down the weeds. The difference between the weeding of four rows of melons and twenty-five rows of beets is very considerable; whilst the exhaustion of the fertility of the soil is in the same proportion. With both crops, the land between the rows is kept free from weeds with the horse-hoe or cultivator at the same expense. Young melon plants are not as tender and delicate for the first eight days as beets. It is evident, therefore, that the expense of culture is largely in favor of melons, it being less than one-third the cost of beets per acre.

In gathering the two crops the difference is again in favor of melons, for they only have to be picked from the vine and thrown into carts; then, without washing or other process, are ready for the mill. Beets must be first pulled, thrown into heaps to protect them from the sun, then each beet must be handled in having its crown of leaves and rootlets cut off, and then, before it is ready for the rasp or cutter, must be washed thoroughly clean.

The gathering and handling of melons is an agreeable and cleanly operation compared with that of beets. Large quantities of melons in certain localities can be sold for direct consumption in the early part of the season or whenever worth more in that way than for sugar, spirits or vinegar; it is not so with beets. Sugar-making can commence a full month earlier from melons than from beets, and with winter water-melons, is in Hungary, continued as late as with beets. Melons yield their seed every year with no extra expense for cultivation. Beets require a second year, with land and careful culture and gathering of the seed. Melon seeds will yield sixteen per cent. of their weight of excellent table oil. Beet seeds are of no value beyond what are needed for seed. The oil from the surplus seeds of melon sugaries in Hungary, pays one-half the cost of cultivating the entire melon crop. The yield of melons per acre in favorable soils is equal to that of beets. The yield of sugar is as seven per cent. from melons, to eight per cent. from beets; but the cost of manufacture is decidedly in favor of melons; they requiring less time, less bone black, less machinery, less power and less fuel, because no water is added, which cannot be said of beet juice by the ordinary process of extraction.

The natural purity of the juice of melons is so superior to beets, that whilst the melons furnish an agreeable "food and drink," and a delicious sweet, the juice of beets is so acrid and herbaceous as to b wholly unpalatable. The defecation and refining processes for melon juice and sugar is therefore attended with far less trouble and cost. The part of the beet which in many instances grows above ground exposed to the sun, is of little or no value for sugar; whilst the hotter the sun and the dryer the better and sweeter the melon. The larger the melon, the sweeter generally; whilst the reverse is true of beets.

Beet juice and pulp will turn black *in fifteen minutes* exposed to the air, and fermentation commences immediately from the rasp. Melon juice and pulp will not blacken at all, and will not begin to ferment in the open air before *the third day* from the melon. Beets are remarkable for their power of extracting alkaline and saline substances from the soil, which injures their value for sugar. Melons are equally remarkable for letting these salts entirely alone in the soil.

No centrifugals or presses are required to separate the juice from the pulp, as with beets; but all except the rinds and seeds go into the defecating kettles together. Cloth filters, concentrators and a vacuum pan are as necessary as for beets. The buildings are less costly, because requiring less strength to hold in position the centrifugals and other necessary machinery of beet sugaries. The chemical processes of melon sugar-making do not differ materially from those for the making of beet sugar, except in their simplicity.

Spirits in large quantities can be extracted from the fermented juice of melons and the refuse of the sugarie, and "pure cider vinegar" is made therefrom in *ten hours* that cannot be distinguished from the genuine article. The melon rinds, with dry grass or straw, make an excellent food for milch cows.

Now, while I have been drawing comparisons favorable to melon sugar as against sugar from beets, except in one instance—the actual per cent. of sugar obtained—I do not in any way desire to detract from the merit of the beet as a sugar yielding product of our soils, well knowing and acknowledging its almost inestimable value.

But it is this that I wish to inculcate, that, whereas a beet sugar establishment is a costly concern, a melon sugarie costs comparatively but little, whilst both can be made exceedingly profitable. A small beet sugarie, that will pay an annual dividend of 30 per cent. upon the entire investment will cost $75,000. A melon sugarie that will pay 34 per cent. per annum on its cost, can be put in operation for $20,000.

A beet sugarie to pay a dividend of 35 to 45 per cent. per annum, will cost from $100,000 to 150,000.

RESOURCES OF CALIFORNIA.—At a late session of the Massachusetts' State Board of Agriculture, one evening was devoted to a lecture by the Hon. Marshall P. Wilder on "California; a Comparative View of her Climate, Resources, and Progress, with Observations made in a Recent Tour to the Pacific Coast." The lecturer described vineyards of a thousand acres, apple orchards of 150 acres, pear orchards of 75 acres, 30 acres of strawberries, 40 acres of currants, and rows of almond trees half a mile long. He closed by a comparative view of the resources of California and New England, according to the latter those influences of education and civilization which had done so much to develop California.

DECEMBER ROSES.—We acknowledge the receipt of a choice bouquet of roses and other beautiful flowers from Alameda, sent by a lady subscriber who is successfully cultivating some of the rarest and most beautiful foreign trees and plants in her fine garden.

## ORNAMENTAL GARDENING.

### One of our Parks.

Woodward's Gardens, one of the first places shown to travelers visiting our city, have been called by some the "Central Park of the Pacific." Whatever name may be given to these grounds, they certainly deserve and have received the highest praise and admiration, and we propose giving a brief description of their prominent points for the benefit of those of our readers who have not been able to visit them in person.

Mr. R. B. Woodward, one of the wealthiest and most liberal of our citizens, laid out these gardens in 1860 as private grounds around his residence. Possessed of a refined taste, and of adequate means to gratify this taste, he spared no expense in beautifying them. They are provided with choice plants, both foreign and native, a museum and several conservatories were built, and a trip to Europe was taken in 1861 by the proprietor with the special view of supplying these last. In selecting works of art, he was aided by Bierstadt and Virgil Williams, both of whom contributed to his Art Gallery. The garden statuary was produced by sculptors of Carrara Italy, expressly for Mr. Woodward.

As the various additions were made, and the gardens grew in beauty, their fame spread far and wide, and many came to see them. The beautiful plants and strange trees, the fine buildings with their novel architecture, the ponds and mossy rocks, the roar of the wild beasts, excited the curiosity of persons, to the most of whom the picket fence formed an impassible barrier. The proprietor was strongly urged to open his place to the public. There was a great need of some such public garden. It would serve to instruct the many to whom no opportunity was otherwise given of harmless and improving amusement. Mr. Woodward had always been most hospitable in allowing hisf riends free use of the grounds. He listeued to the broader proposition andconsented so far there to as to open them for a time, early in 1866, for the benefit of the Sanitary Fuud. A commencemeut haviug thus beeu made, they were definitely made public in May of the same year, a trifling admission fee being charged to defray the expense of keeping everything in proper order.

The gardens cover four acres of land, between 13th and 14th and Market and Mission streets, and about an acre south of 14th street, this last constituting an amphitheater and being connected with the other portion by a tunnel under 14th street. The gardens contain level ground and elevations, the walks are graveled and meandering, the grassy sward is dotted with every variety of flowering vines and shrubs, with trees of different climes. The lake is decorated with a margin of lilies and by large colored globes of glass, mounted on posts, which heighten the general effect. Pandora, Jupiter, Bacchus, Venus, Ceres, Terpsichore, Psyche and the "Dancing Girl," in marble forms, are found here and there in quiet nooks. A rustic fountain spouts by the side of the stream flowing into the lake, and benches and chairs invite to rest.

On the hill, in a grove of dwarf oaks, are the saloon and restaurant, with the platform for the band, and the observatory. On the side of the hill is an arbor built after the fashion of a Turkish mosque. The main building fronts on Mission street, and the lake is in the rear of this. There are five conservatory and plant houses, of an aggregate length of 300 feet and an average width of 30 feet. The engraving gives a correct representation of the principal one, and will serve to give an idea of a small part of the beautiful grounds. There are, besides, a hennery, a pigeon-house, and a grapery. A gymnasium is fitted up for those fond of athletics. A rotary boat, schooner-rigged, capable of seating a hundred persons, floats around in the lake.

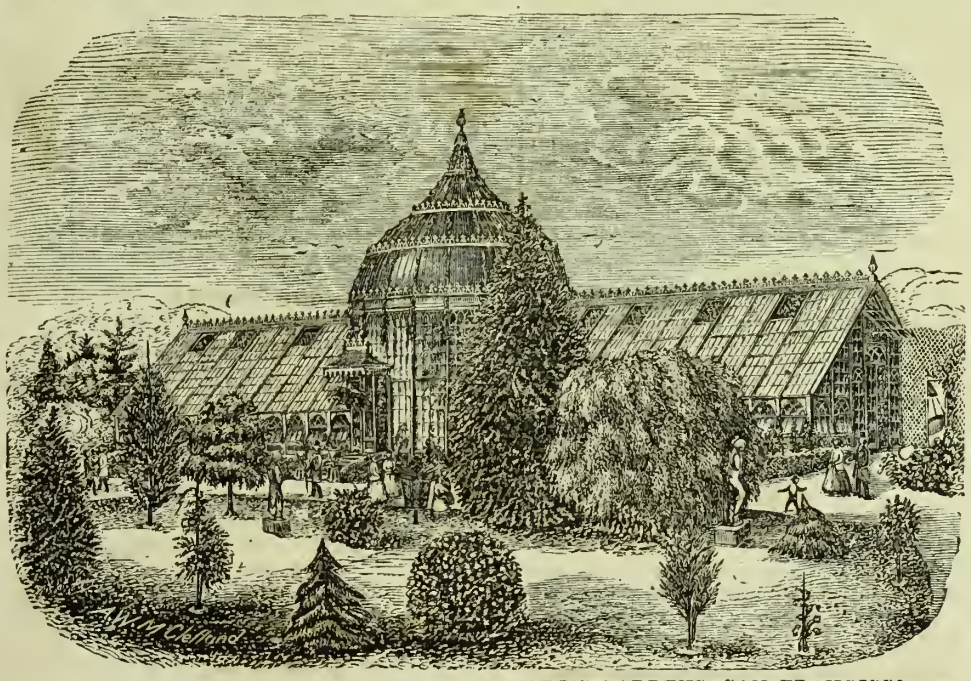
The Art Gallery contains some seventy oil-paintings of merit and two marble busts, one by Hiram Powers. In the adjoining Museum of Miscellanies are two statues, a collection of birds and birds' eggs, one of upwards of a thousand coins of all ages and nations, idols, weapons, minerals and hundreds of other articles. The library contains 1,600 volumes, many of them very rare and costly. The collection of alcoholic specimens is quite extensive. There is another collection of stuffed birds of the highest value, which is exquisite in its colors and varieties.

The Zoological Department is very extensive, and a catalogue of the animals would of itself occupy a large share of our space. Here are animals of various kinds from all countries and all zones. The collection is by far the largest on the coast and is continually being increased. The cages of the live animals always attract a large crowd, while the stuffed collection is hardly less interesting. There are California grizzlies, Oregon panthers, Mexican panthers, South American Jaguars, and Bengal tigers. Camels from Arabia, dogs of the Esquimaux, and kangaroos from Australia are found here. Deer and elk, badgers, racoons, marmots, foxes, weasels, ant-eaters, oppossums, black and brown bears, monkeys of all sizes, and very many other animals live in close proximity. Pheasants, turkeys, quails, ducks, geese and chickens, eagles, sparrows, cranes, doves and canaries, of various breeds and hues and from countries remote and near, are confined in cages. Besides all these, which are alive, there are stuffed specimens of bears, snakes, tigers, leopards, hyenas, boars, apes, monkeys, etc.; double-headed, double-bodied and double-tailed calves and horses, etc.; while curiosities and montrosities of all kinds, alive and dead, swell the catalogue.

The Zoological Department has just been removed into the amphitheatre, which is as before stated, on the south side of 14th street. In this amphitheater, which will accommodate 10,000 persons, exhibitions are being continually given—at present a hippodrome forming an attractive feature. The lumber for an extensive skating rink has been purchased, and this additional attraction will shortly be given. The rink will be built on ground now outside of the garden and will be in the shape of an L, with sides, each 125 feet long, and of a width of 40 feet. In the angle formed by the two sides there will be a circus ring, and back of this, extending from the wing of the rink to the other, terraced seats will be arranged to accommodate several thousand persons. In the rear of the seats there will be an orchestra-stand.

Other additions are contemplated. All varieties of pure breeds of poultry will be kept on exhibition; there is to be an aquarium, so that the finny tribe may be more largely represented, etc., etc. It requires now several visits to get a decent idea of what is to be seen, and at the present rate of increase to the attractions, one will soon be obliged to make frequent and periodical calls to keep up with the times.

It may well be imagined that these gardens represent a large amount of capital. A million of dollars would not replace their contents were they destroyed. The expense of keeping the grounds and buildings in repair, of attending to the plants, and feeding and caring for the animals must be very large. Woodward's Gardens are now an important and indispensible feature of our city. They are visited daily by large numbers of residents and sojourners, and we may therefore be allowed to call the place "one of our parks." They are a public benefit to the city, especially to children and to the poorer classes, and to Mr. Woodward are due the hearty thanks of our population.



CONSERVATORY OF PLANTS AT WOODWARD'S GARDENS, SAN FRANCISCO.

UNCLE SAM.—Immediately after the last declaration of war with England, Elbert Anderson of New York, then a contractor, visited Troy, where he purchased a large quantity of provisions. The inspectors of these articles at that place were Ebenezer and Samuel Wilson. The latter gentleman (universally known as "Uncle Sam") generally superintended in person a large number of workmen, who, on this occasion, were employed in overhauling the provisions purchased by the contractor. The casks were marked "E. A.—U. S." This work fell to the lot of a facetious fellow, who, being asked the meaning of the mark, said he did not know unless it meant *Elbert Anderson* and *Uncle Sam*, alluding exclusively then to the said *Uncle Sam Wilson*. The joke took and became very current.—*Frost's Naval History.*

HOW OILS "EXPLODE."—The expression often used that an oil is explosive conveys a wrong idea. The oil does not explode. An oil may even extinguish a burning match when thrust into it, and yet be highly dangerous to use as a burning fluid.—It is the vapor of these oils, mixed with air, that is dangerous, as far as explosion is concerned. Where a partly filled lamp has the portion above the oil filled with a mixture of vapor and air, it may explode. When a lamp is filled while lighted, the mixture of air and vapor in the can or filler, explodes upon coming in contact with the flame; the oil itself does not really explode, though it does serious injury when scattered by the explosion.

## PATENTS AND INVENTIONS.

### Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

APPARATUS FOR COLLECTING PRECIOUS METALS.—J. M. McDougall, S. F. This is an improvement on the apparatus patented some three years ago by Mr. McDougall, which we have heard praised as most efficient in saving gold even after the ore had passed through the most approved gold-saving apparatus. This former invention, it may be well to state, consisted in using metallic standards placed in an ordinary sluice, the bottom of which had been previously covered with amalgamated plates. The standards were, according to the patent, composed of copper and iron, by the combination of which metals a retaining amalgamating surface was presented and an electrical action induced, which would serve to collect and precipitate even the finest particles of gold or other metals. The present invention relates to an improved method of securing the copper in the (hollow iron) standards in firm contact with the iron; to the employment in the sluice of any square obstructions in place of the metallic standards, said obstructions being placed in a similar manner to that employed with the metallic standards, in order to impart to the water a rocking motion, by which the particles of metal are precipitated without the electrical influence; and lastly to coating the plates on the bottom of the sluice with gold or silver amalgam or the amalgam of some of the base metals, in order to give a heavier body of quicksilver with less fluidity. Mr. McDougall has spent a long time in working and improving his apparatus, and has been very successful in his endeavors, if common report is to be credited.

DEVICE FOR EXHIBITING PHOTOGRAPHIC PICTURES.—A. G. Walton, S. F. This device is an excellent substitute for parlor albums, for it contains in a small space a large number of pictures, which are, moreover, protected, while they can be examined at pleasure. It consists of a small box in which the pictures or cards, after having been placed in suitable frames, are arranged horizontally in a pile, one above another. Two wheels, placed one at each end of the pile and driven from the same shaft, are provided with pins which, as the wheels revolve, take the cards or frames in succession from the bottom of the pile and carry them up to the glass window through which the pictures are viewed. After carrying them past this point, they drop them with their opposite faces downward upon the top of the pile, and thus, after the whole number of cards have been passed around and inspected on one side, they are again carried around in a similar manner with the opposite side to the front. In this way, each card having a picture on each side, two views are given for each frame in a most simple and ingenious manner. The device can be used with advantage also for exhibiting advertising cards.

MEDICAL COMPOUND.—A. J. Jenkins, Virginia City, Nev. This is a preparation which is said to be most effectual as a cure for rheumatism, and which, if substantiating this claim, must prove a great benefit to the very large army of rheumatic sufferers.

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NEW POST OFFICES have been established at Mono, San Luis Obispo county; Bell's Bridge, Shasta county; Munckton, Mono county; Felton, Santa Cruz county (special); Rumburgh, Siskiyou county (special); Ballard's, Santa Barbara county; Pleito, Monterey county; Potter Valley, Mendocino county; Ceres, Stanislaus county. The post office at Diamond Mountain, Nevada, has been discontinued, as no longer needed.

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A LIBERAL SPIRIT.—Hon. Thos. H. Selby, Mayor of San Francisco, has donated the whole of his salary as Mayor and as Funded Debt Commissioner—amounting to $4,200—to the charitable institutions of this city.

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LIME WATER FOR FOWLS.—Lime water is most beneficial for fowls. It is a preventive to many diseases, and assists the formation of bone and eggs. Prepare as follows: Pour over quicklime some water, and when the lime is slackened and settled, draw the clear water off.

[ADVERTISEMENT.]

A NEW PAPER FOR 1871.

—THE—

# PACIFIC RURAL PRESS

## A First Class Pacific States Agricultural and Home Journal.

Will be issued weekly on Saturdays, commencing Jan. 7th, 1871, containing sixteen pages devoted to

**Agriculture, Horticulture, Stock Raising, Domestic Economy, Home Manufactures Mechanics, Industries, etc.**

With an able and ample corps of editors, special contributors and correspondents, we shall publish a liberal variety of articles, entertaining as well as instructive, which will not only make the RURAL PRESS an able assistant to its patrons, but an attractive and welcome visitor to every reader in every intelligent

### Home Circle,

in the Pacific States. And more than this, we shall freight its columns with fresh thoughts, and new ideas, which hastened across the continent by rail, shall awaken and quicken the zeal of the more staid and gradual moving culturists of the eastern and European States, to their

### Pleasure and Profit.

We shall not only make a good paper for all husbandmen and homestead owners, (who now, more than ever require a knowledge of new discoveries in science and mechanical improvements,) but shall also render the journal a desideratum for those who contemplate becoming freeholders, and a large class of

Mechanics, Teachers, Students, Business, Professional and Trades Men,

whose interests are more or less identical with successful farming, and the active development of our vast and rich resources. Few there male or female—who will not find pleasure ennoblement in the study of progressive ing and gardening.

onest, intelligent and correct information be faithfully given, in behalf of, and urging

An improved Cultivation of the Soil;
greater Diversity of Products;
etter Breeds of Stock;
Better Varieties of Fruits;
The Culture of New Products;
Creation of New Home Industries;
Adoption of Improved Implements;
Higher and Happier Aims in Life, etc.

### Valuable and Timely Hints,

will be given weekly to lessen the labors of the farm, the household and the shop, and add to the health, the wealth and the wisdom of every patron of industry.

### How to Farm in the Pacific States.

As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxilliary and modifying instructions.

The following are among the specialties upon which the PACIFIC RURAL PRESS will treat:

Silk, Cotton and Sugar Beet Culture; Nurseries, Orchards, Tropical and small Fruits; Steam-plowing, seeding and harvesting for large tracts; Reclamation of swamp and unproductive lands; Hill and mountain farming; Grape growing; Fig, Rasin and Fruit drying; Irrigation; Lessons and Lectures on the chemistry of growing crops and on fertilizing lands; Practical Farming vs. Speculation; Taxation of unimproved lands; Railroads and improved transportation for crops and the better class of immigrants; Farmer's Clubs, lectures and associations; Co-operation in farming, mechanism, manufacturing and other industries; Government lands for settlers whether sold by R. R. operators or the U. S.; Reliable wholesale and retail market reports; Brief notices of Mechanical and Scientific Progress; Instructions for regular and farmer mechanics; Household Reading; Health and domestic receipts; a sprinkling of sprightly reading; Life thoughts; Poetry, condensed stories, items of news, etc., will be given.

### A Plain and Simple Style

Of writing will be our endeavor. Necessarily dealing largely in researches for facts we believe it desirable to present them in an inviting shape and in so comprehensive language that our special journalism shall advance in popularity and common relish.

*No editorials or selections of unchaste or doubtful influence; or lottery, quack or other disreputable advertisements, will be admitted into its columns.*

### Arrangement of Matter.

Our reports of agricultural, horticultural and other fairs, lectures, farmers' clubs and social literary meetings [the improvement and increase of which we shall especially advocate] will be carefully prepared in a valuable form for preservation; and the matter of our entire columns will be so classified as to be convenient to readers of various minds and individual tastes for ready perusal and future reference.

Interesting Illustrations of Pacific States and Eastern Inventions and Machinery, Fine Arts, Science, Fruits, Rare Stock and Natural Scenery,

Of special or peculiar interest to our readers will be published weekly in liberal variety. No pains or reasonable expense will be spared to furnish a

### Large and Richly Filled Journal

Nicely printed on fine paper, which will favorably compare with the long established class journals of more populous fields and older communities. Although the latter have less opportunities than new communities to be benefitted by printed information of discoveries,

### And Neighborly Experiences,

the reading of agricultural newspapers and books is lately increasing with a rapidity quite astonishing, and with the most profitable results.

We enter the field after a careful consideration and consultation with many of our leading agriculturists, with the strong conviction that such a journal on this coast is greatly needed and earnestly desired by the most prospectively flourishing and rapidly progressing community in the Union if not in the world. We know the task before us,—two of the proprietors and editors having experienced respectively 18 and 13 years of successful journalism in this state.

**SUBSCRIPTION IN ADVANCE.**

| | |
|---|---|
| One copy one year | $4 00 |
| One copy six months | 2.25 |
| One copy three months | 1.25 |
| Single copies | 10 |

**CLUB RATES.**

| | |
|---|---|
| Ten copies or more, first year, each | $3.00 |

[A free copy or premium sent to getter up of club.]

A select variety of advertisements only will be inserted. Circulated widely among the most thrifty of our population, the P. R. P. will be the cheapest and most effective medium for a large range of first class advertisements in the Pacific states.

Correspondence is respectfully solicited from every worthy source.

LOCAL CANVASSERS WANTED for every town, city and county. Special inducements offered.

Parties desiring to get up clubs or act as agents, will be furnished sample copies and prospectus free.

**DEWEY & Co.,**

Publishers Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

[Being also publishers of the SCIENTIFIC PRESS, we would say here that no change will be made in that paper except to improve it in its present character. Each journal will be published entirely distinct from the other.—D. & Co.]

## Trees for Silk and Trees for Shade.

I am thinning out my MULBERRY PLANTATIONS and will sell my surplus trees

### VERY CHEAP.

1 year old Mutticauleis $20 per thousand.
2 and 3 yr, old do from $25 to $35 according to size.
2 to 3 yr old Alba and Moretti from $30 to $40.

Liberal discount on large orders or to the trade.

### Shade Trees!

The large WHITE AND BLACK Mulberry's are the best shade trees in the State. I will sell well grown trees of these kinds from 12 to 20 feet high, at 25 and 50 cents each.

**Silk Worm Eggs and Silk Manual Free**

to customers for trees. Send your orders to

1v1-tfr **I. N. HOAG, Sacramento.**

## NEW SEEDS AND PLANTS.

WE OFFER FOR SALE

**CHOICE SEEDS, BULBS AND PLANTS**

from Australia, Japan and Sandwich Islands. Ramie, the celebrated China Grass, Vegetable, Grass and Flower Seeds; new and rare Plants, Fruit Trees etc., at the OLD STAND. ☞"Send for catalogue."☜

**E. E. MOORE, 425 Washington St., S. F.**

1v1-1mr

## TREES AND PLANTS!

By the 100, 1000, or 100,000, both at

WHOLESALE OR RETAIL,

AT LOWEST MARKET

**RATES.**

Fruits guaranteed true to name. My stock embraces all the leading fruits of the country from the Apple to the Strawberry—including the

**ORANGE, LEMON AND LIME.**

Also all the leading and favorite

*SHADE AND ORNAMENTAL TREES, SHRUBBERY, VINES AND PLANTS, MULBERRY TREES AND CUTTINGS, AND SILK WORM EGGS, ALSO THE*

Osage Orange Hedge Plant for fencing farms. Patent Grafting wax for top grafting, and the common Grafting Wax for top or root grafting.

Send for Circulars, Catalogues, Printed Directions and Price List.

Send 25 cts for Hoag's Treatise on Silk Culture.

**Address ROBERT WILLIAMSON.**

Capital Nurseries, U st., bet. 15th & 16th Sacramento Cal.

I am also a partner in the Tree yard of SAYLES & WILLIAMSON on K st., bet. 8th & 9th streets, Sacramento.

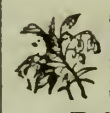
1v1-3mr

## LOS GATOS NURSERY,

On the Los Gatos Creek 2 miles south of San Jose. This new nursery now contains as fine an assortment

—OF—

*FRUIT TREES, ORNAMENTAL TREES, FOREST TREES, NUT TREES, SHRUBS AND PLANTS, AMERICAN, EUROPEAN AND AUSTRALIAN EVERGREENS, AND PALM TREES!*



as any first class nursery in the State of California with this advantage, viz: we have no old scrubby stock to get rid of. Every care has been taken to secure

### Reliable Standard Sorts,

AND

**BEST VARIETIES;**

**Proper Training, and Vigorous Growth!**

We invite NURSERYMEN, DEALERS AND PLANTERS, to examine our

**STOCK AND PRICES.**

Our large and splendid collection of

**NUT TREES,**

we deem worthy of special mention. These include 2000 Chestnuts, 1, 2 and 3 years old. 5000 Pecan Nut, 1 2 and 3 years old; Wood very valuable for timber. Butternut, 1 and 2 years old. States Black Walnut, 1 and 2 years old. California Black Walnut, 1, 2 and 3 years old. Hickory Nut. English Walnut, 1, and 2 years old. Sweet Almond. Soft Shell Almond. Paper Shell Almond, etc.

Orders promptly attended to. Address

**SYLVESTER NEWHALL,**

**Proprietor Los Gatos Nursery, San Jose.**

1v1-4in3m

## SHADE AND ORNAMENTAL TREES,

**Grape Vines and Cuttings.**

WE OFFER A LARGE LOT OF THE

### White Mulberry, (Morus Alba)

Of suitable size for shade trees.

The Mulberry is the most desirable tree to be had for shade or Ornament, and as rapid growers as the Locust. They are long lived and will flourish on any soil where other trees will grow, and will live in overflowed land as well as the Cottonwood or Willow, and can be used for Silk business if desired and are also valuable for timber.

ALSO,

### THE ELM, ASH AND OSAGE ORANGE,

All very desirable Trees for shade and ornament.

ALSO,

### Grape Roots and Cuttings.

Of all the choice varieties of Foreign and California, or Mission. Mulberry trees can be supplied by the 100 or 1000 to the trade at low prices.

☞All orders must be accompanied with the cash.☜

**Direct to A. P. SMITH,**

1v1-4in3mr Smith's Gardens, Sacramento.

## Fruit and Ornamental

**TREES.**

**We offer this Season, 1870 and 1871,**

A very large and superior stock of trees, etc., of best selected varieties of everything usually produced in well kept nurseries. Our trees are grown on good alluvial soil, and are unsurpassed for thrifty growth of root and stock, and are reliable as to name on labels. Orders received by Mail or Express, will be strictly attended to, and PACKING done so as to INSURE A SAFE TRANSIT to any distance.

**Dealers and Agents allowed favorable terms.**

Priced Catalogues furnished on application.

**JOHN ROCK, Nurseryman,**

17v24-3m **San Jose, California.**

## SAN LORENZO NURSERY!

Established in 1853.

We are prepared to furnish a GENERAL ASSORTMENT of Fruit and Shade Trees at as low rates as they can be sold at any reliable Nursery in California.

Orders solicited from all parts of the Pacific States. All trees carefully labeled and packed in the best possible manner for transportation. A liberal discount will be made on large orders. For further particulars send for catalogue and price list.

**J. LEWELLING & SON,**

1v1-3mr San Lorenzo, Alameda Co., Cal.

## W. B. WEST,

### NURSERYMAN AND FLORIST,

### Evergreens, Fruit Trees,

—AND—

### GREENHOUSE PLANTS.

**Wine and Table Grapes a Specialty.**

Nursery and Greenhouses: one mile North of the Asylum, **Stockton.**

15v21-4m.

## AMERICAN SEED STORE!

### W. R. STRONG,

**SACRAMENTO, CALIFORNIA.**

A new and complete supply

OF

*FRESH SEEDS OF ALL VARIETIES FOR THE FARM AND GARDEN, ADAPTED TO THE PACIFIC COAST.*

All our seeds are warranted good and true to name, and are sold at lowest rates both at WHOLESALE AND RETAIL. A liberal reduction to the trade and those buying in large quantities. We are determined to

GIVE SATISFACTION TO ALL OUR CUSTOMERS.

Among our stock will be found all valuable kinds of Garden, Field, Flower, Herb and Tree Seed. Also 30,000 lbs. Alfalfa, of California growth. Red and White Clover. Timothy, Red Top, Blue Grass direct from producers in Kentucky, &c., &c.

**The celebrated Ramsdell Norway Oats $5 per Bushel.**

Early Rose and other choice varieties of Potatoes, &c. All orders filled with dispatch and all Seeds carefully packed and sent or shipped as directed. Catalogues or circulars sent on application free of charge. Address

W. R. STRONG,

1v1-3mr Sacramento Cal.

## PURPLE POPPY,

**[Ambergler of Clermont.]**

Just received and for sale by

**C. L. KELLOGG.**

FIVE DOLLARS PER POUND.

### New York Seed Warehouse,

**No. 427 Sansome St., San Francisco.**

1v1

## GEO. F. SILVESTER,

### Seedsman,

Importer and Dealer in all kinds of Vegetable, Flower, Field, Fruit & Tree Seeds, Garden Tools, Plants, Trees, &c.

No 317 Washington st., bet. Battery and Front, SAN FRANCISCO.

## Farmers, Ranchmen and Land Owners,

**TAKE NOTICE!**

Having a large quantity of fine large two year old

**MULBERRY TREES**

on hand more than for my own use, I will sell on satisfactory terms as to price and time of payment. The trees are of a

### Good Thrifty Growth,

and well adapted for shade or ornamental purposes or for feeding worms.

Address,

**WM. M. HAYNIE,**

1v1-3mr **Sacramento.**

WM. M. LYON. CHAS. C. BARNES.

## LYON & BARNES,

Successors to LYON & SON, dealers in Produce Vegetables, Butter, Eggs, Green and Dried Fruits, Cheese, Poultry, Honey, Beans, etc., etc.

1v1-3mr No. 21 J Street Sacramento.

New Ag...—We have received from Dew...hers of the San Francisco Sci...e prospectus of the Pacific R...w agricultural paper to be publ...ommencing January 7th. It will...ure, horticulture, domestic ma... all matters pertaining to the in...ests of California. We understand ... Hoag, of Yolo County, and form...y of the State Agricultural Soc...one of the editors and will do mu... it generally acceptable to the co... There is a great opening for a ...s state of the character mentioned ...t and ability in the editorial department.—Sacramento Daily Union, Dec. 16.

Pacific Rural Press.—We have received a sample copy of this new publication from ...ce of the San Francisco *Scientific Press* of ...wey & Co.

We are much pleased with it. It is a first class agricultural paper and is bound to have a good circulation in the state.

It is in quarto form, and printed on good paper and type.

It is filled with good and appropriate matter, and not spoiled with personal puffs, published for personal considerations.

The illustrations are appropriate and in good taste.

We look upon this journal as one which will fairly represent the industrial interests of California.—*Sacramento Union*, Dec. 26.

A New Agricultural Paper.—We were called upon this week by Mr. C. T. Jennings, who is canvassing this county on behalf of the new agricultural paper to be published by Messrs. Dewey & Co., the publishers of the San Francisco *Scientific Press*.

The new paper is designed to meet a want which is much felt by all intelligent agriculturists of this Coast, where the conditions of climate and soil are so unlike those of the Eastern States and the old world, that but limited application of experience gained there is of value here; and we very much need a medium such as a reliable and judiciously conducted agricultural journal may afford for exchanging and imparting information of observations and experiences which pertain to our own circumstances.

From personal knowledge of the character and resources of the publishers, and of the assistance to be employed, we believe the *Pacific Rural Press*, the first number of which is to be issued on the 7th of January, will prove an interesting and useful paper to those employed in the rural industries.—*Contra Costa Gazette.*

Pacific Rural Press.—Dewey & Co., of the *Scientific Press*, have just issued a sixteen-page paper, quarto form, bearing the foregoing title. It is to be devoted to the interests of agriculture, and will be freely illustrated. The specimen number is creditable. The publishers say, in a circular accompanying the paper:

We herewith present to your notice a copy of the *Pacific Rural Press*, the publication of which we undertake after well testing the wants of the Pacific Coast farmers and ruralists by the publication of a Farming Edition of the *Scientific Press*. We have not only learned that there is a demand for a first-class home agricultural paper, but a disposition to *support a good* one. We are not only well situated for the undertaking, but have also the means and disposition to make it a success, and shall employ the best writers in every department, and furnish superior engravings for illustrations and embellishments.

We wish it success.—*S. F. Call*, Dec. 24.

A Great Objection Removed.—A very serious objection to persons insuring their lives has been the fact that in most all of the Companies doing business in the United States, the Policies have it written plainly therein (which is the real contract with the insured) that if the Premium is not paid on or before the day the same shall fall due, that the Policy and all premiums paid thereon shall be forfeited to the company. We take pleasure in stating that there is one company doing business on this coast that is governed by laws that protect the Policy holders in case of their failing to pay. This law provides that in case of non-payment of Premium, the Policy shall be continued in force for the full amount of the insurance so long as their remains any surrender value thereon. The great benefits of this law have been practically shown on this coast by the New England Mutual Life Insurance Co., of Boston. This Company has paid six losses on this coast under this law amounting to nearly $30,000; had these Policies been in any other company the heirs of the insured would not have received one dollar. The New England Mutual Life Insurance Co., of Boston is the only Co., on this coast governed by this law. Everson & Middlemiss, of San Francisco are the General Agents.

Success in Business.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to Heald's Business College, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and Heald's College Journal, which will be sent free upon application. Address, E. P. Heald, President, business College, San Francisco, Cal. 1v1-3msnr

## Chicken Ranch for Sale.

A Chicken Ranch within the city,

**Four Roomed House and Outbuildings**

and stock of Poultry, can be obtained for the sum of $600. Ground rent low; extent about two acres; affording an excellent opportunity for commencing a profitable business. For particulars apply on the premises on Potrero Avenue between 15th & 16th st., or by letter addressed "R" at the office of this paper.

## NOVELTY MILL AND GRAIN SEPARATOR.

THE undersigned having purchased of the Patentees, WIRTS & SWIFT, of Hudson, Michigan, their right to this mill, Patented June 22d, 1869, for California, Oregon, Washington Territory, Montana, Utah, New Mexico and Arizona, wishes to call the attention of Farmers, Millers and Grain Dealers to one of THE GREATEST IMPROVEMENTS OF THE AGE for cleaning and separating grain. While it combines all the essential qualities of a first-class Fanning Mill, it also far excels anything that has ever been invented for the separation of grain. It has been thoroughly tested on all the different kinds of mixed grain, separating all the different seeds in almost a magical manner, placing them in their different compartments in the mill arranged for their reception, at the same time taking out all the *Mustard, Grass Seed, Barley and Oats*, and making two distinct qualities of wheat if desired, thereby selecting superior, large plump and perfect kernels for Seed Wheat, and all the small and cut kernals, such as merchantable wheat, is deposited in another compartment. By the use of this Mill a great quantity of wheat usually sown that has been cleaned in the common mills will be saved to the farmer, as the cut or shrunken kernals will never germanate.

The above mentioned Novelty Mill is the only mill known to possess all these superior qualifications, and was exhibited and tested at the last Michigan State Fair held at Jackson, Michigan, September 21, 22, and 23, 1869, and bore away the palm over some thirty other different mills from all parts of the United States, including the famous Dicky Mill of Racine, Wisconsin. All who have witnessed here the operations of the NOVELTY MILL, declare it perfection, and the most beneficial invention to the Farmers, Millers, and Grain Dealers ever introduced on the Pacific Coast. The farmers in Santa Clara County, are loud in its praise, and also in other parts of the State where it is being introduced. No. 1 Mill, complete, is capable of cleaning 25 tons of grain per day; No. 2 Mill, 15 tons; No. 3. Mill, 8 tons. A large number of recommendations and certificates of the practical working of the mill will be furnished, Circulars containing references sent free by mail. N. B. Town, County, or State Rights for sale on favorable terms. For further particulars apply to

11v21-3m **R. STONE. 432 Battery Street, San Francisco.**

## Crandall Patent Spring Bed,

Received Premium for best Spring Bed at the State Fair and was on exhibition at all of the District Fairs n this State.

**IT EXCELS**

IN

**Lightness, Cleanliness, Elasticity and Durability,**

**Any other Spring Bed Ever Invented.**

Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

Manufactory—123 Front street, near corner of M, Sacramento.

**COOLEY & GREEN, Proprietors.**

## CHOICE POULTRY.

**Light Brahmas and White Leghorn's,**

A few trios for sale. Also 3 very choice young HOUDON COCKS.

**EGGS**

for hatching from the following Breeds:

Light Brahmas,
Dark Brahmas,
Houdan, Bearded,
Buff Cochins,
Bl'k African Bantams,
White Leghorns,
Aylesbury Ducks.

**NICHOLS & WILLARD,**

Importers and Breeders of Choice Poultry.
25v21-3m-1amins Brooklyn, Alameda Co.

## BAKER & HAMILTON,

IMPORTERS AND DEALERS IN

ALL KINDS OF

FARMING

**IMPLEMENTS AND MACHINES, PORTABLE STEAM ENGINES, HARDWARE,**

Would call the attention of Farmers and Dealers in Agricultural Implements to their very extensive stock for the trade of 1870-1871,

CONSISTING OF

**Plows, Harrows, Cultivators, Horse Hoes, Gang Plows, Seed Sowers, Buckeye Grain Drills, Hill's Cal. Sowers, Hay Cutters, Seed Cleaners, Grist Mills, Barley Mills, Cider Mills, Fan Mills, Grape Crushers, Mowers,** Reapers, Headers, Header Wagons, Threshers, Wheeled Rakes, Hay Presses, Rubber Belting, Leather Belting, Baling Wire, Baling Rope, Nails, Shovels, Bolts Rivets, etc., etc. Orders by mail or Express will receive prompt attention. BAKER & HAMILTON,
Nos. 9, 11, 13, and 15, J street, Sacramento,
1v1-3mr Nos. 17 & 19 Front st., San Francisco.

## S. N. PUTNAM,

**522 Montgomery Street, San Francisco.**

Dealer in improved and unimproved Farms, Grazing and Timber lands. Particular attention given to procuring small Farms and Homesteads for purchasers, claims for pre-emptors &c., in every part of the State.
1v1-3mr

*The great objection removed.*

ALL POLICIES IN THE

*New England Mutual Life Ins. Co.*

*are guaranteed against forfeiture by the*

*Massachusetts*

*NON FORFEITURE LAW.*

*Assets $9,000,000. Incorporated 1835.*

*EVERSON & MIDDLEMISS. Gen'l Agents.*

*OFFICE N.E. COR. CAL. & SANSOME STS. SAN FRANCISCO.*

1v1-3mr

## THE NEW TYPE

ON WHICH

**THE PACIFIC RURAL PRESS**

is printed, is from the

**CALIFORNIA TYPE FOUNDRY,**

**405 and 407 Sansome St.**

**GEO. L. FAULKNER, Agent.**

1v1-3minr

## McLURES PATENT CHURN.

**Patented May 17, 1870.**

Has taken the premium at all the State Fairs East of the Rocky Mountains.

**The Greatest Labor Saving Machine of the Age.**

☞ *Warranted to make Butter in from Three to Five Minutes.* ☜

It is self-cleaning, requires no scrubbing.

**100 JUST RECEIVED.**

For sale by **J. L. HUNT,**
1v1-2in6mr Cor. Battery and Washington sts.

## 1000 Farms in Los Angeles Co.

For Cotton, Wheat, Corn, Grapes, Oranges etc. The "Abel Stearns Rancho," 200 square miles in sections, quarter sections, etc., on Government system of survey, forming blocks one mile square, with road on each side, fronting on the ocean; the Railroad to San Francisco to pass through them; the unsold portions subdivided, for sale on long credit, or rent. The famous Anaheim is on this tract. For Maps, Circulars, etc., apply to B. F. NORTHAM, 432 Montgomery st., San Francisco, or TIMO. LYNCH, at Anaheim and Los Angeles. 1v1-3mr

## Douthett's Patent Double Motion

## DASH CHURN.

**Making Butter in from 6 to 10 Minutes.**

**The only really useful and practical**

**CHURN**

Ever Offered to the Public.

The old style of DASHER CHURN always had the preference over all others, and with this simple and

practical attachment, now stands WITHOUT A RIV
At the East it is rapidly taking the place of the

**Thermometer and Cylinder Churn,**

and its sales are enormous. Having bought the

**Right for this Coast,**

we are now prepared to furnish either large or small

**CHURNS AND CASTINGS**

as may be desired. We manufacture six different sizes of churns and the small casting can be applied to the three smaller sizes, and the large one with the frame and balance wheel to the three larger ones.

## WE CHALLENGE COMPETITION

In this churn and invite any one needing a good churn to examine and try this one before purchasing elsewhere.

The gearing is all simple, leaving nothing to get out of order; the dasher is easily removed by simply opening or removing the guide holding it in its place, leaving the churn

ENTIRELY CLEAR OF ANY OBSTACLE.

In fact, it is the only churn that ever has been offered which IS ENTIRELY

**FREE FROM ANY OBJECTION,**

and we offer it as the

## Best Churn in Existence.

| | | | | |
|---|---|---|---|---|
| No. 1 | Churn | holds | 2 | gallons; |
| 2 | do | do | 3 | do |
| 3 | do | do | 6 | do |
| 4 | do | do | 8 | do |
| 5 | do | do | 13 | do |
| 6 | do | do | 22 | do |

**E. K. HOWES** ... Cal

Nos. 118, 120 and 122 Fr...

# City Market Report.

## DOMESTIC PRODUCE AT WHOLESALE.

San Francisco, Thurs., p. m., Jan. 5th.

FLOUR—Is still in good demand for export; while the demand for local trade continues fair. We note an advance in prices from last quotations. Standard Oregon brands are quotable at \$6.50@6.62½; local brands—superfine, \$5.37@5.62½; extra \$6.50@6.62½.

WHEAT—Has been in better demand, during the past week, and at a slight advance, especially for choice shipping goods. Sales are reported to the amount of 30,000 sacks, at current prices for shipping and milling. We quote the range of all kinds at \$1.05@2.55; good to choice shipping, \$2.15@2.22; choice milling, \$2.22@2.25. Liverpool quotations came through today at 11s 5d. New York rates remain unchanged—\$1.62@1.65 per bushel.

Friedlander's Grain Report gives the exports of Wheat and Flour from San Francisco, for the six months ending December 31st, at the equivalent of 162,000 tons Wheat, against 209,000 for the same time in 1869. The amount available for export on the 1st instant was 70,000 tons, which would raise the result for the year to 232,000 tons, against 300,000 tons for the previous crop year. The amount of Wheat and Flour to come from Oregon in given at 20,000 tons.

BARLEY—Is still in fair demand, and prices have advanced somewhat during the week. We quote \$1.32@1.45, from fair to choice.

OATS—We note an improved demand for oats. Fair to good may be quoted at \$1.37@1.60, at which prices some 2,000 sacks have changed hands.

CORN—May be quoted at \$1.55@1.70 for good yellow.

BUCKWHEAT—Nominal at \$2.50@3 from the wharf.

RYE—In limited demand. The latest sale is reported at \$2.12½.

FEED—Remains with but little change. We quote Hay a little firmer at \$11@15 from fair to choice; Straw, \$7@9; Bran, \$28@30; Middlings, \$35@40 per ton; Oil Cake Meal \$28.00.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, \$12@16, and Potter's, 2 lb do, at \$4 ℔ dozen.

POTATOES—Demand light and stock large. We quote common \$1.25@1.35.

HOPS—The crop of 1869 dull of sale at 5@8c. This year's crop is still quotable at 10@12½c.

HIDES—We quote Dry, slaughter's stock, 17@19 c; Salted ; 8@9c. Sales during the week 2302 Cal. dry.

WOOL—Sales are reported of 13,000 pounds choice northern fall clip at 19c per lb. We quote good shipping, at 15@17½c; very choice, 18½c; burry, 10@12½; slightly do, 13@14c.

TALLOW—Quotable at 7½@8½c; the latter an extreme figure.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c.

BEANS—Quiet at the following rates. Bayo at \$2.25@2.50; butter, \$2.25; small white pink and red \$1.87@2.00 per 100 pounds.

FRESH MEAT—The market is firm and prices show an advance, We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11c ℔ lb.
Do 2d do 9@10c ℔ lb.
Do 3d do 7@8c ℔ lb.

VEAL—From 8@12c.

MUTTON—Steady at 9@10c. ℔ lb.

LAMB—10@11c. ℔ lb.

PORK—Undressed at 5¼@6½c; dressed, 8@8½c. ℔ lb.

POULTRY, ETC.—The market is well stocked, and prices little changed. Young Chickens, \$5@6; Hens \$7@7.50; Roosters, \$6@7.00: Ducks, tame, \$8@9 ℔ doz; do wild, \$1@3.00 ℔ doz; geese, tame; \$2@\$2.50 ℔ pair; wild \$1.75@3 ℔ doz; tame Turkeys, 16 cents ℔ lb; Hare, 1.50 @3 ℔ doz; Doves, 50c do; Quail, \$1.25@1.50; Snipe, 75c do.; do English, \$1.50 do. Venison, 8@9c ℔ lb.

DAIRY PRODUCTS—Rule lower; California Butter, Fresh, in rolls, 40@50c; ordinary, 32@40c; firkin, 35@42c ℔ lb. Cheese is in fair supply—California, new, 12@15c., Eastern, 17c. Eggs, California fresh 40@45c; Oregon, 37½@40c. California Lard, 11-lb tins, 12@13½c; Oregon, 13½@14½c, according to package.

FRUITS—We quote the jobbing rates for green fruits as follows: Apples, \$1@1.75; Pears, \$1@3.50 ℔ 50-lb box; Malaga Lemons, \$4 ℔ 100; Limes, 15 ℔ M; Oranges, \$50 ℔ M.

CASE GOODS—In 2 lb cans, per doz., Apricots, \$4; Apples, \$2.50; Blackberries, \$4; German Prunes, \$4; Grapes, \$4; Peach, table, \$4; Peach, pie, \$3; Pie, assorted, \$3; Plum, table, \$3,50; Plum, pie, \$3; Pears, \$3.75; Quince, \$3.50; Tomatoes, \$2; Table, assorted, \$3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business is this department quit, owing to the continued dry weather.

BAGS AND BAGGING—Are in moderate request only, and will not be until the approach of the coming season. We quote wool bags at 50@52½c. Oat Sacks 23x40, 12½c; 28x35, 18c; Potato Gunnies, 24½@25c.; imitation Dondees, 19@20c. Standard burlaps, 19½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices are reported firm. [We quote] wholesale rates to dealers: Redwood [...] \$18; do Siding, \$22.50; do Surfaced, [...] Pickets, \$30; Oregon Rough, \$17; [...]7; do Fencing, \$18; Laths, \$3@3.25, and Redwood Shingles, \$2.75 ℔ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5½c; Oregon do, 6½c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ℔ lb; Raisins, layer, \$3.50@4-75; Currants, Zante, 15@17c, for old and new; Citron, 50c.

PROVISIONS—The stocks of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 16½@17c; Lard, California, 12½@13¼c; Oregon do, in kegs, 12½@13½c ℔ lb.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

San Francisco, Thursday, Jan. 5.

Sole Leather.—The demand is good and the stock on hand light, on account of heavy shipments to the east. Prices rule firm. We quote:

| | |
|---|---|
| City Tanned | 26 @29 |
| Santa Cruz | 26 @31 |
| Country | 25 @28 |

Calf and Kip Skins.—French stocks continue scarce and high on account of the lack of exportation from French ports which has almost entirely ceased. We quote:

| | |
|---|---|
| Best French Calf Skins, ℔ doz | 75 00@100 00 |
| Common French Calf Skins, ℔ doz | 35 00@ 75 00 |
| French Kips, ℔ lb | 1 00@ 1 30 |
| California Kip, ℔ doz | 60 00@ 80 00 |
| California Calf, ℔ lb | 1 00@ 1 25 |
| Eastern Wheel Stuffed Calf, ℔ lb | 80@ 1 00 |
| Eastern Bench Stuffed Calf, ℔ lb | 1 10@ 1 25 |
| Sheep Roans for topping, all colors, ℔ doz | 8 50@ 13 00 |
| Sheep Roans for linings, ℔ doz | 5 50@ 10 50 |
| California Russet Sheep Linings | 1 75@ 5 50 |
| HARNESS LEATHER, ℔ lb | 30@ . 37 |
| Fair Bridle, ℔ lb | 33@ 40 |
| Skirting, ℔ doz | 4 50@ 4 75 |
| Welt Leather, ℔ side | 30 00@ 50 00 |
| Buff Leather, ℔ foot | 22@ 26 |

Notes of Travel through Arizona.—This interesting narrative, originally published in weekly instalments in the Arizona *Miner*, has been reprinted in pamphlet form, and comes to us with the compliments of the author, Mr. J. H. Marion. It is an account of a trip through the territory made by Gen. Stoneman's party last Fall, and is a valuable addition to the literature of, and about, Arizona.

Coal.—The Clear Lake *Courier*, of December 24th, reports the discovery of a coal mine, seven miles northwest of Lakeport, in the neighborhood of Ripley springs.

Colorado Shipments.—The aggregate shipments of gold and silver for the year ending December 31, 1870, are reported as amounting to over five million dollars.

## Commence Now

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## List of Societies and Officers.

**State Agricultural Society.**—Officers: President, Chas. F. Reed, Grafton, Yolo County. Directors: H. M. Larne, Sacramento; H. R. Covey, San Francisco; R. S. Carey, Yolo; C. T. Wheeler, Sacramento; Edgar Mills, Sacramento: Robert Hamilton, Sacramento William Blanding, San Francisco; E. J. Lewis, Tehama; William P. Coleman, Sacramento. Officers of the Board. Secretary, Robert Beck, Sacramento; Treasurer R. T. Brown, Sacramento.

**San Joaquin Valley Ag'l. Society.**—Officers; President, J. K. Doak; Vice Presidents, Geo. S. Ladd, John Tuohy; Secretary; H. T. Compton; Directors, James C. Gage, George West.

**Upper Sacramento Agricultural Society.**—Officers—President, Harman Bay; Secretary, E. Hallet.

**Bay District Horticultural Society, of Cal.**, S. F.—Officers: H. N. Bolander, Prest.; E. L. Reimer, V. P.; F. A. Miller, Sec.; R. Turnbull, C. Schuman and F. A. Hering, Trustees.

**Contra Costa Co. Agricultural Society.**—Officers: Geo. P. Loucks, Prest., Pacheco; Henry Shuey, V. P., Lafayette; R. R Brock, Sec., Martinez; S. W Johnson, Treasurer, Pacheco; G. W. Bryant, R. G. Davis, Directors, Pacheco.

**Santa Clara Valley Ag. Society.**—Officers: President, William C. Williamson; Vice Presidents, Coleman Younger, Cary Peebles; Treasurer, N. Schallenberger; Secretary, Tyler Beach; Directors, D. J. Porter, H. W. Scales.

**Send us Communications.**—They will be respected. If you have not time or the experience to write finished articles, send us facts brief and plain. We will take care of them. Remember that writers improve themselves with others by use of the pen. Officers of societies, clubs and meetings, please report.

**Our Printed Mail List** notifies subscribers when their term expires, the last figures on the label signifying the year. We wish to be notified at once if any errors occur in names or dates.

**Thursday Noon** our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

**Our General Agent at Sacramento.**

Mr. I. N. Hoag, at the office of the State Agricultural Society, in the Pavilion, corner of Fourth and M streets, in the capital city, is our duly authorized agent for receiving subscriptions, advertisements, and receipting for the same.

**Mr. S. H. Herring,**

Our valuable agricultural correspondent during the past year, will continue to travel, and will report for the Pacific Rural Press.

**Eastern Travelling Agent.**

Wm. H Murray, our active and valuable agent and correspondent, is now on his way East, and will look after the interests of our papers in the Western and Eastern States.

**L. P. McCarty,**

Is our live California travelling agent and correspondent.

The Prospectus of the Pacific Rural Press will be found on page 13, to which we would call the attention of those who are not already subscribers, and those who are willing to act as agents or get up clubs. We ask only for a trial of our paper, but would urge the fact that *active* friendship to our enterprise is worth more at the start than at any other period. Speak a good word for it to others.

# New Advertisements.

*No quack, indelicate or other disreputable notices will be accepted. All advertisements in this paper appear in our monthly edition and bound volumes of the Pacific Rural Press for Railroad Depots, Steamboats, Hotels, and other free reading rooms.*

## ANNUAL MEETING.

The Annual Meeting of the State Agricultural Society for the election of officers for the ensuing year and for the transaction of such other business as may be necessary will be held at the Society's rooms in the Pavilion, corner 6 and M Streets, Sacramento, on the 27th of January 1871, at 10 o'clock A. M. A full attendance of members is desired.

CHAS. F. REED, Prest.
Robt. Beck, Secretary.

1v1-tdr

## TEAM WANTED TO PURCHASE.

A four or six horse team is wanted by the advertiser with or without wagon or gang plow. Required to be delivered at Gilroy, Watsonville, Salinas, or the vicinity of those places. A party wishing to sell a team, etc., can hear of a purchaser by sending a letter addressed B Rural Press, containing price and other particulars.

## HERING'S NURSERY,

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Elegant Fuschias,

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[KING'S NU]RSERY,

ELM Street, ([...] [Av]. and Broadway sts.)

[...] HOUSE PLANTS, [EVERG]REEN TREES, [SHRU]BS, ROSES, ETC. [...]r stock of large [Austra]lian Gum trees, ENCALYPTUS [...] (Blue Gum), [...] sleet and shade [...] fra[...] PTUS VIM-[...] popt[...] titul droop-[...] ety. [...] leafed and [...] tery C[...] orts very [...] press, [...] in vari-[...] tended t[...] Mon[...] on's Cy-[...]

1v1-tf M. KING, Nurserym[an]

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## GAS.

The Pacific Pneumatic Gas Company

Begs to call the attention of the public to its gas works which are suitable alike for domestic, manufacturing, and general uses. Their apparatus is the only one worthy of the confidence of those who desire an economical and brilliant light, with perfect safety from accidents.

These works are in successful use in the following private residences: Gov. Haight, the Encinal, Alameda: H. F. Williams, Esq., South San Francisco; J. R. Arguello, Esq., Santa Clara; A. P. Brayton, Esq., Oakland: O. W. Childs, Esq., Los Angeles; Mrs. Brayton, Oakland; Capt. Wilcox, San Diego; J. P. Jones, Esq., Gold Hill, Nevada; W. B. Isaacs, Esq., Post St., San Francisco: Jos. A. Donohoe, Esq., Menlo Park; M. Schallenberger, Esq., San Jose; Capt Kidd, Stockton; John Parrott, Esq., San Mateo; Col. J. C. Hays, Oakland; A. A. Cohen, Esq., Alameda; A. D. Bell, Taylor street, San Francisco; J. S. Emery Oakland, and Isaac Requa, Esq, Virginia City, Nevada.

Also in the following public institutions; the City and County Almshouse, San Francisco; the County Hospital, Sacramento; the Industrial School, San Francisco; the State Institute for the Deef, Dumb and Blind. Berkely.

Also, the following private institutions: The College of Santa Clara, Santa Clara; the Alameda Insane Asylum; Alameda; and the New Hall and Theater, Petaluma.

Also in the following Mining and Manufacturing works, The Pacific Iron Works, San Francisco; the Chollor-Potosi Hoisting Works, Virginia City; the Eureka Gold Mining Company's Hoisting Works and Mill, Grass Valley, California; the Crown Point Mining Co.'s Mill (the Rhode Island), Gold Hill, Nevada.

Also, in the following stores; E. Cohn & Co., Marysville, Gibson and Cross' (saloon), Gold Hill, Nevada; P. Brown & Bro., Marysville; Wm. Klein, Marysville, J. M. Browne, Gilroy; and N. Wagner & Bro., Marysville.

Also, in the following hotels; Horton's New Hotel, South San Diego; the International Hotel, Virginia City, and the St. Charles Hotel, Carson City.

Also, in large works adapted for town purposes: in the Workshops, Streets and Officers' Residences, at the United States Navy Department, Mare Island.

Pacific Pneumatic Gas Company; office 206 Sansome street, San Francisco. Send for Illustrated Pamphlet and Price List. A. D. BELL, Secretary.
J. W. STOW, President. 1v1-3m-r

## Willamette Farmer,

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## PATENTS

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PACIFIC RURAL PRESS

Number. 2] SAN FRANCISCO, SATURDAY, JAN. 14, 1871. [Volume I.

## THE THOMPSON ROAD STEAMER.

On last Tuesday, a rather strange-looking affair might have been seen traveling along the railroad bridge of the C. P. R. R. at Oakland Point, and backing, turning and progressing over the sandy streets of our sister city. The Tide Land Reclamation Company had taken their Thompson Road Steamer from the U. S. bonded warehouse, and sent it across the Bay, where it is soon to be tested as to its powers and capabilities for plowing. The evolutions gone through on this occasion, were principally to satisfy the curiosity of a few persons, and to "give a ride" to a few privileged individuals, among whom was one of the proprietors of the PRESS.

This steamer, the first on the coast, has been brought hither through the enterprise of Mr. G. D. Roberts, President of the Tide Land Reclamation Company, who is not slow in going for a good thing when he sees it. With the steamer was sent a gang of eight heavy plows, with the necessary machinery for operating them.

We have previously given a description of this engine, and the results of experiments in drawing plows, etc., at Paterson, N. J., some weeks ago. We are now able to give an illustration, which will convey a clear idea to the reader of the looks of the steamer. The important feature of the rubber tire, with its enclosing endless-chain of steel plates, will easily be understood from the cut. This chain, the rubber tire, and the rim of the wheel they enclose, have no connection with one another. This is an item of very considerable importance, and to it is due in great measure the indestructible nature of the tire; for in running, especially with a heavy load, the tire slips gradually around the wheel, and this slip saves it where a very sudden and exceedingly great strain might tear it.

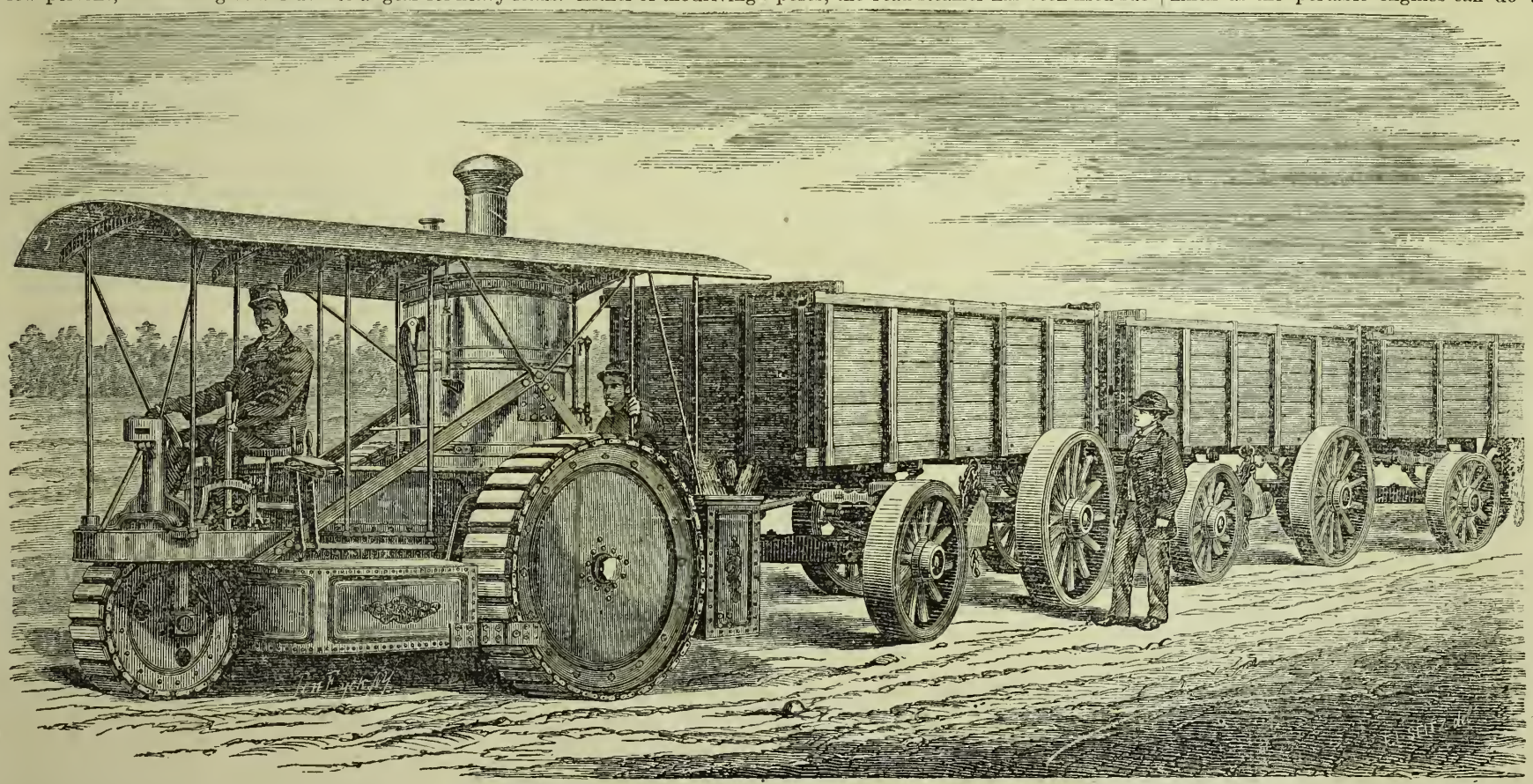
The steering apparatus is simple, and the steamer can be turned very sharply, its inner driving wheel describing a circle of a radius less than three feet. The gearing and working parts are strongly constructed and protected from dirt and the weather. An ingenious device in connection with the exhaust steam suppresses almost entirely the noise caused by its escape. There is a single gear for quick speed and a double gear for heavy loads. Either of the driving-wheels can be thrown in or out of gear, so that, in turning corners, the inner wheel is out of gear while the outer wheel drives the steamer around. Two sizes are made, of 8 and of 12 horse power, which draw loads of 20 and of 30 tons, respectively, on an ordinary level road, and 12 and 17 tons up inclines of 1 in 12. The speed is 2½ to 6 miles per hour for freight steamers, and 10 miles for passenger service. The consumption of coal is about ½ ton daily. The prices are $5,000 and $6,500 at the works in New Jersey. All the steamers can be fitted so as to work as stationary engines for driving any kind of machinery.

An important feature of this machine, especially important for our coast, is its ability to run over sandy and rough ground. This was shown well at Oakland, and has been proved elsewhere in many cases. Indeed, not only does it travel over soft roads without injuring them, but it actually repairs and improves them. Some artillery officers, says the London *Times*, were much struck by this fact when observing a road steamer, with a heavy vehicle attached to it, being driven round and round in a field thoroughly saturated with melted snow. The road steamer left the merest track in the slushy ground, while the wheels of the vehicle behind cut it into deep ruts. But as the engine passed over these ruts, when retracing the circle, it effaced them, and by and by being detached and allowed to run over the spot alone, it repaired the surface and made it perfectly smooth and even.

For mining and agricultural purposes, for drawing loads, even for military purposes, the road steamer has been used successfully. It can travel over rough or smooth, hard or soft, steep or level roads. In Europe and elsewhere it is rapidly coming into use. The manufacturers in England have been obliged to give a firm in Scotland the right to build the steamers, as they are unable to fill themselves the numerous orders sent in. We have now likewise in the United States a manufactory, where the machines are built, and an agency has been established on the Pacific Coast, where, on the level stretches, the steamer promises to be of the greatest utility.

The Road Steamer, says the paper above referred to, does not cost a third of the price of the cumbrous engines at present in use; and it, of course, does away, likewise, with the constantly recurring expense of repairing wire ropes and tackle. At first sight it might appear that more power would be consumed by a traveling engine than by an engine which stands in one spot, and works by means of a rope. This, however, is not the case, for the friction of the wire rope, and the gear and tackle connected with it, consumes more power than is needed to propel the Road Steamer backward and forward over the field. This will be very clear to railway engineers, who know how far more expensive it is to pull a train up an incline, by means of a fixed engine and rope, than to draw it up even stiff gradients by a locomotive. But the chief merit of the Road Steamers to farmers will be, that it will allow them to dispense very greatly with horses, which the so-called portable engines do not permit them to do. It is as much as the portable engines can do to move themselves, and even their fuel and water has to be carried for them. The Road Steamer, on the contrary, runs with the greatest ease over any kind of land, turns in less space than horses, and fetches its own fuel and water. Besides plowing, it can perform every other farming operation: it can drive the threshing machine, draw the reaping and mowing machines, bring manure to the fields, and cart the grain to the market; so that, by its adaptability to these various purposes, it will enable farmers to reduce their staff of horses to a *minimum*; which in these days of dear provender will be counted no light gain.

We have only to add, that D. D. Williamson, 32 Broadway, N. Y., is exclusive manufacturer for the United States, and that Mr. Wm. A. Barnaby, Stockton, Cal., is agent for this coast. For the present, any communications to Mr. Barnaby should be addressed to the care of this office, where they will be properly cared for and forwarded to their destination.



THOMPSON'S RUBBER TIRE TRACTION ROAD STEAMER.

## MECHANICAL PROGRESS.

HEAT RADIATION AS AFFECTED BY SURFACE.—In one of his last papers, Prof. Magnus gives experiments made with platinum plates instead of plates easily oxidizable, in order to avoid possible error. He found that "when surface is otherwise the same, inequalities may exist without any increase in the radiation. When, on the contrary, a plain platinum plate which had been heated by a glass-blower's lamp and was quite soft, was roughened by means of fine emery paper the radiation was doubled. When a platinum plate was covered with a thin plate of spongy platinum, by spreading a thin layer of ammonio-chloride of platinum upon it, and then strongly heating, without treatment with nitric acid, it indicated seven times as much radiation as before being treated with spongy platinum. The author concludes that the increase of radiation with a roughened surface depends essentially on the refraction which heat experiences on its emergence from the surface of a radiating body. The greater the refractive index of heat between the radiating substance and the air, the smaller is the radiation from the plane surface, and the quantity of heat reflected inward increases. The metals have doubtless a very high refracting index. Hence they reflect the rays from without and allow but few to penetrate, and hence they reflect internally those coming from the interior, and allow but few to emerge. Great inequalities of radiating surface do not occasion any important alteration in the radiation. Such a one only occurs when the radii of curvature are very small and change greatly, and when the radiating surface has but little diathermancy. In general, the roughness of the surface may effect both an increase and a diminution in the radiation; but if the inequalities are very fine and very deep, there is almost an increase in substances like metals. When there is a very fine powder of the same substance on almost any radiating surface, the radiation is considerably increased."

NEW ARTILLERY.—The "situation" at the present war center has stimulated invention in this direction. The following notes are from the London *Pall Mall Gazette:*—Cail, the noted Parisian mechanical engineer, has produced an armor-plated locomotive, furnished with two powerful mitrailleurs, also protected by armor, originally intended for the railway bridge at Point du Jour, whence it was to throw bullets on to the heights of Moudin. This machine, weighs altogether some six tons. Among other New French inventions are the Marckderberg mitrailleur, throwing 250 balls a minute, and the Montigny, throwing 480, as well as the Durant steam mitrailleur, which discharges no less than 4,500 bullets per minute, and the Fancheuse, or "mower," which is said to have a range of 500 to 600 yards, and to cost only 35 francs. In addition to the above, many novel shells have been proposed; among which are the Gaudin fire-bomb, the improved Menestrol shell, bombs emitting suffocating vapors, and others. On the part of the Prussians, Herr Krupp has invented a gun for shooting balloons. This has a carriage and wheels like any other field gun, and can be served by a single man with ease, as it weighs only about 150 pounds. It can be aimed in any direction, horizontal or vertical. The charge consists of a grenade weighing about three pounds, the object of which is to make the balloon explode on its bursting. It is affirmed that a balloon can be struck at a hight of 2,000 feet, and that the horizontal range of the gun is five miles. Herr Krupp intends to present 20 of these field pieces to the army, one of which has been already forwarded, and six are about to follow.

RUBBER TIRES WILL NOT PAY.—The following is the closing paragraph of an editorial in the London *Engineering* of Dec. 9th:

"An ordinary eight-horse traction engine costs, say, from 360*l.* to 380*l.*, while an engine rated at the same power, fitted with india-rubber tyres, costs about 600*l*, and the thing yet to be proved is whether india-rubber is the best investment for this extra 220*l.* or 240*l.*, or whether it could not be more advantageously spent in securing durability in other ways. So many traction engines with india-rubber tyres have now been built and set to work in various parts of the world that it can scarcely be long before data are available which will enable us to estimate such tyres at their true commercial value; meanwhile we reiterate our opinion that this value will be found less than now appears to be generally supposed. That there are certain special circumstances that may warrant the employment of india-rubber tyres we admit; but that for general purposes they are worth the money they cost, we cannot at present believe."

MOBILITY OF COPPER IN SILVER ALLOY.—The following is from an editorial in *Engineering* for Dec. 9th on "The manufacture of money": "In his report, Mr. Roberts refers to certain valuable experiments carried out by M. Levol of the Paris mint to determine the laws which regulate the remarkable mobility of copper in a silver alloy, whereby the homogeneity of the mixture is destroyed, and the proportion of silver and copper varied throughout the mass. Levol found that only one alloy could be found in which copper and silver could be mixed without this movement of particles taking place. This alloy contained 71.893 of silver and 28.107 of copper; but if this proportion was altered, the copper appeared in undue quantity either on the inside or the outside of the cast bar, according as the alloy was richer or poorer. Thus in a cast tube, measuring 42 millimetres on a side, and formed of 77.33 of silver and 22.67 of copper, the centre of the cube had a richness of 78.318 per cent., the outside only 71.015 per cent. while results the reverse of this were observed in alloys poorer than the standard of 71.893 per cent. of silver.

THE LITTLE SYSTEM OF TELEGRAPHY.—D. H. Craig writes the *Scientific American*, Jan. 1st, that this system is about to be placed before the public of Washington and New York for the transaction of business. He says it is destined to effect a complete revolution in the whole telegraph and postal business of the country; and that there would seem to be no reason why the public should not have 20-word messages telegraphed from one end of the country to the other for ten cents each, provided they will furnish enough of such messages to keep the wires employed. We quote: "With our system we can work just as rapidly and as correctly over the poorest iron Morse wire, as over the best steel and copper compound wire, in any length of circuit where it is possible to deliver a steady flow of even one-twentieth part of the necessary current to work a Morse machine or a Hughes-Phelps printer; but of course a compound wire, such as we use on the Washington line, though it adds nothing to the average cost of lines, considering the less number of posts and insulators that are required, really adds nearly three times to the conducting power and tensible strength as compared with the iron wire in general use by the Morse lines. While, therefore, our wire would enable us to telegraph over a circuit two or three times greater than we could do with a common iron Morse wire, the latter would answer our purpose precisely as well as the former in any length of circuit where the iron wire could deliver a steady flow (however slight) of current. Mr. Prescott and other parties who have striven so vigorously to write down automatic telegraphy, have ignored the important fact that Mr. Little uses electricity under entirely different conditions from what it was ever before used by any person who has experimented in fast telegraphy; and it is to this fact, and not at all to the fact that we have a superior line, that we transmit and record correctly 1,000 words per minute, or 60,000 words per hour, over a single wire, equal to the average speed of 100 wires by the Morse system."

THE MCCRACKEN GAS PROCESS.—The N. Y. *Gas Light Journal* has seen the working of this process at New Britain, Conn., and reports favorably. We quote :—"The apparatus is simple, and its application requires but little expense, inasmuch as it requires no change in the ordinary settings of the benches. The tar is evidently completely utilized and converted into illuminating gas as fast as it is formed, largely increasing the volume and illuminating power of the gas. The most casual observer cannot fail to notice the high candle power of the gas, and especially the peculiar whiteness of the flame, evidently owing to the excess of olefiant gas and possibly *acetyline*, which it derives from the *decomposition of the tar in combination with the superheated steam.* We italicise the latter part of the sentence, because it is the great secret of the success of Mr. E. D. McCracken's process—the key to the enigma which all prior experimenters have sought for in vain."

## SCIENTIFIC PROGRESS.

DEEP SEA MUD.—Following are some paragraphs from an article in a late number of *Nature:*—"Dr. C. W. Gümbel has recently published an important paper, containing an account of some highly interesting investigations on deep-sea mud. Sir R. Murchison and Professor Huxley provided him with a large quantity of mud, taken up from the Atlantic at lat 29° 36′ 54″ N., and long. 18° 19′ 48″ W., at a depth of about 2,350 fathoms. This he first cleared, by long-continued washing, from all sea-salts soluble in water; then he divided it, by filtering, into three parts. In the first, Foraminifera and larger organisms predominated; the second consisted of a sediment easily distinguished from the first, fine but heavy; the third was fine and flaky, remaining lightly suspended in water, and consisting almost exclusively of *Bathybius*, Coccoliths, Coccospheres, together with other organisms of the smallest kind (Diatoms, Radiolaria, Sponge-spicules, and a very few of the smallest Foraminifera). * * "The third portion of the deep-sea mud is worthy in a high degree of the interest both of the zoologist and the geologist, whilst it gives scope for many far-reaching theories. If we first analyse it microscopically, the substance, which resembles a white clay mud, resolves itself, apart from the intermingled minutest *Globigerinæ* and some few other Foraminifera, into a heap of little granules, the so-called Coccoliths (Discoliths and Cyatholiths), and of granulous flaky little lumps, the so-called *Bathybius*, compared with which all other ingredients,—the siliceous-shelled Diatoms, and *Radiolaria*, and also perhaps the so-called Coccospheres and other small organic bodies excepted,—are of very secondary importance. The part of the deep-sea mud which is made up of Diatoms and *Radiolaria*, together with Sponge-spicules, is of especial importance, because it consists to no inconsiderable extent of silica, and appears to be the source from which the siliceous concretions in many chalk formations have drawn their materials. That these form no inconsiderable part of the composition of deep-sea mud may be clearly seen by removing the chalk by means of acids, and the organic matter by heat or by sulphuric acid. * * * Speaking of the Coccoliths and the *Bathybius*, Dr. Gümbel says he is in a position to confirm the conclusions of Profs. Huxley, Carpenter, and Haeckel with respect to their organic nature. * * After detailing some observations, microscopic and chemical, on *Bathybius* and Coccoliths, Dr. Gümbel proceeds to speak of the further distribution of the latter. "First," he says, "on looking through the algæ, hydrozoa, polyps, corals, etc., which occur on shallow sea coasts, such as may easily be met with in every botanical and and zoological collection, I succeeded in numerous instances in finding Coccoliths in the places where they had grown, and not seldom, *Bathybius* at the same time. These investigations were extended to points on the coasts of almost all seas, and now, instead of the statement lately made that the organisms in question thrive only at a depth of 5,000 feet, I am in a position to assert on a proved fact, that Coccoliths (*Bathybius*) occur *in all seas and at all depths.* By their astonishingly wide distribution and their vast numbers, which stamp them as one of the most essential members of rock-forming substances, they gain infinitely in scientific interest."

FRENCH SCIENTISTS STILL ACTIVE.—M. Janssen, the celebrated astronomer, was to join the Eclipse Expedition, leaving Paris in a balloon constructed for his private use at the expense of the French Government, which did not lose a single day, after coming into power, in commencing the preparations. M. Janssen will carry a telescope constructed in eight weeks by Parisian workmen. The French Academy has held its sittings regularly since the commencement of the siege, and the *Comptes Rendus* has been published every week.

RETURN OF THE AMAZON EXPEDITION.—Prof. Fred. C. Hartt and party arrived in New York Dec. 21st from the Valley of the Amazon, which they have been exploring for the six months past. They bring a large collection of geological specimens and fossils, designed for Cornell University. They report further evidence in refutation of the glacial theory of Prof. Agassiz as regards that region.

THE BOSTON MUSEUM.—The Boston *Post* says:—"Since the acquisition of the private collection of Prof. Agassiz, the Boston Museum may claim rank among the foremost institutions of its kind; for although the British Museum in London and the Jardin des Plantes in Paris are on a very much larger scale, yet in certain departments, such as corals and fishes, the Museum of Comparative Zoology is superior to both, while the increase of its collections since its existence, and the prominence it has attained among other museums, are such as no like establishment has reached in the same time and with the same means. In the new building now going up, which adjoins the present Museum and is to be of equal dimensions, it is intended to exhibit all the animals peculiar to the different parts of the world, in such a manner as to impress the observer with their natural association in nature, so that the student shall be able to make himself familiar in one part of the building with the latest result of scientific research in working out the system which binds together the whole animal kingdom as a unit; while in the other part of the building their geographical distribution upon the whole surface of the earth, and their various combinations and associations on different continents will be made apparent. Such a twofold arrangement of collections has never yet been attempted in any museum, not even in the largest and most prominent institutions of the kind in Europe. The fossil remains of past ages will be exhibited in like manner in such an arrangement as to display at the same time their order of succession in geological periods, and their relations to the animals now living. It is intended to complete this plan by exhibiting also the different stages of all known animals, from their earliest period of developement in the egg to their adult condition. This is a truly magnificent plan."

HEREDITARY DEFORMITIES.—*Nature* calls attention to Brown-Séquard's experiments on epileptic guinea pigs detailed at the recent meeting of the British Association. Dr. Brown-Séquard produced epileptic fits in the guinea pigs, either by the section of one-half of the spinal cord, or by the division of the sciatic nerve on one or both sides. During the fits it sometimes happens that the hind foot gets between the teeth and is bitten. The animal, on recovery from the fit, tastes the blood, and if it be one in which the sciatic nerve has been divided, proceeds to nibble off the two outer toes, which have entirely lost their sensibility from the operation on the nerve. In breeding from pairs of this kind, the offspring is without the two toes of which the parents have deprived themselves; and in these cases all the offspring become, as they grow up, perfectly epileptic; while in ordinary cases epilepsy is only rarely transmitted hereditarily. Other peculiarities existing in these epileptic guinea pigs were also found to be transmitted to their offspring; and in dissection of the hereditarily malformed animals, a node was found on the sciatic nerve corresponding to that formed after section of the nerve in the parent.

HAECKEL'S NATURAL HISTORY OF CREATION.—We quote the following paragraph from a notice, in *Nature* for Dec. 8th, of the second edition of this work, just issued:—"The remainder of the volume, nearly half, is taken up with a concrete history of creation, *i e.* with an account of how, and by what steps, all kinds of plants and animals have grown out of the primordial moners, those first existing living things which were, according to Haeckel, neither plants nor animals, but belonged to a third kingdom of Protista. This part of the work therefore is a descriptive genealogy of all living beings, the pedigree of each kind of creature being made out, or rather conjectured out, as far as present knowledge will allow. In the second edition, as might have been anticipated, the genealogies are very much extended, and given with much greater detail than at first; in particular, there is a new whole chapter on the migration and dispersion of mankind, and on the species and races of men. The results of phylogenic speculation or inquiry are graphically shown in elaborate genealogical trees; and a new, large plate shows at one glance how all races of men have probably spread from a hypothetical paradise once situate in the great continent of Lemuria, now sunk below the waves of the Indian Ocean."

# CORRESPONDENCE.

## Bound East.

[WRITTEN FOR THE PRESS]

Once more I resume my travels, this time with my face turned steadily eastward. Over the Western Pacific to Sacramento, over the Central Pacific to Ogden, I traverse again the regions which I have already described at length in previous letters, and on which I therefore dwell no further in this communication. I received, as ever, the best treatment from the Railroad Company, which rendered the trip one of pleasure.

### Ogden to Omaha.

From Ogden I pass over, to me, new ground, and am made the recipient of the hospitality of a new company. I find, however, no diminution in the comfort of the accommodations or the attentiveness of the employees. I have made the acquaintance of several of the officers of the road. I may be permitted to mention the names of the efficient Land Commissioner, Mr. O. F. Davis, and of the Chief Engineer and Superintendent, General T. E. Sickles. Gen. Sickles has succeeded Col. Hammond. He is a genial, pleasant gentleman and an excellent engineer of great experience. Under his management the interests of neither road nor traveler will suffer.

Leaving Ogden we go through the Wahsatch mountains, between them, if you please. The Weber has cut us a passage, and a grand one, in the red sandstone barrier, often exceedingly narrow, but at the same time exceedingly beautiful. The Devil's Gate here has an extensive fame, although the old gentleman is not generally supposed to have a residence near running water. Echo Cañon greets us with its fine scenery, and we then roll on through Wyoming Territory. Allow me here to suggest that you get and publish a map of the railroad for the benefit of your readers.

Immediately on entering Wyoming, we pass Evanston, known to you through its coal deposits, which are said to be of excellent quality. We go by the romantic Church Buttes, pass Fort Steele, and finally get to Laramie, with its curious rocks of red sandstone. At Separation and Carbon we see coal-pits. The deposit at Carbon is nine feet thick, is said to contain good coal, which is, however, very soft, and crumbles easily on exposure. It retains fire long, as shown by the cinders at night. [Our correspondent passed Carbon previous to the occurrence of the fire there. EDS. PRESS.]

We pass along the line of the Black Hills, where sportsmen delight to stay, I am told, and come to Cheyenne. Here is the branch road south to Denver. By the way, I forgot to notice Sherman, the highest point on the road, 8,250 feet above the sea, passed before we reached Cheyenne. I really was not aware of the important fact as I rode along, until it was too late to appreciate it.

Between Pine Bluffs and Bushnell, we cross the boundary line of Wyoming and come into Nebraska. On a gradual descent we ride on, by Julesburg, of former fame, once rejoicing in the title of "Hell on Wheels," down to the valley of the Platte, crossing the North Branch, near its junction with the South, where it is 2,100 feet wide and two to six feet deep. Then we follow the river, until we finally reach Omaha.

### The Union Pacific.

I have given the above few statements of the places passed on the way. I will now give a few facts about the road, condensing as much as possible. The road is sub-divided into four divisions, each with its Division Superintendent: the Utah, from Ogden to Bryan; the Laramie, from Bryan to Laramie; the Lodge Pole, from Laramie to North Platte City; and the Platte, from North Platte to Omaha. I met Mr. L. Fillmore, who is Div. Supt. of the Laramie Division, which will include also the Utah Division after June, 1871; and Mr. S. H. H. Clark, Div. Supt. of the Platte Division, which will include the Lodge Pole Division. The gentlemen named have shown themselves so capable that they will retain charge of their enlarged divisions. The road has now in use 150 locomotives 41 passenger cars, Pullman palace cars on every train, 22 emigrant cars, 15 mail and express, 42 caboose, 13 baggage, 2,069 box, 1,629 flat, 342 coal, 12 fruit, 48 stock, and various other cars. It is firm and well built. The rails are fished, and the ties number 2,650 to the mile.

The government grant of lands for the lines from Omaha to Sacramento amounts to 22,720,000 acres, divided as follows: Union Pacific, 13,207,600; Central Pacific, 9,512,400. These figures are calculated for the junction at Promontory. The change to Ogden will make a difference. The subsidies are as follows: Union Pacific, 526 miles at $16,000 per mile; 408 at $32,000; 150 at $48,000; total, $28,672,000; Central Pacific, 12 at $16,000; 522 at $32,000; 156 at $48,000; total, $24,384,000. Government also guaranteed the interest on the companies' first mortgage bonds to an equal amount.

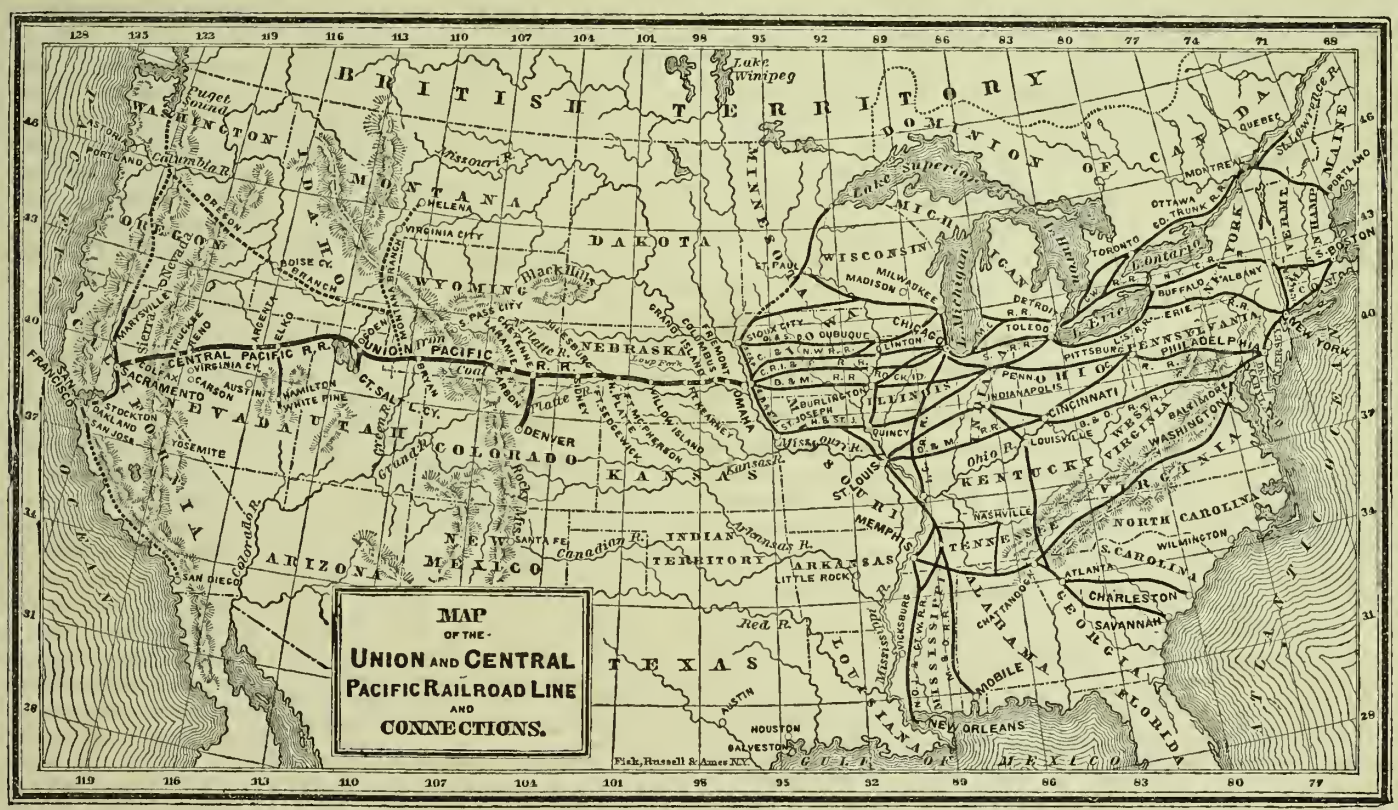
The first contract for construction on the Union Pacific was made in August, 1864, but there were many obstacles at first. By January, 1866, 40 miles had been built. During 1866, 265 miles additional, and in 1867, 285 miles were completed. Then the work was pushed much faster, and on May 30th, 1869, the road met the Central Pacific at Promontory, the last 534 miles having been built in a little over 15 months, or at the average rate of nearly one and one-fifth miles daily.

I could give you many more statistics, did I not fear to take up too much space. But I must content myself with these few facts, which may prove of interest to your readers, although not new for the most part.

### Railroad Lands.

In many places there is an abundance of good land, which is rendered available by the railroad, and the Union Pacific Company has under consideration plans for the irrigation of districts which only need water, as has been proved, to be rendered most productive. The company seems to be actuated by the soundest principles of economy in this respect, and to be doing excellent work. Their lands are located in Nebraska, Wyoming, Colorado and Utah, and the crops raised are most varied and large. A few statements on this subject may be in place here.

The office of the Land Department was opened for business, and the sales of the land commenced, July, 28th, 1869. During the first year, the sales were restricted to a tract included within the ten-mile limits on the first 200 miles of the grant. The lands offered have been eagerly taken by settlers. The sales up to date (Dec. 16th, 1870) are 287,204 acres, amounting to $1,280,190.35. At the same time, the intervening sections of rich Government lands on the line of the railroad are rapidly settling. Thousands have availed themselves of the fine opportunities thus presented to men of limited means. An additional amount of 280,000 acres, located in Washington, Dodge, Colfax, Saunders, Butler and Polk counties, Nebraska, has been placed in market by the company, better facilities offered to settlers, and the terms of payment made still more favorable. A branch road is built and running from Fremont across Dodge county, bridges across the Platte have been built, and other improvements are continually made. The Government lands are surveyed and open to entry by actual settlers, across the entire State of Nebraska, and will be surveyed and opened this season through Wyoming, Colorado and Utah. The Land Department receives daily 100 to 200 letters of inquiry, and the prospects of a large immigration this next year are very flattering. W. H. M.




## Important to Tide Land Owners.

EDITOR PRESS:—Some, perhaps all, of the tide land islands, lying near the mouth of the Sacramento and San Joaquin Rivers, are naturally of a very porous nature, and, until consolidated by draining and settling, may not inaptly be likened to huge pieces of sponge, the edges of which are covered by a coating of clayey sediment, very nearly impervious to water. Upon the upper ends of some of these islands, sediment has accumulated to such an extent as to form quite a firm soil for several rods inland; while upon the lower ends, in many instances, it is simply a thin layer, extending but a few yards from the shore. Where this sediment is of sufficient depth to reach some feet below the bottom of the ditch or excavation, made in constructing levees, and is of sufficient consistency at this depth to keep out water, the levees may, if desirable, be located inside of the ditch; but upon the lower ends of these islands, where this coating is not more than three or four feet in thickness, the ditch should be on the inside; otherwise, cutting through this impervious layer, it would admit water to the edges of the "sponge," and the land inside would remain so saturated as greatly to impede, if not wholly prevent, cultivation, until sediment is deposited in the ditch in sufficient quantities to stop the water, which in many cases would not be for years.

About one year ago my opinion was asked in this matter, and given as above. Passing Sherman Island, on the steamer, a few days ago, I noticed a short piece of levee inside the ditch, and I immediately instituted inquiries concerning the result. I learned from Mr. Perkins, who resides in the vicinity, that under the protection of the old levee, a flourishing crop of beans gave promise of an abundant harvest; but upon enlarging the levee, the dirt was taken from the outside, letting in the water, and greatly injuring, if not entirely destroying the crop. He told me that the result of this experiment was such that the Trustees of the district would allow no more such work to be done. I make this statement, partly because the parties who consulted me contemplate disregarding my advice; but more particularly for the purpose of recommending those less headstrong and conceited to examine well the character of their lands before making their ditches on the outside. A. B. BOWERS, C.E.

## Granular Fuel.

EDITORS PRESS:—In any country in which firewood is worth from seven to ten dollars a cord, it is an object worthy the consideration of every land owner, to avail himself of every means to turn to the best account every particle of wood growth, the product of his lands, that can be converted into a marketable article of fuel, at a value greater than the cost of production.

Is it generally known and understood that the now almost useless brush-wood and willows of large tracts of lands bordering the rivers and sloughs of our valleys, can be converted into a compact, valuable fuel for light fires, or for igniting the more solid materials employed in heavy ones either of wood or coal?

The preparation of such a fuel as this, consists in subjecting the willows or other brush-wood to the action of a machine similar in construction to an ordinary straw cutter, but of greater strength, by which it is cut into lengths equal to about twice the diameter of the brush-wood used. It is put upon the market, of different sizes, numbered one, two and three, depending upon the general diameter of the brush; and to effect this, the brush is sorted into three sizes before passing to the cutters.

It is sold by the bushel, and as the brush is always cut when free from leaves, the product is cleanly, and when dry, highly inflammable. The coarser grade, the most of which is an inch in diameter, is an excellent fuel alone, for small apartments or where only a light quick fire is desired to simply take off the chill from larger apartments, in which a more solid or lasting fire would be objectionable.

It is also useful in cooking, in a small way, or where it is desired to build a fire in a furnace or other close, compact place. The finer grades are used for quick kindling.

Alders and willows are the best woods, and most in vogue where the granular fuel is used, because easily cut, and are woods that contain a large amount of pure carbon, being the woods generally used for powder making. But the brush of any wood or timber can be used with large profit to the producer, and economy and comfort to the consumer. Even the stacks of broomcorn are sometimes used for granular fuel.

In many of the large cities of Europe, and particularly in the warmer latitudes, this kind of fuel is in such common use as to be deemed indispensable.

Granular fuel, though cut green, dries quickly, from the facility with which the air enters the pores of the short section, and is ready for use in a few days after being cut. This fuel once introduced into our large cities would never after be dispensed with.

Who will be the first to put this really excellent and useful fuel on our markets? The cost of the uncut, raw material would be but trifling, and alders and willow will renew their growth to a proper size, the third year from the last cutting. W. W.

# HOME AND FARM.

## CULTURE OF OPIUM.

[WRITTEN FOR THE PRESS.]

From my own experience in the cultivation of the poppy for the production of opium during my residence in the opium districts of Hindoostan, and from my knowledge of the climate of California, I am convinced that its culture in this country would be attended with an almost incredible success financially.

Whilst the average produce per acre in India is only from 30 to 35 pounds,—the climatic influences affecting it,—the yield in Asia Minor is 70 pounds. This is owing to the greater certainty of sufficient moisture, without its being excessive, and to the plant ripening sufficiently before the extreme heat sets in.

Six and a quarter acres in the United States has produced 500 pounds, or 80 pounds per acre. One hundred and fourteen poppies in California yielded 174 grains, or equal to 77 pounds per acre.

As the plant produces the opium in less than three months from the time it is planted, there is not a doubt that, with some irrigation, two crops in a year could be easily raised, and possibly, in certain favored spots, such as those where there are heavy dews in the summer, *three* crops could be raised in a year.

To give an idea of the consumption of the article the following statement is given:—

ANNUAL CONSUMPTION.

| | lbs. |
|---|---|
| England | 114,000 |
| Other European Countries | 700,000 |
| United States | 70,000 |
| China | 4,500 000 |
| Indian Archipelago | 1,500,000 |
| Total yearly consumption | 6,884,000 |

These averages were taken 16 years ago, since which time it has greatly increased. Four-fifths of this is raised in India, where it is a strict Government monopoly, from which it realises an enormous revenue. In 1833 this revenue amounted to $5,000,000 per year, and in 1852 to $13,000,000, or more than double. Since that it has been on a continual increase. In 1857 the revenue was $18,500,000. So steadily has the increase in production been attended with increased consumption that the prices, in Calcutta, have not, in 33 years, varied 10 per cent.

All opium produced in India is bought by government at a fixed price—about 80 cents per pound. It is then sold by auction, in chests of 158 pounds and 140 pounds each. In the former the average price may be put at $500 per chest, and the latter at about $440 per chest. These prices remain still about the same.

The opium is now shipped to the Malayan Peninsula, Java, Sumatra, Borneo, the Celebes and to China. That for all these places, except China, is shipped to Singapore, the depot whence it is disseminated throughout the Indian Archipelago. In 1864 the produce of opium in India was no less than 6,380,000 pounds, which was sold by government there at an average price of $3.28 per pound. Of this there was shipped by the purchasers to China, 4,000,000 pounds, and to the Indian Archipelago 1,500,000 pounds.

In the United States the average price, in the East, is generally from $4 to $5 per pound, to which must be added a duty, by recent tariff, of $1 per pound. In England the price is not so high and the duty is there only 25 cents per pound.

California could supply the United States at an average of $5 per pound, as the import duty would be saved. The opium produced would also be of a very superior quality, equal to Smyrna, which is considered the best in the world, and which, by last quotations, was worth $830 per picul in China, or $6.24 per pound; so that purchasers here could be found who would ship it to China, in payment of teas, and so save the export of specie, in a great measure, and retain it in the country.

Assuming the price to be $5 (it is now a great deal more here) the following exhibit will show the enormous profits arising from opium:

ONE CROP A YEAR.

| | |
|---|---|
| Produce of one acre | $350.00 |
| Expense of cultivation | 150.00 |
| Profit per acre | $200.00 |

TWO CROPS A YEAR.

| | |
|---|---|
| Profit | $400.00 |
| Less expense of irrigation | 50.00 |
| Profit of two crops | $350.00 |

Thus showing a profit of from $20,000 to $35,000 per annum on 100 acres of land!

In the foregoing estimate there has not been mentioned the consumption of prepared opium by the Chinese in California. There is a duty of $4 on this, and its preparation is easy. The loss of weight in preparing it is *one-half;* but the price is more than *doubled*, besides the duty. It is worth here about $15 or $16 a pound, at this present time, with a very considerable present consumption.

The writer sold Malwa opium in China, in 1837, for $560 a chest; and the same article sold there in March 1870, at $542; and yet, in the interim, the importations have been nearly trebled—So steady has the price remained, so much has the consumption increased.

In addition to the foregoing, if the capsules be left to ripen, nine-tenths of them can be sold for the production of poppy-oil; but the value of this would not amount to more than $50 an acre, while the expenses would absorb two-fifths of this amount.

The Germans raise large quantities of poppies for this oil, which is hardly inferior to olive oil, and is commonly sold for it in England. Artists also use it. The climate of Germany, however, is not adequate to the production of opium, which exists only in the skin or casing of the capsule, so that in that country it is solely cultivated for the oil. JAMES GORDON.

## THE RAMIE PLANT IN CALIFORNIA.

There are for sale, here, over 200,000 roots of this fine textile plant. It grows like any other nettle in our climate. There is said to be an abundant demand in England for the raw fibre at 10 cents per pound. The great supply at present is from Asia. Louisiana has been cultivating it several years; but it has not made much progress there for want of some cheap machine to prepare the fibre for market. We have recently been informed that a cheap and practical machine, invented by M. Lefranc, of New Orleans, does this work well and very cheaply. But our U. S. Commissioner of Agriculture, in his Report for 1869, does not mention it, and our California ramie-growers have not brought one to exhibit here, as an evidence of its existence and practicability.

These omissions, and the general disinclination among our ranchmen to go into anything but wheat, make it difficult to sell the ramie roots. Still, as an evidence that those who have been instrumental in introducing the plant into this State, and other prominent capitalists, have confidence in it, we may state that Judge Graham, of Haywood, who has 80,000 surplus roots, has gone to Los Angeles, under a proposition from a large land company, to put out a quantity of roots on the plains. While we would not yet recommend farmers to cultivate ramie extensively, we think favorably of its moderate introduction generally, on suitable lands.

SOUND ADVICE.—The Colusa *Sun* talks to the farmers of its county in a sensible strain. Its remedy applies in this direction as well. It says:—"There is no country perhaps in the world where deep-plowing makes so much difference as in this. Now that the plowing season has set in, in good earnest, our farmers will do well to heed this fact. A man will, taking one year with another, make more clear money by plowing 25 acres deep and putting it in well and early, than skimming over 100 acres and taking no pains with the putting of it in."

## A SINGULAR LOOKING PLOW.

A very singular looking plow has been on exhibition the past week at the Office of the PACIFIC RURAL PRESS. It is called the Butler Plow;" being patented by him, and manufactured solely in all the States and Territories, except ten counties in Ind., and in the state of Oregon, and California, by Hall & Speer, of Pittsburg. Pa.

I take the liberty to extract from a lengthy article in the *Modern Farmer*, of Pittsburg, the following, as the views of several gentlemen of Agricultural implement notoriety; and especially of Alex. Speer of the above named firm, who is called the "Plow Prince" of the country.

"When we say that there have been a thousand improvements on forms of mold-board, all more or less oval or convex—we are under rather than over the number,—we have yet the first attempt heretofore to record of a "straight mold-board."

The plow of which we write has a share cut, a straight landside, and a straight mold-board, standing vertically at an angle of about twenty degrees, The mold-board receives the furrow from a "Share Cut," ingeniously arranged in front, passes it over evenly and uniform without breaking the furrow; it runs perfectly steady, and is easily controled by a boy twelve years of age in ordinary ground. It was tried in loose stable ground, and black loamy ground so wet with recent rains as to be tempered for making brick; yet it neither clogged or choked. The trial in the sward was still more satisfactory. It turned a furrow sixteen inches wide, and from seven to eight inches deep, with ease to both driver and team; and the tests by the dynamometer, showed fully twenty per cent. less draft than the best plow that could be put in competition doing the same work. Old farmers and veteran plow builders pronounced it a decided success."

It is evident a straight mold-board will not increase the friction by plowing deep, as there is no more resistance on the upper part when let down its full depth into the ground than upon the lower part of the same; while a concave is like the pod of an augur inclined to carry its chips along, unless allowed to turn. The curved mold-board inclines to raise at the heel, and run the plow on the point, making it necessary to throw weight upon the handles to make it run level, and steady; as it becomes hard to hold, it becomes hard to draw; and becomes harder to draw, in wondrous proportion. As you sink the covered mold-board near the top, its resistance increases very rapidly.

The question that strikes the beholder is, —will a straight mold-board turn its furrow well! It takes demonstration in place of argument to convince, and answer the question.

In calling public attention to so important an implement as the plow, I do so with due respect, and manly pride, for the many shining "shares" that to-day are doing credit to our inventors and skilled workmen, and with deference ask a fair unprejudiced trial in the varied soils of the Pacific Coast, for this new invention.

I shall be pleased to put it on trial and test its merits at any time or place, where mechanics and farmers may arrange to give it justifiable attention; hoping thereby to add to the usefulness of the great staple implement in plowing the grounds of our rich valleys, and sunny mountain sides, deeper and easier.

For further information please address the undersigned, owner of the right for California and Oregon. L. P. HICKS.

SKUNKS DESTROYING A LEVEE.—The Yuba City *Banner* of December 16th says: "It has been noticed for some weeks past that the levee on Feather river, a few miles below town, was considerably damaged by some unknown animals, but it was thought by badgers or coons. Esseltyne, who looks to the interest of the levees in this district, directed some of his men to put out strychnine and endeavor to poison the depredators, which was accordingly done about a week since, but without success. This experiment was tried with watermelon and bread. Another trial was made by the use of fresh meat, which proved successful. The next day the carcasses of five large skunks were found lying near and in the holes along the levee.

MORE MULBERRIES.—Messrs. Isoard & Webber, of Nevada, are setting out 1,200 mulberry trees in addition to what they now have. This addition will give them 8,000 in all. These gentlemen are growing mulberries to feed for silk.

## WOMAN'S INFLUENCE.

The aim of every true mother should be to inspire the little ones committed to her care with desires for truth and goodness; and to impress upon their plastic minds the great need of temperance in diet, dress and amusement. Example is always before precept; therefore to become a wise counsellor, one should practice the virtues recommended, or half his teaching will be in vain.

In a small community there lived, many years ago, a large-souled woman, who by her superior mind and attractive manners, won the admiration and esteem of all. Her views on most subjects were so far in advance of the age, that she was looked upon with suspicion by the ignorant, and with intense wonder and interest by the more thoughtful. Forgetful of self in that noble desire engrafted in her nature to improve the condition of the race, she became successful as a teacher, writer, and lecturer; instructing mothers in physiological laws (having been educated at a medical college), and her influence was felt far and wide. Good books were placed in the hands of the young, to take the place of the light reading usually so attractive and lectures were given, both in private and public, which tended to elevate woman to a position rarely attained.

Years have passed since that noble presence left its earth life; but in many hearts the memory of Eliza W. Farnham is cherished with affection, and her teachings have lost none of their weight. Is it to be wondered at that a community, wherein she one once labored so successfully, should possess advantages somewhat above the average. And that the young people should grow up thoughtful and earnest in the great issue of life.

It has been my good fortune to be thrown amongst this people, and to observe the effect one powerful mind has produced in preparing them for broader views of life and the great and momentous questions of the day. This influence has been felt equally by both sexes, and woman has been raised in a measure from a position of servitude to one of equality, comparatively speaking, rendering it less difficult for her to assert her opinions and assume responsible positions in life, hitherto uncared for.

If then, such is the effect of one noble example, the lesson for us is, to each strive so to live, that our light may shine forth as from a hill top, giving light unto the darkness of bigotry and superstition; and by reaching forth a helping hand to a struggling sister, lead her on to paths of usefulness. It is thus that we may answer satisfactorily to ourselves and the world, the great question—What am I doing to render the world better for my having lived in it.

SEED WHEAT.—Mr. S. C. Pattee, of N H., after his wheat was harvested, thrashed out two bushels with the flail, only thrashing what could be "shelled out" without untying the bundles or sheaves. The two bushels were carefully hand-picked and put by for last year's seeding. The remainder of his wheat was thrashed by a machine propelled by water-power. Last spring Mr. P. sowed the two bushels of flailed and seven bushels of machine-thrashed—all in the same field, all of the conditions of the two kinds, from seeding to harvest, precisely alike. The flail thrashed has, by careful estimate, yielded 33⅓ per cent. more wheat to the bushel of seed sown than the machine thrashed; and, in the judgment of Mr. P. and many others, three pecks of the flail-thrashed gives more plants than four pecks of the machine-thrashed seeds.

The Syracuse *Journal* says that "Geo. Crofts" of that city "has an acre of land on which was sown a bushel of Norway oats, the product of which will be 100 bushels. They stand on an average over 6 feet high with seed heads 10 inches long, one of which on being counted contained over 300 kernels."

# TREE CULTURE.

## CUPRESSUS LAWSONIANA.

The Lawson Cypress is a native of this coast, and may be found growing in its natural stateliness and beauty, from the foot of Mount Shasta, through Oregon, into Washington Territory. There is no finer evergreen in existence, to our notion, belonging to the hardy species of conifers. It deserves to be a much more common tree in our lawns and gardens.

The tree adapts itself to any position and exposure, and is said to even stand the severe frosts and cold of the Northern States, East, and in Europe, better than many of their hardy evergreens. Its great merit has been distinctly recognised, it is said, since the destructive frosts of 1867, in the Eastern States and Europe, and it is now unanimously awarded a high position for its hardy character and elegance. One writer says:

"For despite any amount of cold or heat, damp or drouth, it maintains throughout, from circumference to the center, a hue of the freshest green. This constancy in a plant of this character is one of the highest recommendations that it can bear. * * Its truly evergreen character is not its only merit. Its growth is quite unapproached for symmetry and beauty by any other plant we know; while the slender ramifications of its close-set, compact branches and branchlets, give it a degree of refinement which is not seen by any other variety of this grand, hardy species, numerous and varied as are its forms, and elegant as are some of their number. In the symetrical outline of the tree itself, in the regularly radiating, vertical ramifications, in the slender, graceful character of the everywhere erect spray, there is about this tree an air of refinement rarely met with, and which, combined with its bright and enduring verdure, stamp it as a gem of the first order among evergreens. It is one of the finest—aye, one of the very finest—hardy, coniferous evergreens which have been introduced to our gardens."

This is high praise, but not too high, for it is but truth, well spoken. The tree is very erect, and slightly pyramidal in form. The branchlets are flattened and delicately sprayed, with regular radiation from the center of the tree to the circumference of branches.

One thing we will say of this, as of all of our mountain evergreens of the conifer family from the high Sierra ranges—it will not flourish in flat, heavy, poorly-drained soils, in our coast valleys, where alkali is prevalent in the soil or subsoil. We have seen many trees, such as pines, firs, cedars, cypress, etc., removed from the interior regions to our saline soils, die, not from want of care, but from the effect of alkali and inactive subsoils; where deciduous trees and coast evergreens, such as the Monterey cypress, Monterey pine, Italian cypress, etc.. will flourish with vigor.

## THE OREGON TEA TREE.

The *Ceonathus Oregonus*, sometimes called the Oregon tea-tree, is spoken of in the Willamette *Farmer* as a very desirable ornamental plant for the lawn or garden, and will grow to the size of a very large shrub or small tree. It is a native of Oregon, and flourishes in the timber neighborhood about Oregon City, in the thickets about Vancouver and in many other localities.

It is an evergreen, its leaves, in winter emiting a balsamic fragrance. It exhibits blossoms in May or June, which are white, of strong magnolia fragrance and not unlike those of the lilac. It should be trimmed to a single standard.

The editor of the paper above-named says of it:—"We have passed through large tracts of land on the upper Columbia, covered with this plant, when it was in blossom, and its fragrance was so overpowering that we were glad to escape and permit 'its sweetness to waste on the desert air.'"

There are many native plants, trees and shrubs, as yet scarcely known except to botanists, growing wild on this coast, which might be made beautiful ornaments for the garden or lawn.

# SHEEP HUSBANDRY.

## HERDING SHEEP.

We have been requested to publish the following section from the State law in reference to the herding of sheep upon the *public* lands:

SECTION 5th.—Nothing in this Act shall be so constructed as to prohibit the herding of sheep upon any unoccupied public land in this State, or of the United States, within said counties; provided, That in the counties of Mendocino, Calaveras, Yuba, Merced, Shasta, Siskiyou, Fresno and Tulare, it shall not be lawful for any person or persons, owning or having charge of sheep, to herd the same on any of the unoccupied lands of this State or the United States, where such herding may cause injury or inconvenience to actual settlers residing contiguous to such lands, who have horses or cattle ranging on such unoccupied lands; and for a violation of this provision, the penalties of section 27, of the Organic Act, to which this is amendatory, shall apply.

The working of this law is creating no inconsiderable trouble in the counties specified in the Act, between sheep men and cattle men. The business of sheep raising is one of the most remunerative in the stock raising line, where the former is placed on the same footing with cattle raising, and is one in which men of small means can readily engage. Unfortunately, however, for poor men, the section above quoted from the State law, prevents any sheep raiser from enjoying the benefits granted by a beneficent national government, to a free use of the public lands, when cattle or horses are herded contiguous. This law must operate to drive all but wealthy sheep growers out of the business, as none but men of means can afford to buy or fence land for such purposes. Two cases growing out of this law have already been brought up in the courts of Siskiyou county. We have seen it stated that the constitutionality of the law will be called in question.

SHEEP RAISING IN NEVADA.—Sheep raising, says the Reese River *Reville*, is becoming an important branch of the industry of Nevada, where grass-covered mountains are so well adapted to this purpose. Heretofore wool has been a secondary matter in connection with the business, owing to the cost of transportation and the low price of the article in the San Francisco market, the only one accessible to Nevada. Heretofore the fact that this city was the only market open to Nevada wool-growers, has been rather a drawback to the business there; but the facilities now afforded by the railroad for a direct market at St. Louis, is having the effect to greatly stimulate and improve the business.

SHEEP RAISING IN OREGON.—The Walla Walla *Union* says: "Persons who are extensively engaged in sheep raising, informs us that there is no kind of stock that will pay as well for raising as sheep. Our climate seems particularly adapted to them; our dry and pleasant winters, and our luxuriant and boundless pastures, makes it almost unnecessary to give sheep any attention at all except that of herding. The reason that this branch of business has not had more attention heretofore, is that the impression has been made that Walla Walla wool is worthless. This, however, is a mistake, and our wool finds a ready market, both in Oregon and California. The demand of mutton is also increasing rapidly, and the time is not far distant when sheep raising will be made one of the principal, as well as the most remunerative business of our valley.

MAKE IT PAY.—B. Guire, of Roaring River, says the Shasta *Courier*, recently sold his herd of sheep to parties in Tehama county for $12,500. These sheep were mostly raised and pastured in the Bald Hills, in the western part of that county, and a few years ago, before Guire embarked in the sheep raising business, he was on the "hard up list" and had to rustle for his regular hash.

# FARM NOVELTIES.

FREAK OF A FRUIT TREE.—We don't pretend to vouch for the following, but give the statement, as we find it in the Placer *Herald*. Nature somtimes performs wondrous and quite inexplicable freaks, and we shall make it a part of our duty to collect and record under the above head for the benefit of our readers such cases as come to our notice. We copy as follows:—P. M. Andrews, of the firm of Hubbard & Andrews, of this town, has in his lot some choice fruit trees, and among the rest an apple tree of the sweet bower variety, which bears a fine. large, round apple. Last Summer, when the fruit on this tree was about half grown, the tree sent forth a new lot of blossoms, not of the ordinary kind, but almost like a double rose and a little larger than the ordinary apple bloom. A second crop of apples followed these strange blossoms, and are now matured; but these apples are as unlike the first crop as were the spring and summer blossoms. The second crop of rose like blossoms have photographed or typified themselves on the apple, thus making the apples assume the form and shape of the blossoms. These apples are smallest at the stem end, swelling, bell like, as they approach the blossom end, at which point they spread out like a rose; thus as we said beford, typifing the bloom. These are the facts, for we saw the blossoms, and now have three of the apples before us. We know of no one that can explain or account for this queer fruit freak, and can assure the reader that we are not going to undertake it ourself. However, here is food for reflection.

GRAFTING THE TOMATO ON THE POTATO.—A correspondent states that he succeeded perfectly in grafting a scion of the tomato upon the tomato vine. He cut about one-third of the potato shoot off, just above a leaf, taking care not to injure the bud at its base. The scion, being shielded from the sun, was every day sprinkled with a little water, and it took readily. In the fall the tomato was loaded with ripe and unripe fruit, and had grown to a large size.

ONE of our exchanges, speaks of a lot of potatoes which were planted, last spring, near the top of the ground, and "hilled in the usual manner. The drouth was very severe in the neighborhood, and the potatoes planted as above were hardly worth digging, while other lots, in adjoining fields, and equally exposed to the drouth, but planted in the bottom of deep furrows and never hilled at all, yielded remarkably well.

PLANTING POTATOE SPROUTS.—Mr. Guilbert Strong, of Oswego, N. Y., relates the following:—

I had about a quart of early Rose potatoes given to me last spring. I had heard of such prodigious yields from a small amount of seed, I concluded there must be some deviation from the ordinary mode of planting, and concluded to try an experiment. I let the sprouts grow on my potatoes until about the 1st of June; they were six or eight inches long. I then broke them off and set them out as I would cabbage plants; I put them in rows two feet apart one way and eight inches the other. I also cut the potatoes and planted them in the same way in rows adjoining my sprout rows. And now, in digging my potatoes, I find my sprout seed to yield in every particular equal to that from the seed potato. Let them sprout to the length of six or eight inches; break off the sprouts and set them out as you would cabbage or tomato plants. Feed or eat up the potatoes, and nothing will be lost.

PROLIFIC CORN.—Mrs. George P. Morgan, of Upper Alton, Illinois, claims to raise the most prolific corn in the world. It is called Egyptian Joint Corn, and produces ten or twelve ears to the stalk, or two hundred bushels to the acre.

POTATO FREAKS.—A lady in Ypsilanti Mich., found, this summer, among her old potatoes, one which had split open, and inside were found three new potatoes as large as hickory nuts A. gentleman in Wayne Co., N. Y., found in his garden a cluster of potato balls, of which two of the balls were perfect potatoes.

CRANBERRIES IN WASHINGTON TERRITORY.—We have already mentioned the fact of the purchase of a tract of 2,400 acres in the vicinity of Gray's Harbor, Washington Territory, for the purpose of converting the same into a cranberry bed. The Portland, Oregon *Bulletin*, of a later date says that Mr. Hasty, of New Jersey, has also purchased 2,000 acres lying adjacent to the other purchase. It is his intention to transplant a thousand acres of cranberry bushes next Spring, and place them under careful culture.

The cultivation of these berries promises to become a profitable trafic with the rapidly increasing demand. Usually, as the bushes grow wild, about five or six bushels only can be obtained from an acre; and it is estimated by those who have had extensive experience in the domestication and culture of wild berries, that, by careful and systematic cultivation between two hundred and four hundred bushels of cranberries can be produced per acre. The enterprise is now an experiment, but those individuals who have undertaken the cultivation of wild cranberries ought to succeed, and no doubt will.

RAISIN GRAPES.—Mr. Wm. Wells, of Morega valley has sent to the Contra Costa *Gazette* a sample of finely cured raisins—equal to the best imported Malaga—of admirable flavor, fleshy, large and bright. Mr. Wells has a few vines of the variety from which such raisins can be made, and knows no other name for it than the "raisin grape," cuttings of which may be procured of him.

LARGE ORANGES.—The San Bernardino *Guardian* has seen a box of oranges grown on Mr. Anson Van Luven's place in old San Bernardino, that weighed 11¾ pounds to the dozen. Some of them weighing one pound each. They have been shipped to this city to show what San Bernardino County can do in the way of raising oranges.

REMOVING TREES.—A correspondent of the American Institute Farmer's Club stated that he had a pear orchard in which the trees were too close—ten feet each way and every fourth one a standard—and asked if he could take them up safely at their present age (four years) and reset. Mr. P. T. Quin said, "Yes, it is not difficult to move pear trees, even those ten years old, provided the work be properly done. Cut back the tops and spare all the roots possible. Let the spade in, always keeping the edge toward the edge of the tree—at least four feet might be better if the roots run far."

DISSAPPEARED.—The S. J. *Independent* says: The disease called "black tongue," which has been raging so fearfully among the horses in Evergreen District, has entirely disappeared. No new cases have been discovered, and those animals lately attacked by the malady have nearly all recovered. The disease appeared to assume a milder type during the latter part of the time during which it prevailed. At first every horse which took it died. We are glad to learn that our farmers are suffering no more from this misfortune.

A LOSS TO THE COAST.—It is now stated authoritively that Bret Harte is to take up his abode permanently at the East. We can believe that the change may be advantageous to him, in most respects, but to us it will be a grievous loss. He has acquired and maintained here a reputation which is enjoyed but by few literary men, and has thereby raised the Coast in the estimation of the world. We owe very much to him, and it seems a pity that we cannot make it to his advantage to remain with us. Wherever he may be, however, he will have the hearty good wishes of our California public.

FISH RAISING.—Parties desiring further information of the California and Lake Tahoe Fish culture Co.'s operations, illustrated in our sample No. Dec. 17, 1870, should address Comer Bros., Truckee, Nevada County, Cal.

THE expression, "spreading himself like a green bay-tree," is usually considered slang. It is of good parentage, however, as one can ascertain by examining the thirty-fifth verse of the thirty-seventh Psalm of David.

# AGRICULTURAL INDUSTRY

## Profits of Grape Growing.

In order to realize the largest profits from any branch of fruit growing. Care and judgment must be exercised in the selection of the varieties to be cultivated. In the matter of grapes, for example, two and three times the amount of profits may be derived from some kinds of grapes, over that obtainable from others, when raised for the table.

Enormous profits are realized from some of the vineyards in the immediate neighborhood of this city, especially where proper judgement has been employed in the selection of varieties and corresponding care of their culture. The following figures have been given as reliable and trustworthy:—Mr. Shaw has realized as high as $420 per acre, gross, from his Muscat of Alexandria vines—he has reported an annual average of $270 net. Meister Brothers, report still larger profits—$273 per acre gross, and $775 net from the Alexandria Muscat; and over $450 from black Hamburg, black Malvoise, golden Chasselas and White Tokay. He has reported as high as $2,300 net per acre, from small lots of very rare varieties, such as have commanded an exceptional price in the market.

The mission grape, the most abundant, and least valuable, has paid as high as $100 net, when carefully cultivated for the table, and convenient to the market. When we consider the small average profit from an acre of wheat, or other grain or root crops, it would appear evident that those Californians who have large numbers of choice vines, well bearing and in good locations, must be getting large interest for their investment.

Of course grape growing, for wine, is a very different affair, and less profitable; but wherever a sufficient amount of grapes can be found in any given locality to sustain an extensive wine manufactory, the profits for the vineyards, even the most ordinary, is many times that which can be realized from wheat culture, even when the fullest allowance is made for the cost of planting and bringing the vineyard to maturity.

The culture of the grape for wine or raisins is a branch of agriculture that can be most profitably and conveniently followed in the lower portions of our mountain counties, and should be everywhere encouraged. With the other branches of business, which its presence will introduce, it may be made one of the most ready and effective means of advancing our mining counties from their present state of financial depression to the very hight of prosperity.

As an evidence of this let us look at a few facts with regard to the vineyards of France, as they were before the commencement of the present devastating war in that country. There are 5,500,000 acres of vineyard in that country, distributed among a population of about 3,000,000 people nearly all of whom are either directly or indirectly dependent upon that business. The vineyards are generally divided up into small areas, averaging about 2½ acres each. The average yield of wine is about 250 gallons per acre. Many vineyards yield a profit of $300 per acre, per annum. The choice vineyard land, with the vines thereon, is worth from $2,500 to $5,000 per acre. The vineyards of France feed, either directly or indirectly about one-tenth of the entire population of that country, and create enormous annual values, said to represent something like $260,000,000 a year. It will be seen that the yield of the wine in France, is set down much below the average of our California vineyards. This State has nothing to fear, in the future, from France in this business; and the values there created and the population then supported may easily be realized in our own State—and no where more readily than in our foothills—the natural home of the vine.

## Pruning Grape Vines—A New Idea.

EDITOR PRESS:—I notice that the *California Horticulturist*, of December, advises "owners of vineyards to prune their vines as soon as time and circumstances will admit."

There has been a great deal written, *pro* and *con*, on early and late pruning of the grape vine, and there are some facts that are worth considering. I hardly think it proper to advise indiscriminately.

Vines grown in scanty soil and in dry parts of the State—the interior valleys and foothills of the Sierra Nevada—should be pruned before the sap starts in the spring, as they require all the nutriment which has been collected and stored in the roots; but vines grown in moist, rich soils, near the coast, are better pruned in the spring. The profuse "bleeding" is rather a benefit, as the vines then run less to wood, and fruit better; if so exhausted, moreover, the fruit is less liable to mildew, and is sweeter than on vines early pruned.

It is a well known fact that in the hot, dry valleys and foothills the vine is prolific of fruit and is not over vigorous; while about San Francisco Bay, and within the full influence of the moist sea breeze, the grapes are more acid, watery and soft, the vines less productive, and great runners. Not only is it well to "bleed" the vine in such localities, but it is also well to

**Crop the Vineyards**

with early vegetables—peas and such kinds of plants, as will exhaust the soil of moisture and strength.

This idea will probably be new to most of the readers of the PRESS. Indeed, I believe it is a new idea in fact; but it is worthy of trial. I have seen two small vineyards in San Jose, side by side—one pruned early, and well cultivated; the other pruned late and not tilled at all—everything else being equal. The one not pruned or cropped was a failure in fruit; while the one late pruned, and cropped to grass and weeds, produced an abundance of fine quality of fruit.

S. HARRIS HERRING.

MONTANA IRRIGATING CANAL.—The Helena *Gazette*, which keeps us well posted on many important matters in its territory, gives the following concerning the Jefferson Canal: It is taken out of the Jefferson, near Silver Star, and is calculated to carry 20,000 inches of water. It covers a great deal of fine farming land on Fish Creek, White Tail Deer Creek and Boulder; passes behind Radersburg, close to the mountains, and covers the entire Missouri Valley from Helena to that point. The extreme length from the point where it is taken out to Helena is one hundred and sixty miles, and presents little or no difficult work on the route. The arable land which it covers consists of twenty-five townships, each containing 23,040 acres, or a total of 576,000 acres, being the largest amount of arable land in any valley of the Territory, and far more than can be covered by any similar work. Besides these agricultural lands thus proposed to be rescued from the wilderness, the canal covers many valuable placer mines, including those near the Jefferson, those on Indian Creek, those on Beaver Creek, Mitchell's Gulch, McClellan Gulch, Prickley Pear, the lower part of Holmes' Gulch, and gulches and bars between that and Helena, and lastly, the immense Helena bars.

## Corn Huskings.

To many of the elder portion of our readers, the above title will recall memories of former merry-makings at the East. Scenes of busy hands and cheerful faces, the old barn, the piles of grain, the finding a red ear of corn and its consequences, may be conjured up. The name has to many of both sexes a forcible significance.

One little draw-back on such occasions was the unpleasantness of getting the hands sore. The constant friction, the wear and tear, was severe on those whose skin had not attained a very considerable degree of toughness. Our illustration shows a device for preventing this, and of enabling one to do the work more rapidly. The invention consists merely of leather gloves, of the form shown in the cut, which are provided with metallic claws attached, which assist in tearing the husk from the ears. These gloves protect those parts exposed to the wear from the husks, and enable one to husk perhaps double the amount otherwise possible.

The glove with the small claws is made to enclose the thumb and forefinger of the left hand, and the glove with the large claw to enclose the thumb and first two fingers of the right hand. They are laced and strapped to fit. The ear of corn is held in the left hand and one-half of the husk is stripped with the right. Then the remaining part of the husk is started by a side movement of the left thumb past the edge of the ear, and stripped back with the the thumb and fore-finger. At the same time the ear is grasped with the right hand and broken off across the left.

HALL'S PATENT HUSKING GLOVE.

It will be seen that it is not necessary to commence at the end of the ear, as with other huskers, but the ear may be grasped two or three inches back from the end where most convenient. The thumb of the right hand should fit between the large claws of the fingers of the same hand, when they are pressed together, which gives a very firm hold of the husk while stripping it off. It is important to pull lengthwise of the plate and across the fingers, instead of across the plate and lengthwise of the fingers, a mistake made by many.

Testimonials from farmers are given, showing that the gloves are highly esteemed wherever used. We have a pair at our office, which we retain, not so much from an expectation of using them in corn, but as a means of offense and defence in possible emergencies. The gloves have been patented and are manufactured by the Hall Husking Glove Company, 90 and 92 South Water street, Chicago, Ill. They are made of three sizes, and for both right-handed and left-handed persons.

THE PEELER COTTON.—The Georgia *News* says: "This variety is giving satisfaction. It is rapid in its growth, matures early, is very prolific, and the staple is almost if not quite, equal to the black seed—long, silky and strong. It ought to, and probably will, sell for ten or fifteen cents more than the ordinary cotton. It will be largely cultivated in this section next season."—The Peeler, it will be observed, is one of the varieties recommended for cultivation in this State.

## California Agricultural Notes.

THE GRASS started around Stockton by the early rains, has been much of it, destroyed by the recent frosts.

THE COLD WEATHER has killed a great many sheep in the upper San Jaoquin valley.

THE farmers around Woodland are holding on to their wheat, believing that the want of rain for the new crop will produce an advance in price.

COWS and young calves are said to be dying on the plains about Marysville for want of feed.

LARGE EGG.—The Solano *Republican* has received an egg measuring 6½ by 7½ inches in size.

MILK FOR SAN FRANCISCO.—There are 200 wagons engaged in supplying this city with milk. They deliver 12,000 gallons every day—including the water added.

TULE LANDS.—The Vallejo *Chronicle* of December 29th says: Smith & Co., who have been reclaiming some lands a few miles above Vallejo, have nearly completed the reclaiming of about 11,000 acres, all required now being but the erection of a few flood-gates. This they have sold at a fair price, and in the coming spring intend commencing the reclamation of another large tract.

PARASITES IN WILD GAME.—The San Jose *Independent* of the 4th inst., has the following: Mr. E. W. Hamilton yesterday showed us a duck which he shot on Cayote creek on Sunday. The flesh of the breast was filled full of parasites, the size and appearance of the common maggot. Otherwise the bird appeared to be in a healthy condition. The parasites were embedded in the tissues, while the flesh surrounding them appeared to be perfectly free from any disease. The flesh was entirely unbroken, and there was no trace of a wound anywhere.

WE learn that the farmers around Davisville are much discouraged from the want of rain, and that they have now quit plowing. They have suffered recently from a strong north wind, which dries up the ground, and has a very prejudicial effect upon farming operations.

THE Chico *Enterprise* of the 31st ult. says: Notwithstanding our cold, freezing nights, our farmers are plowing, the ground still being in good condition. We are favored; as we have been informed that the lower counties are suffering for want of rain, and plowing is entirely stopped.

AROUND Haywood the farmers are plowing deeper than usual this year. They state they will be compelled to stop work unless it rains within a few days. Cattle are suffering for want of feed. The grass is very short and has been cut down by the heavy frost.

LIVE FENCES.—About two years ago a number of farmers at the upper end of this county, says the Vallejo *Recorder*, commenced setting out live fences, mostly of Osage orange. They have been growing very rapidly, and now strings of live fences, five or six miles in extent, may be seen there. The farmers encouraged by the wonderful growth of this kind of fencing, and its many advantages, have been setting out live fences very extensively this winter.

ORANGES AND CORK OAK.—The Visalia *Delta* of December 7th has the following: We have had extraordinary heavy frosts lately, but we notice that it seems to have no effect upon our orange trees, those that are in bearing look perfectly healthy and will undoubtedly mature the crop. There is a region along the margin of the foothills much more free from frost than the valley around Visalia, and there can be no doubt but that this region is as well adapted to the production of the orange as any portion of the State. We notice also that the few specimens of cork oak, that have been planted here are healthy, and have made a growth quite equal to that of our native live oak.

GROWING COCOANUTS.—A resident of Yuba county, says the Marysville *Standard* of the 30th ult., having been successful last year in growing a cocoanut, it having reached a hight of two feet, a number of our citizens are also experimenting with this tropical fruit. We made a thorough examination of a lot of cocoanuts at Knight's fruit store a few days ago, and found five that had live sprouts about an inch in length. The plant germinates through what we call "the mouth of the monkey," said germ being carefully protected from cold and injury by the husky bark which covers the end. The experiment of growing cocoanuts in this climate is one worth trying,

BY OUR LADY EDITORS.

## A GOOD WIFE.

A good wife rose from her bed one morn,
And thought with a nervous dread
Of piles of clothes to be washed, and more
Than a dozen mouths to be fed.
There's the meals to get for the men in the field,
And the children to fix away
To school, and the milk to be skimmed and churned;
And all to be done that day.

It had rained in the night, and the wood
Was wet as it could be;
There were puddings and pies to bake, besides
A loaf of cake for tea.
And the day was hot, and her aching head
Throbbed wearily as she said,
"If maidens but knew what good wives know
They would be in no haste to wed."

"Jennie, what do you think I told Ben Brown,"
Called the farmer from the well;
And a flush crept up to his bronzed brow,
And his eyes half bashfully fell.
"It was this," he said, and coming near,
He smiled, and stopping down,
Kissed her cheek—"'twas this, that you were the best
And dearest wife in town!"

The farmer went back to the field, and the wife,
In a smiling and absent way,
Sang snatches of tender little songs
She'd not sung for many a day.
And the pain in her head was gone, and the clothes
Were white as the foam of the sea;
Her bread was light, and her butter sweet
And golden as it could be.

"Just think!" the children all called in a breath,
"Tom Wood has run off to sea!
He wouldn't we know if he only had
As happy a home as we."
The night came down, and the good wife smiled
To herself as she softly said,
"'Tis so sweet to labor for those we love
It is not strange that maids will wed."

*Woman's Pacific Coast Journal.*

## HOUSEKEEPING.

[WRITTEN FOR THE PRESS.]

"Oh, dear, Annie, how I wish I could once in a while sit down to a well-cooked meal. Cannot you possibly teach that girl how to cook a steak without drying it up to a crisp? And see those biscuits! they are as black as your hat. We always have them either half burnt up or else under done and soggy." "Well, now, Albert!" the young wife replied; "I am trying to learn how you like things done; but remember, dear, I never had a chance to learn to cook. We girls were always at school, and never allowed to fuss about the kitchen, and because Ma hated housework, we grew up to think it a horrid bore to have any thing to do with it."

"The more shame for you," said the husband crossly, "and I advise you, the first thing you do, to go to some thorough housekeeper and spend a few weeks, and get posted in the mysteries of the art of cooking. When I was a bachelor and lived at sister Sue's, such a thing as burnt crust was never seen in the house, and the meat was always done just to a turn. Susie was one of those clever housekeepers who kept every thing in apple-pie order, and was always planning some new delicacy for her husband."

"Those were happy days without doubt, dear Albert; and I mean to try to please you better in the future, if you will only bear with me a little, and let me go and spend a week or so with your sister, to learn her way of doing things. Then I shall come back and make your home as comfortable, and your life as happy as when a bachelor; sha'nt I dear?"

Albert Norris had married, at thirty, a young boarding-school Miss in her teens, who had attracted him by her resemblance to an idolized sister, with whom he had lived ever since her marriage. After the first month of wedded bliss, he began to discover faults in his young wife which his sister did not possess; and disappointment rankled in his bosom, and often rendered him querulous and fault-finding. Annie was of a bright cheerful disposition, and not ashamed to acknowledge that she was not perfection; therefore the more willing to improve every opportunity for becoming a better housekeeper. She had listened patiently to her husband's accounts of life at "sister Sue's," and how John would come home in an ill humor, and with closed eyes and furrowed brow, throw himself in an arm-chair; how, with a light step, "Sue would enter and gently lay her hands upon his hair, and kiss the eyelids till they opened with a sign of relief, and the old sunny look would come back; then throwing both arms around her, he would exclaim—"Susie, you are an angel!"

Then, in the long winter evenings, the happy wife would sit by his side, with crochet-needle and bright colored wool, making little dainty mats and tidies for adorning the house; while her husband read aloud some story of domestic life, such as they were enjoying, while the bachelor brother lingered near taking notes for future use, and wondering if it should ever fall to his lot to be so thoroughly loved and appreciated.

Years had passed away and two children had come to fill the vacancy in sister Sue's home, caused by Albert's marriage, and the brother and sister had never met; when, one morning, Annie was startled by the announcement that her husband was going to the city, on the following day, and wanted her to accompany him to spend a week or ten days with sister Sue. Of course nothing could give her more pleasure, and her ready acquiesence delighted Albert. They set out at the appointed time, and reached their place of destination toward the close of the next day, and as five o'clock had always been their hour for dining, Albert felt sure of finding all at home, and he rather lotted on the surprise which their sudden appearance would cause his sister. They rang the door bell, and after waiting a considerable length of time they heard first—little footsteps approaching, then little fingers twisting the knob and trying to lift the latch, which finally yielded, and the door slowly opened revealing the most ludicrous picture one could imagine.

A little girl aged four, dressed out in mamma's best flounced silk skirt and velvet sack, with a jaunty hat and feathers, carrying an open parasol in her tiny hand and glancing back over her shoulder with the utmost complacency at the broad expanse of dress trailing behind on the floor. Her companion, a boy some two years older, was decked out in John's Sunday coat and tall beaver, with a gold-headed cane in his hand; both evidently ready for a walk. Greatly surprised at seeing strangers, they suddenly turned and ran through the long entry calling loudly—"Come, Biddy, quick—'cause, a lady and gemman at a door." Just at this moment John came up the steps and received the new comers most cordially; invited them in and throwing open the parlor door, uttered an exclamation of amazement. There stood the chairs in a line across the room, partitioning off the corner where the sofa stood, upon which a large wax doll was comfortably reclining. Mamma's work-box stood open on the floor, its contents strown about, and it was evident the children had been engaged in playing at housekeeping. At this moment the two little grotesque figures entered to confront the intruders. "Well-a-day, now this is pretty good; where's mamma, Johnny?" said the astonished father, at the same time bidding his guests to be seated, "Why, she's gone a woman's right's meetin, and telled us be good chillen and she bring us sumsin' nice." "And so you thought you'd improve the opportunity by dressing up in her nice clothes, did you, Kitty? and Johnny, you rascal, what are you doing with my coat and hat—come to papa, my little girl, and show this lady and Uncle Albert what rosy cheeks you've got. Keeping house in mamma's parlor, eh? Go, Johnny, and tell Biddy to come and put this room in order.

But the dinner bell was heard at this moment, and the visitors were shown into the dining room, after having removed their trappings. Here was another scene of disorder. Biddy had been busy washing, attending to the children between times; but their playthings lay scattered all about the room. Noah's ark and its inhabitants were struggling amidst broken dolls and other toys, while the lounge was covered with broken gingerbread and the wrecks of a china tea set. The dinner table presented a meagre appearance. A joint of beef had been warmed over, and was badly scorched. Unpealed potatoes, bread with burnt crust and a heavy streak running through it, and fried parsnips completed the repast.

Biddy quickly brought the additional plate required, and then proceeded to take the children away for the purpose of divesting them of their superfluous finery, when they were met at the door by the astonished mother. "Well now, Bridget, did I ever! How came you to let those naughty children go to my room and—why who have we here? Is that you Albert and Annie too, I *do* declare! Well, well, I am amazed! The house in such confusion and a wash-day's dinner. I hope John has made you feel at home. I was unavoidably detained at the Suffrage meeting, and could not come a minute sooner. Those children have been turning everything topsey turvey. But then its all in a life time, and they will not always be babies. How does my bachelor brother enjoy his new life, and a home of his own? I suppose you are both as happy as a pair of turtle doves, and have everything just as you want it. We used to when we first went to housekeeping; but somehow or other, things have changed since then, and I am so much interested in outside affairs that I have no time to worry about home matters, so I let them go as they will. John makes a row, now and then, but men always do that, I find, so where's the use of trying to please them forever? Besides, one might spend all the time keeping things in running order, and have no chance to open a book."

So this was the home of sister Sue, the pattern house keeper and model wife! Two days spent in such a Babel was sufficient to make even Albert acknowledge that there was nothing of advantage to be gained there, so from that time he has ceased to annoy his young wife with unpleasant remarks about her short-comings and the superior house-keeping of "Sister Sue."

## THE FASHIONS.

[WRITTEN FOR THE PRESS.]

Now that the war in Europe continues, and the Parisians have other matters to attend to, than setting the fashions for the world; would it not be well for us, as American Women, to consider the subject of dress as a *fine art*, and endeavor to typify our individual natures, rather than merely copying other nations? That it may become a fine art, is possible, and probable too, if we only give the subject mature thought.

For instance, a certain style of hat comes up; and behold the reign of fashion! Old and young, beautiful and ugly, whether becoming or unbecoming, *all* must bow to its influence until something new takes its place; and all left on the hands of dealers, that is "old style" are shipped to supply markets more or less remote from the centre of civilization!

Indeed such a power has fashion become in this free country of ours that it holds despotic sway over rich and poor alike! Many honest men have been known to commit *crimes*, in their endeavors to save themselves from the ruin, their style of living, and the extravagance of their families have brought upon them, while those in humble life, aspiring to imitate their wealthier neighbors or friends, are lead into extravagance far beyond their means, and thus become bankrupts and discouraged, or worse—dishonest.

Among our women, the inordinate desire for dress, is making them reckless, hideous, and unhealthy; unfitting them for the duties of wife and mother—the natural and highest sphere of woman.

Acknowledging these evils as belonging to the wrong action of the love of dress, let us see what can be done to mitigate the evil and bring about a better state of things.

Ideality, or the love of the beautiful in our natures, is right, and should be cultivated, but let us not carry it to extremes; we should consider, first, the adaptability of certain styles of dress to the wearer; second, *means* of the purchaser; and third, the *occupation*.

A brunette should never wear sky blue; nor should a poor sewing girl indulge in velvets; and, how inappropriate to see the woman of business, at market in trailing silks!

Let us individualize ourselves in our style of dress; and also adapt our costume for the duties of our life. Let the dainty laces, indicate the fine sentiment of the wearer, or the simple linen collar, the matter of fact woman of family.

But for conscience sake, women of America! don't allow the finger of scorn to be pointed at us, as willing to ruin fathers, and husbands, for the mere gratification of buying the costliest fabrics, and attracting the attention of coarse crowds in streets and theatres, by a display, not of the intrinsic worth and value of the woman; but the dry goods and fashions from abroad!

L. P. J.

## Bookless Houses.

We form judgments of men from the little things about their houses, of which the owners perhaps never think.

Flowers about a rich man's house may signify only that he has a good gardener, or that he has refined neighbors, and does what he sees them do. But men are not accustomed to buy books unless they want them. If, on visiting the dwelling of a man of slender means, we find that he contents himself with cheap carpets and very plain furniture in order that he may purchase books, he rises at once in our esteem. Books are not made for furniture; but there is nothing else that so beautifully furnishes a house. The plainest row of books is more significant of refinement than the most elaborately carved sideboard.

Give us a house furnished with books rather than furniture. Both if you can; books at any rate. To spend several day in a friend's house, hungering for something to read while you are treading upon costly carpets and sitting upon luxuriant chairs, and sleeping upon down, is as if one were bribing your body for the sake of robbing your mind.

Books are the windows through which the soul looks out. A house without them is like a room without windows. No man has a right to bring up his children without surrounding them with books if he has the means to buy them with. It is a wrong to his family. Children learn to read by being in the presence of books. The love of knowledge comes with reading and grows upon it. And a love of knowledge in a young person is almost warrant against the inferior excitements of passion and vice.

Let us pity those poor rich men, who live barrenly in great bookless houses. Let us congratulate the poor that, in our day, books are so cheap that a man may every year add a hundred volumes to his library for the price of what his tobacco and his beer would cost him. Among the earliest ambitions to be excited in clerks, workmen, journeymen and, indeed, among all that are struggling in the race of life, is that of owning and constantly adding to it, a library of good books. A little library growing larger every year, is an honorable part of a young man's history.

It is a man's duty to have books. A library is not a luxury, but one of the necessaries of life.

"My dear, I am sorry to see you choosing your friends among the strong-minded women." "Indeed would you rather have your wife classed with the weak-minded ones—such as Harry K's wife, who actually used to go to her husband to ask what dress she had better wear?"

Pa, why don't we ever hear anything about men's rights and men's suffrage societies. Is it because the men never have to suffer as much as the women do? I once saw Uncle Ben sick with the gout, and he made a dreadful fuss, and I think they ought to let him in to some of their suffering societies sure.

The best men are those who bear a large portion of their mother's nature; and the best women those who combine the traits of both father and mother.

The difference between the love of a man and the love of a woman is this—the man is all to woman, while to man, woman is but a part of the many things that occupy his mind.

A Smile has very prettily been called the whisper of a laugh.

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SAN FRANCISCO:

Saturday, January 14, 1871.

**Subscriptions are Coming** along lively for the PACIFIC RURAL PRESS. There was never a time when intelligent and well directed efforts were more needed, in farming on this coast, than the present. Every reader of our first number is now more thoroughly convinced of the value of such a journal to the special interests and general welfare of the community.

One hundred and nineteen names have come in, on one list, from Sacramento—where we already had a respectable representation. Forty names were received from Stockton in two days. Our list there will number over one hundred of its best citizens. San Jose, where our list is large, is increasing its orders. Napa, Santa Cruz, San Diego and other counties have sent us clubs and *material* encouragement, while remittances are daily coming in from other parts of the Pacific and Eastern states.

We feel encouraged with the result of our enterprise, so far, and only ask that its friends everywhere still continue to extend their efforts, practically, in its behalf.

## OUR WEEKLY CROP.

A stroll through our ranch this week shows a flourishing state of affairs, as could not well be otherwise, since the rains have come to our aid. Right at the entrance we find a full-blown illustration of the Thompson Road Steamer, lately imported and promising a rich yield. Next come the beds of Progress in Science and Mechanics; opposite to which is a flowery description written by one Bound East; also crops of interest to Tide Land Owners, and a new species of Granular Fuel,—giving variety to the scene.

The next crop is Opium, by the side of which a New Plow has been left. A short distance away stands a grove of Trees, principally the *Oregon Tea-Tree* and the *Lawson Cypress*. Our Sheep Fold is here, and here also is an interesting collection of Farm Novelties. Turning a corner, we come to the Vineyard, and then to a scene of Corn Husking, where the working of a new device is illustrated. We stop here and make a few Agricultural Notes. Then coming to the cheerful Home Circle, we have a chat concerning Good Wives, Housekeeping, the Fashions, Bookless Houses, etc.

Tree Pruning, Beet Sugar, Ramie,—all these are shown in the next field, where are grouped some good Hints to Emigrants. Then comes an example of Winter Irrigation, and then another Flower Garden, where the *Wulfenia* is blooming. Then follows another rest over our Household Reading.

The last corner turned, we see some excellent Farmers' Gardens, and the farmer tells us how precious the rain has been to him, and goes off into a description of the Rainy Season for Twenty-One Years. The Cal. State Agricultural Society has here a nook, and here too is shown a notable example of Woman's Influence. Then, with a parting gift of sweet Beet Sugar and a copy of the latest Market Reports, our readers issue from the rear entrance of our farm, where the advertisements grow luxuriantly.

BEET SUGAR AGENCY.—We would state that the samples of California beet sugar, mentioned by us last week, came from Messrs. Perkins & Flint, corner of Greenwich and Battery sts., general agents for the Alvarado manufacturing company. We believe the Company has been fortunate in the selection of their agency for this important and meritorious product.

AMONG the articles highly commended in our first issue was that of Dr. E. S. Carr, on the Needs of Agricultural Communities. We have the satisfaction of saying that the Dr. will continue his valuable contributions for the PRESS.

## TREE PRUNING.

Tree pruning is not only an art, but a science as well. To do it right requires much study, observation and experience; or at least the instruction of such experience.

Here is a row of street trees, that must be trained high before they, are allowed to branch much; and then to present full, well balanced tops, they must be headed in, or the leading branches must be shortened occasionally.

But *that* line of trees which has been planted for a screen, and a shelter against winds, must be allowed to branch low—as close to the ground as convenient and be so pruned as to show a close, compact and even face. Trees planted for shade and for ornament should be so trained as to fully meet a design, in conformity to the conditions and surroundings.

Shade trees should be trained high enough to allow a free circulation of air, and clear unobstructed view beneath their branches; then be made to spread wide, and equally on all sides. Or a group of them may be so trained together as to resemble one immense tree, at a distance, when large enough, by the center ones being the tallest, and the outer ones spreading out on all sides.

Too many shade trees, close about houses, are objectionable; sunlight is better than shade for health; and a free circulation of air about our dwelling is necessary and very salutary.

A lawn with a few plants and shrubs about a dwelling is better than a dense growth of trees.

Trees standing in an open exposure need less pruning and training than such as are shaded or crowded by others, for they can spread evenly and naturally; but if obstructed on either side, they soon grow out of symetrical proportion.

Evergreen trees are very seldom planted with a due regard to good taste. They are too often set directly in front of buildings, so as to hide what they should rather embelish, and to obstruct the view, when they should enliven it. But when planted in front, they may be pruned in the form of pillars, until they rise sufficiently high to allow them to spread to advantage.

When so trained they give a very pleasing effect, while if allowed to spread from the ground they soon obstruct all the vision, and break the healthy flow of air.

It is better to plant right at first, and then prune accordingly. The natural form of an evergreen is ordinarily the prettiest shape. When planted for a shelter and to hide back yards and buildings, while they lend beauty to the front by forming a substantial back ground of massive green, they may be preserved in all their native elegance with the best effect.

### "Orchard Pruning."

is of more substantial importance than ornamental, to many of our readers; so we will generalize a little on this subject, also.

"Low training" is a theory that has become exploded with all our old orchardists. And for this reason:—It is quite as essential to cultivate the soil as it is to prune orchards, in this country of dry summers. And to cultivate a large orchard economically animals must be employed.

To do this to advantage the lower branches of the trees must be so high as not to interfere with the laborer.

A tree will bear sooner, and more, while young, if trained low down; but the best and healthiest orchards in this State are those that were trained high from the start.

A young orchard should be pruned and trained more to obtain a suitable size and shape of tree than *especially* for fruit. They will bear enough while young, if trained right. After the trees of an orchard have obtained a good size, a system of "spur pruning" will give the best results, and the trees will be able to stand better under a full load of fruit.

Pruning may be done from fall until spring. During our long growing seasons, the limbs of trees become so long and slender as to soon break down under the loads of fruit, if not attended to.

A tree with numerous strong limbs and fruit spurs is in the best shape and condition to produce abundantly. After proper pruning, a little seasonable, judicious thinning of fruit is enough.

## TO EASTERN FARMERS.

To those who contemplate coming to California to settle, we would say that this is our early spring. Come at once, if you contemplate operating the approaching season. Our grain sowing, planting and transplating lasts from November to May, and sometimes even to June, in some sections of the state; although early, sowing is becoming altogether the most popular.

The present winter now promises a much more favorable season than the last one for immigrants. Desirable land is to be had at more favorable prices than heretofore,—the schemes of land speculators having failed. Our railroads are stretching themselves out into various sections of the state, bringing the days of cheaper transportation near at hand; a good fall of rain has already descended, almost guaranteeing abundant crops; the condition of Europe promises high prices for exports; greenbacks, which our Atlantic friends have formerly had to sell at a great sacrifice, are nearer at par with gold; lumber and nearly all classes of building materials are held at more moderate prices than formerly; and the antagonism between labor and capital is dying out.

The capacities of our soils and the best modes of treating them are being better understood; and, all things considered, we doubt if there has ever been a period in which new comers (of the desirable class, who consider it respectable to be economical), have been successful in so large a ratio, as well as those who this season will enter this and the contiguous states, with capital sufficient to engage in farming or manufacturing on their own account. We advise none to come without some money. Our cities are overrun with employees, many of whom would do better than working now and then a day, if they had the capital and will to develop the natural and rich resources of our great interior, both farms and mines.

## TO CLUBS.

Send in your subscriptions as fast as obtained. After the first ten names have been paid for, others can be added within any reasonable time, thereafter on the same terms. Clubs may be composed partly of names for RURAL, and partly for SCIENTIFIC PRESS Blanks and extra copies furnished when desired.

THE RAIN.—After some four weeks of dry weather, much of the time cloudless days and frosty nights, during which the roads had become dry and dusty, and plowing had almost ceased, we have again been blessed with rain—not as much as we would desire; but still enough to encourage, not only the farmers, but all others, to hope for at least a moderately favorable season and fair crops. The rain commenced in Oregon, several days before it reached this latitude, and has traveled as far south as San Diego, embracing the entire State of California in its pluvial favors. In the northern and central portions of the State it has been quite copious, and a large quantity of snow has fallen in the Sierras and beyond, in the State of Nevada.

THE CORN HUSKING GLOVES, illustrated to-day, can be seen at Weister & Co.'s, No. 17, New Montgomery st., San Francisco, under Grand Hotel. W. & Co. have also a large number of other useful novelties on hand now.

### A CARD.

Having seen the prospectus of the PACIFIC RURAL PRESS, and believing there is great need in our comparatively new agricultural districts of such a journal as therein proposed, the undersigned do not hesitate to state that from the standing reputation and success of its publishers, (Messrs. Dewey & Co., proprietors of the SCENTIFIC PRESS,) we believe the new journal will be worthy of universal trial by our agricultural and rural population, and that its publication will be fruitful of much usefulness to its subscribers and in forwarding the development of our natural wealth and prolific resources.

CHAS. F. REED, President State Agricultural Society.
DR. J. S. CURTIS, Yolo Co.
WM. H. PARKS, late Prest. North'n Dist. Ag. Society.
ROB'T BECK, Sec'y Cal. State Agricultural Society.
C. T. WHEELER, Member State Board of Agriculture.
ROB'T HAMILTON, member St. Board of Agriculture.
E. MILLS, Member State Board of Agriculture.
I. N. HOAG, late Sec'y State Agricultural Society.
O. C. WHEELER, formerly Sec. State Agricultural Soc.
G. N. SWEZY, Prest. North'n Dist. Ag. Society of Cal.
J. K. DOAK, Prest. San Joaquin Agricultural Society.
ROB'T WATT, State Controller.
JOHN BIDWELL, Prest. Chico Ag. Society.
EZRA S. CARR, Prof. of Agriculture and Ag. Chem., Cal. State University.
E. J. HOLDEN, formerly Prest. San Joaquin Ag. Society.
HARMEN BAY, Prest. Upper Sacramento Ag. Society.
E. HALLET, Secy. Upper Sac. Ag. Society.
R. B. SWAIN, Prest Chamber of Commerce, S. F.
H. N. BOLANDER, Prest. Bay Dist. Hort'l Society.
A. S HALLIDIE, Mechanics' Institute of the city of S. F.
HENRY KIMBALL, Prest. Odd Fellows Library, As'n S.F.

## BEET SUGAR IN CALIFORNIA.

Beet Sugar making having proved as successful here as in other countries, it may be interesting to count the advantages we have here, over European sugar makers. There appears to be a remarkable uniformity in the percentage of sugar in the white Silesian beet, wherever it is used for extraction. Eight per cent. is the European yield of sugar to the ton of beets. It is the same in Wisconsin and in California. But, while 15 tons of beets are a large yield to the acre in Europe, *thirty* tons are not an over estimate for a favorable yield in the California bottom lands. Herein we have one great advantage.

In Europe, the season for beets is very short—about two months. After that, frost comes, and the crop has to be put under cover, involving much handling and carting. Besides, beets lose some of their sugar, by chemical conversion, in subterranean packing. Here, beets may stand in afield all winter and be used as required. It is only in spring time, when they begin to take a second start to form the seed, that the season for milling closes. The sugar during the second growth, is all utilized by the plant in forming its seed; and as this process begins immediately with the commencement of the second growth, the beet must be taken from the ground before seed growth commences. Experience seems also to show that such of the beets as manifest a disposition to excessive growth should be taken from the ground and their increase arrested after it arrives at its maximum size for saccharine yield.

Our dry summer climate also gives us another important advantage over the moist climate of Europe and the Eastern United States, in the fact that we may here cut and dry the beet, and thus keep it for an indefinite time. Though it loses 80 per cent. of its weight in moisture by drying, it loses no sugar by the process. In this way the works can be kept a going till new beets are ripe for extraction, and the beet may also be grown and dried on cheap land, at a distance from the sugarie—the cost of transportation of the dried beet—75 per cent. less in weight—will be very small.

FRENCH SILK MANUFACTURERS CHANGING BASE OF OPERATIONS.—The following item will be read with interest by California silk growers:—"An attempt is to be made to manufacture silks in New York or its vicinity on a scale never yet undertaken. The war has paralyzed the silk business in France, and even were there to be a declaration of peace to-morrow, nothing would be done there for some time. A French firm which has an agency here, proposes to bring some of its workmen to New York, and start a factory, where it will turn out goods equal to those it imports. The cocoons and the eggs will be brought from Japan, and experiment will be made immediately to see if the worms can be fed on the ailanthus trees."

## WINTER IRRIGATION.

Nearly all the hill and valley land in this state, if once thoroughly saturated with water, during the winter months, will produce a crop without any, or at least but little more rain for the season; in many localities a sufficient quantity of rain does not fall during the entire winter to thoroughly saturate the soil, down to the point where water always stands, or to a reasonable depth below the surface; in some localities the ground is too impervious to admit the rains, in others it presents such facilities for surface drainage that opportunity is not given for saturating the soil, notwithstanding the abundance of rain.

We all know that in this country, when the rainy season is over, the growing plants depend upon the moisture that has been stored up in the soil, except in a few very limited districts where summer irrigation has been introduced. If that supply is insufficient, crops must fail; and hence the necessity of artificial means to supply the deficiency when it occurs from either of the above mentioned causes.

This may be accomplished in various ways, the chief of which is to erect dams upon the smaller streams to hinder the too rapid flow of water in winter, and compel it to find its way into the ground by leading it out upon the adjoining lands. A mammoth scheme of this kind was projected some two or three years ago for Yolo and Calaveras counties, whereby the overflow of the Sacramento was to be conducted by ditches to much of the land that is situated above the highest overflow of that river, and to be distributed by a series of dams forming large ponds and lakes, wherein the water was to be retained until the ground was completely saturated, and then let out to pass on and irrigate, in a similar manner, lower grounds. The beneficial results from such "winter irrigation," would be incalculable—better in many respects than summer irrigation, and far less costly. There are large tracts of land in various portions of the state which might be subjected to this kind of treatment. We have not, of late, heard anything of this Yolo scheme for winter irrigation.

Much might be done in this direction by breaking up and ridging the land with the plow at right angles with the slope of the water shed. The rainfall might thus be much more largely utilized over what would be gained from it with the land in its natural condition.

We are always sure, in California, of some rain in due season, and whenever, as of late, the signs indicate but a small supply, every reasonable effort should be made to make the most of what we have. There are thousands of farms in the state that border upon streams which flow only when it rains, or for a short time after. When drouth is threatened the water should be turned out of such streams at frequent intervals, and made to flow broadly and slowly over the land or stand in pools and ponds until it is all absorbed. It may thus be almost as effectually employed as though it were conducted into great reservoirs, and stored up, during the winter, for use in summer.

Works to accomplish this purpose may be made permanent, and generally at a trifling expense, and so as to require very little attention at any time after their first construction. A large portion of the immense body of water that finds its way through the Golden Gate, might thus be kept back to fertilize the soil, and stand in place of summer rains, which we never get in California.

We would urge the importance of these suggestions upon the attention of our land owners generally. Let every farmer look around his acres and see if he cannot find some of these surface drains that he can stop up, and compel the water to go down into the soil, instead of running off into rivers and ocean. Sink it deep, and you have it where it will do you as much good as though it were standing in cisterns upon your hill-tops; for the summer sun will begin to pump it up about the roots of your plants, just at the time and just in the place you will want it.

# THE FLOWER GARDEN.

## THE KIDNEY-LEAVED WULFENIA.

We embellish our "Flower Garden" department for this week, with the accompanying illustration of one of California's most beautiful flowrets. The *Kidney-leaved Wulfenia*, which belongs to the Figwort family. This is a plant rarely met with in this region, although it is abundant on the Columbia River and in Oregon. The specimen from which the sketch has been made was procured by Prof. Bolander, from a messy ledge in Marin County. This plant is liable to be mistaken for the *Romanzoffia Sitkensis*, another Pacific Coast plant, named in honor of Prince Romanoff, of the Imperial family of Russia, and found very abundantly in this vicinity. The plant which we illustrate is very pretty for a border or rock-plant, while, in its blossoms of blue, it is arranged much like the European forget-me-not. Our florists would no doubt find it much to their advantage if they would pay more attention to obtaining and propogating the more rare varieties of our native flowers and plants. Californians should take a pride in cultivating and showing to their visitors—especially those from the East—a choice variety of *native* flowers, shrubs and plants. We shall do what we can to stimulate a feeling of this kind by giving, from time to time, illustrations and descriptions of some of the more useful and ornamental plants which are peculiar to this coast.

KIDNEY-LEAVED WULFENIA—(*Wulfenia reniformis*)—Doug.—DR. A. KELLOGG, *del. u. sc.*

## HOW TO HAVE GOOD ROSES.

To secure good flowers, and a constant bloom with the Teas, Bourbons and other perpetual varieties, a few things are necessary. First, all fading and finished blooms should be clipped off. Nature seems to tend always to the production of *seed*, as the object of bloom and fructification. As the amateur florist does not want *rose seed*, but *flowers*, allowing the former to remain on is not only unsightly, but is far more exhausting to the plant than profuse blooming.

2d. The rose slug, living on the green part of the leaf till only the skeleton is left must be removed without delay. This we accomplish very readily by injecting, with a common tin syringe, soap suds made from carbolic soap in a common watering pot. The slug works mostly on the under side of the leaf, but the carbolic soap, with which the whole bush should be deluged, if it does not kill outright, soon displaces it by its offensiveness peculiarly obnoxious to all insect life. [The aphis and other annoying insects may be got rid of in the same way, ED. RURAL.]

3d. The soil around the bush having been manured in the spring and preceeding fall with stable manure, soap suds should be applied each wash day, and twice a week about a pint of chamber ley to each plant.

By these means and an occasional shortening in of a too straggling branch, roses may be kept in bloom from early spring till within nearly a month of Christmas.

A slight mulch at the base of the stem, of short grass, hay, or weeds, (in case any of these latter can be found,) will also be a great advantage. If there are no weeds on the property, perhaps a few can be procured at a neighbor's.—*Practical Farmer.*

## BULBS AND THEIR CULTURE.

The ground should be deeply dug—18 inches is not too deep—well pulverized, should be moderately rich, but no manure should be used. Hyacinths should be planted from three to four inches deep. Tulips may be planted in a separate bed. Some plant hyacinths in circles of four or six of different colors, and between these, smaller circles of crocus. In the centers of the circle of hyacinths, an iris, lily, or crown imperial may be planted. The same system may be adopted with tulips. The Narcissus is a beautiful and early flowering bulb. There are now several improved varieties of them—double, polyanthus, and single narcissus. They are planted as tulips, and are of the easiest culture. The colors are mostly yellow, of different shades; but there are some white, fragrant and beautiful. The Crocus may be planted in the borders of beds, or in clusters. Anemones can only be safely planted in the months above named, in fine, friable, well-drained soils. Snowdrops show their beautiful flowers on the first indications of spring—sometimes they will peep above the snow. They should be planted in the manner of the crocus. They give a white flower. The Scilla, a Siberian bulb, is another of the beautiful early flowers of spring. They can be planted, like the crocus and snowdrop, on the borders of beds. The flowers are of different colors, white, red, and intense blue. The varieties of the Iris furnish handsome flowers. Their flowers are of different shades and markings, and no garden should be without them. They are of the easiest culture. The Crown Imperial, in flower, is extremely beautiful—though its fragrance cannot be praised. The Frittellaria is a smaller variety of the crown imperial, with singularly marked flowers, and is sometimes known as the guinea-hen plant. It will thrive in any common soil. The Jonquil is an early flowering bulb—the flower fragrant. The Lilies are now attracting much attention. The varieties of Japan lilies are extremely beautiful. The Golden-banded Lily is the queen of lilies. No description can do them justice.—*Willamette Farmer.*

No person, who makes any pretensions to a flower garden, should be without some of the bulbs above named. They can be planted as above suggested, or in any other way to suit the taste of the ladies or other cultivators, or the peculiarities of the locality where planted.

## INTERESTING TO FLORISTS.

The following letter, addressed, on the 7th of December last, to the editor of the Oakland *News*, by Mr. John Ross, the well-known florist of Third street, Oakland, will be interesting to florists and others, as a hint for the future. The experience of 1870, very nearly coincides with that of 1869, as given by Mr. R., and should lead the lovers of flowers to look after their pets closely, during the two last weeks in December, as the most dangerous of any portion of the winter. If they survive the frosts of those days, they may be considered as safe for the winter.

ED. *News*:—As the winter has now fairly set in—for we have had both rain and frost—and as rain during the season is more than probable, calculations for a corresponding amount of frost may therefore be anticipated. It would, therefore, be well for those taking an interest in garden decoration and who desire a good display of flowers during the ensuing season, to guard against the coming frosts by protecting those plants that are liable to be injured by a low temperature. From observations made during the last few years, I find that from the eighteenth to the twenty-fourth of December, our shortest days, great frosts prevail. On December 19th, 21st and 22nd, 1869, the temperature on those dates was 29 degrees, 27 degrees and 26 degrees, respectively; and on December 18th and 19th, 1865, was as low as 22 degrees, Fah. or ten degrees below the freezing point, the lowest ever attained during my observations in this locality. I mention these dates more particularly as these cold periods often succeed a long run of mild weather when few are prepared for so great a change. The same care, however, should be exercised during the rest of the winter, as a temperature not lower than 27 degrees will destroy many of our favorite plants, particularly those of a semi-tropical nature.

Oakland, Dec. 7. J. R.

## OUR CALIFORNIA TYPE.

In parting, at the close of our last volume, with our old typographical "dress," and issuing our papers in new type it is with pleasure that we can say a good word for the old font which served our use for four years, and received the praise of many readers for its plain, durable and easily read face. Cast by Messrs. Faulkner & Son, in 1866, it was the first font issued of California made type, and has worn better than any other body type we have ever used in a long period of printing and publishing experience.

Since the establishment of the above-named type-foundry on this coast, the business has increased very rapidly, until there are now three firms and about 100 persons employed in the business of making and furnishing type and printing materials in this city. The first and largest of these is the California Type Foundry Company, of which Mr. Geo. L. Faulkner is agent. This company has recently removed their salesroom and manufactory to more spacious and convenient apartments on the first and third floors of Nos. 405 and 407, Sansome street. Dealing with Mr. Faulkner since 1859, we will say, for the benefit of others of our fraternity, that we have ever found him both reliable and liberal. Lately, no less than four important inventions connected with type making and composing have been invented in this city, some of which will doubtless be introduced throughout the civilized world. Our type-founders and electrotypers number some of the most expert and experienced craftsmen in the United States, and there are but three or four cities in the Union where the business is so large and enterprisingly conducted.

# HOUSEHOLD READING.

## High Heeled Shoes and Flat Feet.

Much, but not half enough is being said with regard to the high and small heeled shoes so generally worn by the ladies at the present time. A persistent use of such heels will destroy the beauty of the best formed foot, besides producing other physiological deformities and injuries.

A high heeled shoe, with the slender point usually given to it, cannot properly support the arch of the foot; but allows it to sink, whereby the bones and ligaments become stretched, weakened and displaced, and the foot becomes flattened and more elongated—in other words the person becomes flat-footed, and looses the elasticity and strength of step, and grace of motion which nature designed in the construction of the arch. People with high arched feet walk easier, more graceful and with much less fatigue than those with flat feet. A depression of the natural arch of the foot will often increase its length from a half to three quarters of an inch.

High heeled shoes weaken the ankles and place them in a condition to be easily "turned"—sprained, with the slightest misstep. The injuries sustained from their use, will be permanent, and productive of very disagreeable consequences in after life, not the least of which will be a premature tottering of age. There is neither beauty, nor comliness nor comfort in the fashion, the effects of which are already plainly seen in the altered gait of many ladies which we meet upon the streets of this city. The natural elasticity of step is fast giving way to the tottering gait, so conspicuous in Chinese females. The heel, as usually worn, is at least twice as high as it should be, and the surface of the same not more than half what is required to give a steady and firm support to the person.

The Japanese and some of the Chinese, who follow a similar fashion in the manufacture of their shoe heels, have at least sense enough to make the heels broad, so as to give a comparatively firm tread, and prevent the straining and weakening effect produced upon the ankles by the "pointed" heels which seem to be so attractive to our American ladies.

LIVER AS FOOD.—We cannot too strongly denounce the use of liver and kidneys as food for man. These organs are constantly charged with the worn out, excrementitivas matters of the system, the presence of which, when rightly understood, are disgustingly offensive to the taste. Their presence is evinced by the fact that these portions of an animal are always the parts first subject to decomposition. They make very good food for hens and dogs; but for man—never!

HOW TO REMOVE HAIR FROM THE PERSON.—A correspondent asks the *Herald of Health* how hair can be removed permanently, and remarks, "I have been told to pull it out; but it grows in about as fast as I pull it out." The *Herald* answers as follows: "The least injurious way is to *continue* pulling it out, until the glands about the root become so weakened as to be unable to replenish it. Two or three times pulling it out will be sufficient with some, while others may have to repeat it half a dozen times or more."

HUSBANDS ought to "keep out of the kitchen." A husband who did not, writes thus of the consequences: "I found fault, some time ago, with Maria Ann's custard pie, and tried to tell her how my mother made pie. Maria made the pie after my recipe. It lasted longer than any other pie we ever had Maria set it on the table every day for dinner, and you see I could not eat it because I forgot to tell her to put in any eggs or shortening. I was economical, but in a fit of generosity I stole it from the pantry and gave it to a little boy in the neighborhood. The boy's funeral was largely attended by his former playmates. I did not go myself."—*Western Home.*

## Buckwheat Cakes—Are they Wholesome?

It is very common to class buckwheat cakes, in reference to digestibility, with "flannel cakes," which are made of wheat flour; but they differ materially. There is an instinct that gives relish to buckwheat in cold weather, which is explained by the fact that that description of flour gives out more heat to the body, while wheat gives more nutriment and less heat. The stomach will bear a greater quantity of buckwheat, for it is lighter and spongy, and the gastric juice readily permeates the pulpy mass and gives it easy digestion. It cannot assume the doughy toughness that makes wheaten cakes so hard to digest. To mix wheat-flour with buckwheat, is to take away the best properties of buckwheat cakes. No other cake can be eaten hot from the griddle without injurious effects akin to those of hot bread. While buckwheat cakes are undoubtedly wholesome, their deficiency of gluten requires that we do not make our meals exclusively of them.

In California we produce buckwheat of superior quality, and on Sherman Island, for instance, three crops a year can be grown. Now this meal is peculiarly suitable to the people of the Bay district, at all seasons. Heat-making food is never objectionable in that locality, and we eat meat enough to supply all the strength we need. Buckwheat cakes, not alloyed with wheat-flour, are therefore healthful here, and in all cool climates, at all seasons, when taken in moderation.

POISONED TARLATAN.—A lady in Berlin bought six yards of green tarlatan for a ball dress for her daughter. The mother, who assisted in making the dress, and the daughter who wore it, at the same time fell dangerously sick and had a narrow escape from death. The medical adviser of the family at once discovered poisoning by arsenic. The green dress was chemically analyzed, and it was found that the coloring contained thirteen per cent. of arsenic. The merchant was summoned before the criminal court; but he was acquitted, for the reason that he could prove he had advised the purchasers of the poisonous quality of the color used to tint the tarlatan.

CURING MEAT.—At this season of the year the thoughts of almost every farmer naturally turn more or less to the processes of curing meat for the winter's use. Most farmers have a pig or two to salt down, and some have mutton or beef, and the quality of the meat which is to furnish food for the family, will depend a good deal on the way in which it is cured. There are various modes of curing meat, but one of the best, perhaps, is that suggested by the Germantown *Telegraph*, which is as follows:

To one gallon of water, take one and a half pounds of salt, half a pound of sugar, half an ounce of saltpetre, half an ounce of potash. In this ratio the pickle to be increased to any quantity desired. Let these be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when *cold*, pour it over your beef or pork, to remain the usual time, say four or five weeks. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpetre, which removes all the surface blood, etc., leaving the meat fresh and clean. Some omit boiling the pickle, and find it to answer well; though the operation of boiling purifies the pickle by throwing off the dirt always to be found in salt and sugar.

If this receipt is properly tried it will never be abandoned. There is none that surpass it, if so good.

HOW TO CURE A COLD.—The *Herald of Health* says:—Upon the first indication that you have taken a cold. Stop eating until the cold is eased; drink freely of cold water; induce a free perspiration over the whole body, either by exercise, vapor or hot water bath, or by going to bed and covering up warm; breathe all the pure air you can. In most cases a cold will yield to this treatment in 12 hours, or at most in 24.

## Household Receipts.

HOW TO COOK DRIED BEEF.—Place the beef, nicely shaved off, in a frying-pan, with butter enough to fry it; let it fry until a little browned, then sprinkle in dry flour, as much as you would take were you going to mix it with water; let it brown but take great care not to burn it. When browned sufficiently, add cream or milk enough to make a gravy; let it boil a few moments, add a little butter and pepper and it is done.

Some very frequently boil eggs and cut them up lengthwise, and lay them around on the meat after it is poured on the platter. This makes a very pretty and palatable dish, and with some nice mashed potato, and sweet potatoes and tomatoes with sugar, and just a trifle of vinegar poured over them, supplies a very good breakfast.

Another way to cook dried beef is to cut up a sausage in slices and fry until there is enough fat tried out to fry the meat; then put in the beef, and proceed just as for frying in butter, using water instead of milk or cream for the gravy. This gives an excellent flavor unless sausage is disliked.

TO MAKE SAUSAGES.—Thirty pounds of chopped meat; eight ounces salt; two and one-fourth ounces pepper; two teacups of sweet marjoram. Pass the two last through a fine sieve. If you prefer it, thyme and summer savory may be substituted for the latter.

SODA BISCUITS.—One pound of flour, two tea-spoonfuls of cream of tartar into the flour dry; disolve the soda in a little milk; wet the whole with milk, making it sufficiently stiff to mould into biscuits.

INDIAN CAKE.—One cup Indian meal with one pint of milk, two eggs; one tablespoonful sugar, a piece of butter the size of a walnut, half a teaspoonful of soda. Bake half an hour.

CREAM PIE.—One cup sugar, one egg, piece of butter size of an egg, one teaspoon soda dissolved in a cup of sweet milk; add to this, when mixed together, two teaspoons cream tartar rubbed in three cups of flour, and bake in three jelly cake tins.

The Cream for the inside of the Pie.—One one-half cups milk; when boiling add seven teaspoons cornstarch, wet with cold milk; let it scald a moment, then add two well beaten eggs; sweeten to taste, and flavor with lemon or vanilla.

Split the cakes when cold, spread them with the cream, and put together again like jelly cake.

A PINK-COLORED PANCAKE.—Boil a large beet root tender, and beat it fine in a marble mortar, then add the yolk of four eggs, two spoonfuls of flour, and three spoonfuls of good cream, sweeten it for your taste; grate in half a nutmeg and put in a glass of brandy; beat them all together half an hour; fry them in butter, and garnish them with green sweetmeats, preserved apricots, or green sprigs of myrtle. It is a pretty corner dish for either dinner or supper.

## Mechanical Hints.

TO FIX DRAWINGS AND DESIGNS.—It may be useful to designers and others to know that pencil and chalk drawings can be set by washing them over with water in which isinglass or any colorless size has been dissolved; it may be necessary, after the first coat is dry to go over it with a second coat. When this wash is perfectly dry, the work may be varnished with one or two coats of a white spirit varnish, or what is perhaps preferable, a varnish of equal parts of Canada balsam and spirits of turpentine; this last varnish will produce a beautiful gloss and possesses the advantage of being able to stand washing with soap and water. It will be found necessary to apply the isinglass solution very gently, and not go over any part a second time until the first coat shall be perfectly dry, otherwise the lines of the work may be disturbed. It is also necessary to keep the work from the dust, or particles may adhere to the lines and mar the beauty of the work; care must be taken to have the brushes perfectly clean.

HOW TO TREAT A BURNING CHIMNEY.—SALT FOR EXTINGUISHING FIRE.—If it is desired to extinguish the fire in a chimney which has been lighted by a fire in the fireplace, shut all the doors of the apartment so as to prevent any current of air up the chimney, then throw a few handsfuls of common fine salt upon the fire, which will immediately extinguish the same. The philosophy of this is, that in the process of burning the salt, muratic acid gas is evolved, which is a prompt extinguisher of fire.

A SEA-WEED, belonging to the same genos as the Irish Moss found abundantly on the coast of France, is now used in that country for clarifying beer, as being much more economical, and better suited to the purpose than gelatin.

## Life Thoughts.

Not to hear conscience is the way to silence it.

One hour to-day is worth two to-morrow.

You never lose by doing a good turn.

The beauty of holiness, like the sun, is seen by its own light.

Slander injures threefold—him that utters, him that is attacked, and him that hearkens.

Virtue shines, though contemptibly clad, and is recognized and respected by noble minds.

A man that hoards riches and enjoys them not is like an ass that carries gold and eats thistles.

There is no such thing as a menial office when you put a true man into it. A menial office is an office with a mean man in it; and it makes no difference whether it is a king's office or a scavenger's office.

Hope is the last thing that dies in a man, and although it may often deceive us in the journey of life, yet it conducts us along an easier and more pleasant path to our journey's end.

Cherish thy mother; brief, perchance, the time may be that she may claim the care she gave.

Depend upon yourself; riding upon the shoulders of another is dangerous and foolish. If you are not cast off into a disagreeable place, you may be let down in a very ugly manner, when you least expect it.

To be free from desire is *money*; to be free from the rage of perpetually buying something new is a certain revenue; to be content with what we possess constitutes the greatest and most certain of riches.

WHENEVER you buy or sell, let or hire, make a clean bargain, and never trust to "We shan't disagree about trifles."

CONVERSATION is the daughter of reasoning, the mother of knowledge, the breath of the soul, the commerce of hearts, the bond of friendship, the nourishment of content and the occupation of men of wit.

VALUE no man for his opinion, but esteem him according as his life corresponds with the rules of piety and justice. A man's actions, not his conceptions, render him valuable.

No cause has ever been noble enough wholly to enoble fight, for selfishness has always been one of the chief impelling forces.

## The Industry of Interest.

No blister, says Beecher, draws sharper than interest does. Of all Industries none is comparable to that of interest. It works all day and night, in fair weather and foul. It has no sound in its footsteps, but travels fast. It gnaws at a man's substance with invisible teeth. It binds industry with its film, as a fly is bound in a spider's web. Debts roll a man over and over, binding hand and foot, and letting him hang upon the fatal mesh until long-legged interest devours him. There is but one thing on a farm like it, and that is the Canada thistle, which swarms new plants every time you break its roots, whose blossoms are prolific, and every flower the father of a million seeds. Every leaf is an awl, every branch a spear, and every plant like a platoon of bayonets, and a field of them like an armed host. The whole plant is a torment and vegetable curse. And yet a farmer had better make his bed of Canada thistles than to attempt to be at ease upon interest.

## Be Social at Home.

BE SOCIAL AT HOME.—Let parents talk much and talk well at home. A father who is habitually silent in his own house, may be in many respects a wise man; but he is not wise in his silence. We sometimes see parents, who are the life of every company which they enter, dull, silent, uninteresting at home among the children. If they have not mental activity and mental stores sufficient for both, let them first provide for their own household. Ireland exports beef and wheat, and lives on potatoes; and they fare as poorly who reserve their social charms for companions abroad, and keep their dullness for home consumption. It is better to instruct children and make them happy at home, than it is to charm strangers or amuse friends. A silent home is a dull place for young people—a place from which they will escape if they can. They will talk or think of being "shut up" there; and the youth who does not love home is in danger.

## ANGLEWORMS--BY JOSH BILLINGS.

Angleworms are of arth, arthy, and crawl for a living. They live in rich ground—ground that won't raise angleworms, won't raise anything else; and where angleworms rejoice, corn is sure to be "bully." If you want your angleworms of enny size, you minure your sile. There ain't nothing on arth more miserable tew ponder over and weep about than a half-starved angleworm. Angleworms are a sure crop on good sile, and handy tew hoe, for they plant and harvest themselves.

They don't take up much room in the ground, and are az kind to children az a piece of red tape.

It is sed by the naturalists that angleworm ile rubbed on the back of the neck will cure a man of the lies. I don't beleave this, unless it kills the man. Death is the only reliable heal for lying that has been discovered yet. When lieing gets into a man's blood the only way to get it out is to drain him dry.

Angleworms are used as an article of diet to catch fish with; they are handy tew put onto a hook, and handy tew take oph again, as anybody knows who has straddled a saw-log and fished for daice all day long, Sunday, in a millpond.

Old fishermen alwus carry their worms in their mouth.

Angleworms live in a round hole, which they fit like a gimblet, and are different from all other creepers that I know ov, for they alwuz back into their holes.

Here the natural angleworm ends.

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THE OCEAN CABLES which have been injured, causing the scarcity of news at present from Europe, are those laid in 1865 and 1866. The French cable is now the only means of communication across the ocean. When the injured wires will be repaired is doubtful. The N. Y. *World* has interviewed Mr. Cyrus Field on the matter. Mr. Field negatived the idea of laying a new cable, the expenses being too large. The cable of 1865 was £600,000 at the bottom of the Atlantic, that of 1866 was $600,000. The three cable systems cost £19,000,000 in gold. The dividends are small. Low rates have not brought a corresponding increase of business, and very likely the companies will not return to their former lowest tariff. There is more telegraphic communication between New York and Boston than between Europe and America.

---

TEN FRIENDS.—"I wish that I'd good friends to hold me on in life!" cried lazy Dennis, with a yawn. "Good friends! why, you've ten!" replied his master. "I'm sure I've not half so many, and those that I have are too poor to help me." "Count your fingers, my boy," cried his master. Dennis looked down on his big, strong hands. "Count thumbs and all," added the master. "I have—there are ten," said the lad. "Then never say that you have not ten good friends, able to help you on in life. Try what those true friends can do before you go grumbling and fretting because you do not get help from others."

---

WILD OATS have been described as a crop that is generally sown between eighteen and twenty-five. The harvest sets in about ten years after, and is commonly found to consist of a broken constitution, two weak legs, a bad cough, and a large trunk filled with small phials and patent medicines. We can hardly say that the yield pays for the time and labor expended in the cultivation.

---

SOMETHING NEW IN PHOTOGRAPHY.—A photographer of Stockholm, C. J. Malmberg, has received a patent for a new discovery, which he calls phototyphy. He transfers photographs on metallic plates, and, by means of printing colors, can print them on paper, even to the smallest details.

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EPITAPH.

Here lies a lawyer and an honest man;
Heaven works a wonder for us now and then.

---

REPUTATION is what men and women think of us. Character is what God and angels know of us.

---

IT IS well enough to call a man a "lucky dog," but to call him a puppy or a whelp generally creates a muss.

---

MORMONISM has not inappropriately been termed "mixed husbandry."


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1871. 1871.

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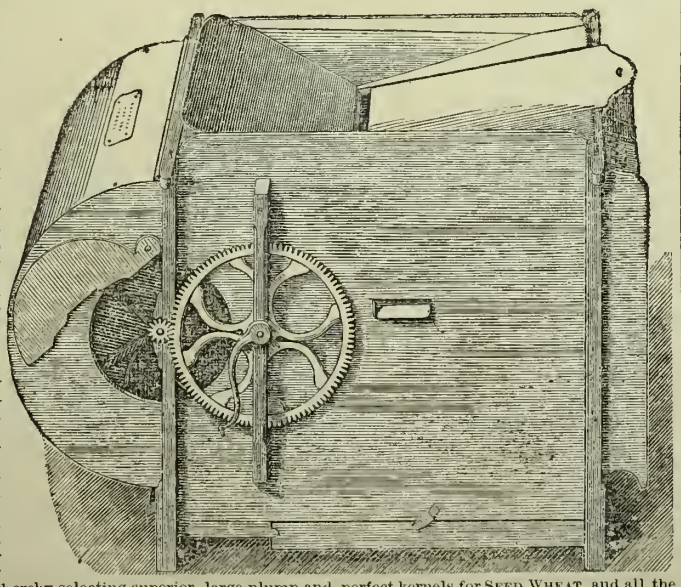
## NOVELTY MILL AND GRAIN SEPARATOR.



THE undersigned having purchased of the Patentees, WIRTS & SWIFT, of Hudson, Michigan, their right to this mill, Patented June 22d, 1869, for California, Oregon, Washington Territory, Montana, Utah, New Mexico and Arizona, wishes to call the attention of FARMERS, MILLERS AND GRAIN DEALERS to one of THE GREATEST IMPROVEMENTS OF THE AGE for cleaning and separating grain. While it combines all the essential qualities of a first-class FANNING MILL, it also far excels anything that has ever been invented for the separation of grain. It has been thoroughly tested on all the different kinds of mixed grain, separating all the different seeds in almost a magical manner, placing them in their different compartments in the mill arranged for their reception, at the same time taking out all the *Mustard, Grass Seed, Barley and Oats*, and making two distinct qualities of wheat if desired, thereby selecting superior, large plump and perfect kernels for SEED WHEAT, and all the small and cut kernals, such as merchantable wheat, is deposited in another compartment. By the use of this Mill a great quantity of wheat usually sown that has been cleaned in the common mills will be saved to the farmer, as the cut or shrunken kernals will never germanate.

The above mentioned Novelty Mill is the only mill known to possess all these superior qualifications, and was exhibited and tested at the last Michigan State Fair held at Jackson, Michigan, September 21, 22, and 23, 1869, and bore away the palm over some thirty other different mills from all parts of the United States, including the famous Dicky Mill of Racine, Wisconsin. All who have witnessed here the operations of the NOVELTY MILL, declare it perfection, and the most beneficial invention to the Farmers, Millers, and Grain Dealers ever introduced on the Pacific Coast. The farmers in Santa Clara County, are loud in its praise, and also in other parts of the State where it is being introduced. No. 1 Mill, complete, is capable of cleaning 25 tons of grain per day; No. 2 Mill, 15 tons; No. 3. Mill, 8 tons. A large number of recommendations and certificates of the practical working of the mill will be furnished, Circulars containing references sent free by mail. N. B. Town, County, or State Rights for sale on favorable terms. For further particulars apply to

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## Travelers' Guide.

### Central Pacific Railroad.

**Time Schedule, December 5, 1870.**

| EASTWARD. | | Express Train Daily. | Pass'ger Sunday except'd | Mixed.* |
|---|---|---|---|---|
| San Francisco | Leave | 8.00 A M | 4.00 P M | 5.30 P M |
| Oakland | " | 8.40 A M | 4.42 P M | |
| San Jose | " | 7.45 A M | 4.35 P M | |
| Stockton | " | 12.06 P M | 7.55 P M | 4.13 A M |
| Sacramento | Arrive | 1.50 P M | 9.30 P M | 7.40 A M |
| Sacramento | Leave | 2.10 P M | | 9.00 A M |
| Marysville | Arrive | 4.00 P M | | 1.15 P M |
| Chico | " | 6.15 P M | | 5.25 P M |
| Colfax | Leave | 5.25 P M | *Daily East of Sacramento | 3.30 P M |
| Reno | " | 1.15 A M | | 5.45 A M |
| Winnemucca | " | 9.10 A M | | 10.15 P M |
| Battle Mountain | " | 12.00 M | | 3.10 A M |
| Carlin | " | 3.10 P M | | 10.00 A M |
| Elko | " | 4.40 P M | | 12.30 P M |
| Kelton | " | 1.35 A M | | 7.30 A M |
| Ogden | Arrive | 6.10 A M | | 4.00 A M |

| WESTWARD. | | Express Train Daily. | Pass'ger Sunday except'd | Mixed.* |
|---|---|---|---|---|
| Ogden | Leave | 5.45 P M | *Daily East of Sacramento | 5.00 P M |
| Kelton | " | 10.38 P M | | 1 35 A M |
| Elko | " | 8.45 A M | | 7.15 P M |
| Carlin | " | 10.15 A M | | 10.00 P M |
| Battle Mountain | " | 1.25 P M | | 3.10 A M |
| Winnemucca | " | 4.05 P M | | 9.00 A M |
| Reno | " | 1.00 A M | | 11.10 P M |
| Colfax | " | 8.45 A M | | 11.30 P M |
| Chico | Leave | 6.55 A M | | 10.00 A M |
| Marysville | " | 9.10 A M | | 2.30 P M |
| Sacramento | Arrive | 11.25 A M | | 5.15 P M |
| Sacramento | Leave | 11.45 A M | 7.00 A M | 7.30 P M |
| Stockton | " | 1.39 P M | 8.32 A M | 11.20 P M |
| San Jose | Arrive | 5.35 P M | 12.00 P M | |
| Oakland | " | 5.15 P M | 11.58 P M | |
| San Francisco | " | 6.00 P M | 12.35 P M | 8.30 A M |

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| P. M. | A. M. | Local Trains. | A. M. | P. M. |
|---|---|---|---|---|
| 3.00 | 9.00 | leave...SAN FRANCISCO...arrive | 9.40 | 7.30 |
| 3.28 | 9.32 | .....OAKLAND..... | 9.08 | 6.55 |
| 4.40 | 11.05 | ..... NILES ..... | 8.15 | 5.35 |
| 5.35 | 12.00 | arrive.....SAN JOSE....leave.. | 7.45 | 4.35 |

| P. M. | A. M. | Visalia Div. | P. M. | A. M. |
|---|---|---|---|---|
| 4.00 | 8.00 | leave...SAN FRANCISCO...arrive | 12.35 | 8.30 |
| 7.36 | 11.48 | ..... LATHROP..... ..... | 8.50 | 7.10 |
| 9.05 | 3.25 | arrive.....MODESTO.....leave | 7.15 | 5.45 |
| P. M. | P. M. | | A. M. | P. M. |

| From SAN FRANCISCO. | From OAKLAND | From BROOKLYN. |
|---|---|---|
| B 6.50 A. M. | B 5.35 A. M. | B 5.25 A. M. |
| 8.00 " | B 6.50 " | B 6.40 " |
| 9.00 " | 8.00 " | 7.50 " |
| D10.00 " | 9.00 " | 8.50 " |
| 11.00 " | 10.00 " | 9.50 " |
| D12.00 M. | 11.00 " | |
| 2.00 P. M. | 12.00 M. | 11.50 " |
| D 3.00 " | 2.00 P. M. | |
| 4.00 " | 3.00 " | 2.50 P. M. |
| 5.15 " | 4.00 " | |
| 6.45 " | 5.20 " | 5.10 " |
| B11.30 P. M. | 6.50 P. M. | 6.40 P. M. |
| **From SAN FRANCISCO.** | **From ALAMEDA.** | **From HAYWARDS.** |
| B 7.20 A. M. | B 4.42 A. M. | B 3.45 A. M. |
| E 9.00 " | B 7.36 " | B 7.00 " |
| BC 9.30 " | E 9.06 " | E 8.30 " |
| EC11.30 " | B 9.36 " | B 9.00 " |
| 1.30 P. M. | E11.36 " | E11.00 " |
| 4.00 " | 1.35 P. M. | |
| 5.30 " | 4.05 " | 3.25 P. M. |

B Sundays excepted. E Sundays only.
D To Oakland only. C To Fruit Vale only.

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**SHORT ROUTE.**

The following time will take effect
**Saturday.....October 1, 1870**

GOING NORTH—DAILY (SUNDAYS EXCEPTED).

| New World Leaves S. Francisco. | Trains Arrive at Calistoga. | Trains Arrive at Sacramento. | Trains Arrive at Marysville. |
|---|---|---|---|
| 8:00 A. M. | 12:45 A. M. | 12:30 A. M. | 2:15 P. M. |
| 4:00 P. M. | 8:45 P. M. | 8:20 P. M. | 9:30 P. M. |
| ON SUNDAYS. | | | |
| 8:30 A. M. | 12:30 P. M. | 1:00 P. M. | 5:00 P. M |

GOING SOUTH—DAILY (SUNDAYS EXCEPTED).

| Train Leave Marysville. | Trains Leave Calistoga. | Trains Leave Sacramento. | New World Arrives at S. Francisco |
|---|---|---|---|
| 6:00 A. M. | 7:30 A. M. | 7:15 A. M. | 10:30 A. M. |
| 1:00 P. M. | 2:30 P. M. | 3:15 P. M. | 7:50 P. M. |
| ON SUNDAYS. | | | |
| 10:15 A. M. | 3:00 P. M. | 2:30 P. M. | 7:00 P. M. |

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# SEASONABLE ARTICLES.

I. N. HOAG, EDITOR, SACRAMENTO.

## THE RAINY SEASONS FOR TWENTY-ONE YEARS.

The question as to whether we will have sufficient rain to ensure crops the present season is becoming one of intense interest to the entire people of California. The very small amount of rainfall up to the present time, and the unusually protracted spell of cold and frosty weather which we had during the latter part of December, it must be confessed, afford very good reason for the fear now pervading all classes of the community upon this subject. While almost all entertain fears in the premises, still very few of us can give a good reason for such fear, based upon individual recollections of the past. Indeed, very many seem to believe that the past seasons in California can in no respect be relied upon as a criterion by which to judge of those of the future. We believe differently. We think the seasons in California, both in summer and winter, are as uniform as in most other countries, and we think the careful observer can as correctly judge of what the weather is likely to be in the future, here, as in any other country; and if he will, can govern his business accordingly. Of course we are all liable to err; but all human knowledge is made up of observations and experiences of the past, and these observations and experiences are the only basis we have upon which to form a judgment of the future—as well as to the weather as to other matters. At this particular time we would therefore call attention to the following:

RAIN TABLE FOR SACRAMENTO.—PREPARED BY DR. T. M. LOGAN.—FOR THE PRESS.

*Arranged according to the seasons, showing the amount in inches of each month, during twenty-one years, and for each rainy season, including the present, to January 1st.*

| MONTHS. | 1849 | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 | 1859 | 1860 | 1861 | 1862 | 1863 | 1864 | 1865 | 1866 | 1867 | 1868 | 1869 | 1870 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| September | 0.250 | 0.000 | 1.000 | 0.003 | 0.003 | sp'kle | sp'kle | sp'kle | 0.000 | sp'kle | 0.025 | 0.003 | 0.000 | 0.000 | 0.003 | 0.004 | 0.080 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| October | 1.500 | 0.000 | 0.180 | 0.000 | 0.065 | 0.010 | 0.000 | 0.115 | 0.655 | 3.010 | 0.000 | 0.914 | sp'kle | 0.355 | 0.000 | 0.120 | 0.480 | 0.001 | 0.000 | 0.000 | 2.120 | 0.020 |
| November | 2.250 | sp'kle | 2.140 | 6.000 | 1.500 | 0.650 | 0.750 | 0.651 | 2.406 | 0.147 | 6.485 | 0.181 | 2.170 | 0.065 | 1.490 | 6.718 | 2.427 | 2.436 | 3.806 | 0.774 | 0.850 | 0.584 |
| December | 12.500 | sp'kle | 7.070 | 13.410 | 1.540 | 1.150 | 2.000 | 2.396 | 6.652 | 4.329 | 1.834 | 4.282 | 8.657 | 2.327 | 1.815 | 7.867 | 0.864 | 9.511 | 12.850 | 2.032 | 1.962 | 0.971 |
| Total for each year to Jan. 1st. | 16.500 | 00.000 | 10.390 | 19.413 | 4.045 | 2.810 | 2.750 | 3.236 | 9.693 | 7.486 | 8.344 | 5.410 | 10.807 | 2.687 | 3.308 | 14.709 | 3.351 | 11.938 | 16.656 | 3.386 | 4.932 | 1.575 |
| MONTHS. | 1850 | 1851 | 1852 | 1853 | 1854 | 1855 | 1856 | 1857 | 1858 | 1859 | 1860 | 1861 | 1862 | 1863 | 1864 | 1865 | 1866 | 1867 | 1868 | 1869 | 1870 | 1871 |
| January | 4.500 | 0.650 | 0.580 | 3.000 | 3.250 | 2.670 | 4.919 | 1.375 | 2.444 | 0.904 | 2.310 | 2.068 | 15.036 | 1.723 | 1.077 | 4.776 | 7.099 | 3.440 | 6.036 | 4.790 | 1.371 | ..... |
| February | 0.500 | 0.350 | 0.120 | 2.000 | 8.500 | 3.460 | 0.692 | 4.801 | 2.461 | 3.906 | 0.931 | 2.920 | 4.260 | 2.751 | 0.386 | 0.712 | 2.010 | 7.104 | 3.147 | 3.630 | 3.236 | ..... |
| March | 10.000 | 1.880 | 6.400 | 7.000 | 3.250 | 4.200 | 1.403 | 0.675 | 2.878 | 1.647 | 5.110 | 3.290 | 2.800 | 2.300 | 1.303 | 1.080 | 1.370 | 0.476 | 1.805 | 2.306 | 1.240 | ..... |
| April | 4.250 | 1.140 | 0.190 | 3.500 | 1.500 | 4.320 | 2.132 | sp'kle | 1.214 | 0.981 | 2.874 | 0.475 | 0.831 | 1.693 | 0.451 | 0.451 | 1.010 | 2.018 | 4.348 | 2.942 | 1.642 | ..... |
| May | 0.250 | 0.690 | 0.300 | 1.450 | 0.210 | 1.150 | 1.541 | sp'kle | 0.203 | 1.037 | 2.471 | 0.590 | 1.808 | 0.355 | 0.742 | 0.460 | 2.252 | 0.008 | 0.270 | 0.648 | 0.270 | ..... |
| June | 0.000 | 0.000 | 0.000 | 0.001 | 0.311 | 0.010 | 0.033 | 0.350 | 0.098 | 0.000 | 0.017 | 0.135 | 0.011 | 0.000 | 0.087 | 0.000 | 0.100 | 0.090 | sp'kle | 0.008 | sp'kle | ..... |
| July | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.519 | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 | 0.018 | 0.000 | 0.000 | sp'kle | 0.000 | ..... |
| August | 0.000 | 0.000 | 0.000 | 0.000 | sp'kle | 0.000 | 0.000 | sp'kle | sp'kle | 0.000 | 0.000 | 0.000 | 0.006 | 0.000 | 0.085 | 0.000 | 0.000 | 0.000 | 0.000 | sp'kle | ..... | ..... |
| Total | 36.000 | 4.710 | 17.980 | 36.362 | 20.068 | 18.620 | 13.770 | 10.433 | 18.991 | 16.051 | 22.626 | 15.548 | 35.549 | 11.579 | 7.868 | 22.512 | 17.924 | 25.305 | 32.769 | 16.644 | 8.639 | ..... |

It will be seen by the above table, that there is a general correspondence between the amount of rain falling *before* the first of January of each year, and the whole amount for the season of the corresponding years. For instance, in the year 1852–3, the rainfall before the first of January was 19.413 inches, and the whole amount for the season was 35.549 inches. On the other hand, in the year 1856–7, the fall before the first of January was 3.236 inches, and the whole fall for the season was only 10.443 inches; and in 1863–4 the fall before the first of January was 3.308 inches, and that of the season 7.868.

It will also be observed that there has been but one year in the whole time, covered by the above table, in which the rainfall before the first of January was less than that of the present season to that time. That year, 1850–1, was the most remarkable we have ever had. Before the first of January there were but two sprinkles, and for the whole season but 4.710 inches.

This season we had before January first but 1.575 inches. Taking the past for our guide, we must confess that the fear, so universal, seems to be well founded. This season *may* prove an exception, and we most sincerely hope it will; but prudence, at least, would suggest that we prepare for a dry season.

We selected Sacramento as the location for our observation, for the reason that as a general thing the rainfall at that point is a better guide for that of the larger portion of the interior of the State than any point either further north or south. We would remark, however, that the rain the present season seems to have been more abundant in many other portions of the State than at Sacramento.

## CALIFORNIA STATE AGRICULTURAL SOCIETY.—ITS PROSPERTY.

One of the good omens for agriculture in California is the prosperous condition of the State Agricultural Society. Financially this society is on an excellent footing. In this respect it is now in condition to perform, for the agricultural industries of the State, all the offices that can be reasonably expected of such societies under the most favorable circumstances. We are assured by the officers of the society that it is the intention to thoroughly revise the present premium list and adapt it to the existing wants and circumstances of all the industries of the State. The list so revised, increased and improved will be published early, and distributed throughout the state, and in other States and territories of the coast, so that all can prepare their products for exhibition at the Fair of 1871—which it is intended to make superior to any Fair ever held on the coast—and a real and substantial exhibit of all the industrial products of the Pacific slope. The improvements made by the Society during the past year give them ample means for accomodating, in an advantageous manner, a full competitiou exhibition of samples of the products of every industry on the coast. Nothing short of such an exhibition, as we are told, will fill the programme already adopted by the managers.

By the improvements at the pavilion, made the past season, the society now have two grand halls, each 135 by 150 feet, besides numerous other rooms and a commodious picture gallery. At the cattle grounds the stalls have all been raised and furnished with permanent roofs and doors. There have been new and appropriate stands needed for judges, reporters and visitors. The improvements at the pavilion and park made during the past year have cost the society in round numbers $6,000.

They have also lately bought a larger portion of the stock of the Union Park Association, embracing the northern half of the enclosed grounds. Thus the society has become the owner in fee of that valuable piece of property situated in the heart of the capital city. The southern half of the enclosed grounds the society holds under a lease of ninety nine years—but will probably soon become the owner in fee of that also.

The receipts of the society for the past year, including $2,883 of an unexpended appropriation, were $36,682 08. The expenditures exclusive of purchase money of park were $34,675.68. The balance in the treasury is $2,006.40. This is truly a good showing and we confidently expect the full co-operation of the society in systematizing the industries and developing the resources of our State.

## FARMERS' GARDENS

There seems to be a prevailing dislike or distaste among farmers generally, and more especially among American farmers, to the care and cultivation of kitchen gardens. There is probable no state in the American Union in which the dislike is more deep seated and universal than in California. Our California farmers are possessed with almost an universal mania for the cultivation of broad fields—of extensive farms of from one to ten thousand acres, where more physical and less mental labor is required.

This system is more speculative, has more excitement in it; and if liable to great losses, it still, under favorable circumstances, *may* bring great gains. This element is what gives it favor with our California farmers.

On the other hand, the cultivation of the garden is no speculation. Though a small business, it is safe and sure. But the garden, to be made successful and profitable, requires the exercise of judgment, system and patience. These, accompanied with a little care and attention, at the proper time, would secure to every farmer in our State, whether his farm be large or small, a good garden from which, at almost all seasons of the year, his table could be supplied with an abundance of the choicest vegetables—crispy and fresh from the soil.

What California farmer, or farmer's wife, would not like, in the early spring, to be able to step from the house into a well enclosed and well cultivated vegetable garden, in which, each in its appropriate place, were growing luxuriously all the luscious, early vegetables,—such as lettuce, radishes, peas beets, turnips, onions, potatoes, tomatoes, sweet corn, beans, carrots, parsnips, etc., etc.? No matter if a sweet pea vine, a honeysuckle a pink, a geranium or other innocent flowers were allowed a little share in such a garden, in the stead of weeds, they would do no harm, but would add, by their cheerful presence, to the pleasurable emotions of the owner or other members of the family when they step out to pluck some of the choice, fresh vegetables for the breakfast or dinner table.

After ornamenting the garden, it would detract nothing from the cheerfulness and happiness of the family at the meal if a few of these flowers were permitted to ornament the table; they might in this way pre-occupy the places in some young mental gardens that would otherwise be usurped by tares and weeds.

We presume we shall find no one to disagree with us in the proposition that every farmer in the land should have a vegetable garden attached to his house; and we come now to consider the question, suggested in our last, "Whether the grain farmers, in the recognized grain districts of the state? where the soil is of a clay or adobe nature, can raise good vegetables with success; and if so, what are the conditions necessary to that success?" To the former portion of this interrogatory we have no hesitation in saying *yes*; and will at once proceed to the consideration of the necessary conditions.

### The Will.

No man can succeed in any business unless he has the will to do so. Having determined that an object is worth striving for,—in this instance that a good garden is worth the trouble required to make and maintain it, he must thoroughly make up his mind that he *will* have one,—that he will, in the first place, set apart a piece of land to be especially devoted to the garden—that he will enclose it so as to keep out stock of all kinds as well as fowls. A high, tight board fence would ensure the double purpose of such enclosure, and as a wind break, which in many places would be a great benefit. Having determined that he will devote the necessary land for the purpose, and that he will give to the garden the required time, the next consideration is the

### Location.

This, for many reasons, should be near the house. Many leisure moments of the farmer himself and of his boys, and hired labor that would otherwise be lost, could thus be turned to good account, by working in the garden. Many steps of the housekeeper would also be saved in going to and from the garden, to pick the vegetables, and the table would be more likely to be at all times supplied with fresh vegetables, if in the garden.

Again a good vegetable garden attached to the house tends to add to it the appearance as well as the realities of home. It concentrates the home attachments, strengthens the domestic feelings and brings into activity many of the finer virtues. If near the house it will be under the eye and supervision of the household, and will be a pleasant resort for females and children of the family; thus administering to their health and pleasure, by inducing exercise in the open air, as well as by affording agreeable and healthy food. There will also more likely be better taste displayed in the arrangement of the garden and more care and attention bestowed in keeping it in a good state of cultivation if near the house; for the reason that the interest as well as the taste and pride of the wife and daughters will be brought into exercise, and have their influence over those who do the labor. It will also be visited by neighbors and friends, with a view to compare notes and make friendly observations and suggestions; and thus will be kept up a friendly and healthy rivalry in neighborhoods, both as to the general arrangement and surroundings of the house and the quality and early maturity of the products of the garden. For what is more unpleasant to a farmer's family of spirit and pride, than to know that their next neighbors are enjoying the luxury of early asparagus, peas, beans, lettuce, etc., when theirs will not do to pluck for days, and perhaps weeks? The best soil for a vegetable garden is undoubtedly a deep, rich, sandy loam, so composed that it will absorb a great quantity of moisture, and allow it to pass so far below the surface that it can be cultivated very soon after heavy rains, and at the same time retain that moisture so it will keep the surface moist during the dry season. It should contain sufficient muck and clay to give it strength and durability, and sufficient sand to prevent sun or surface burning. It should be porous, to allow the air to penetrate as deep as the roots of vegetables will grow.

We have a great deal of excellent soil for gardens in California. The land along the creeks and rivers of the entire State, outside of the mountains, generally called "made land," is well adapted to this purpose. Many of the small valleys in the foot hills, and many of the hills themselves, contain soil already prepared by nature for the most successful cultivation of vegetable gardens. A very large proportion of the soil in the State, however, located on the broad open plain, one elevation above the immediate river banks, is too heavy, and contains too much clay and sticky substances for the successful cultivation of vegetables. It is too wet in the rainy season and too dry and hard in the dry season. Such generally is the character of the soil in what we have termed the grain districts of the State. While such soils, properly cultivated, are well adapted to the production of the small grains, they require some artificial manipulations and changes to make them good for gardens. To show what these changes are, and how they can be made will claim our attention in the next number of the RURAL.

CLEAN UP.—Housekeepers, gardeners, and fruit growers will find plenty of work to occupy their time just now. Trim your fruit trees of all dead branches, gather up the leaves and other debris that autumn strews on the ground, and make everything around and about you tidy and comfortable. A clean yard or garden speaks volumes for the general thrift and tidiness of its owner, while one strewed with leaves and other unsightly objects is equally suggestive of the habits of its owner or occupant.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., P. M., Jan. 12th.

FLOUR—Is still in good demand for export; while the demand for local trade continues fair. We uote a slight advance in prices from last quotations. Standard Oregon brands are quotable at $6.50@6.75; local brands—superfine, $5.37@5.62½; extra $6.50@6.75. Transactions include 3,000 bbls. Cal. extra, and 12,000 qr. sacks Cal. superfine, partly for export.

WHEAT—Has been in less demand, during the past week, and at a slight decline, especially for choice shipping goods. Sales are reported to the amount of 16,000 sacks, at current prices for shipping and milling. We quote the range of all kinds at $2.15@2.30; good to choice shipping, $2.17@2.25; choice milling, $2.25@2.27. Liverpool quotations are without change at 11s 5d. New York rates remain unchanged —$1.62@1.65 per bushel.

BARLEY—Is still in fair demand, and prices have advanced somewhat during the week. We quote $1.35@1.50, from fair to choice; $1.45 at close. Sales embrace 12,000 sacks.

OATS—We note an improved demand for oats. Fair to good may be quoted at $1.40@1.60, at which prices some 5,000 sacks have changed hands.

CORN—May be quoted at $1.60 for good yellow, at which figure 125 sacks are reported.

BUCKWHEAT—Nominal at $2.50@3 from the wharf.

RYE—In limited demand. The latest sale is reported at $2.12½.

FEED—Remains with but little change. We quote HAY still firm at $11@16 from fair to choice; STRAW, $7@9; BRAN, $28@30; MIDDLINGS, $25 for feed, and $35@40 per ton for fine; OIL CAKE MEAL has advanced to $30.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, $12@16, and Potter's, 2 lb do, at $4 ₱ dozen.

POTATOES—Demand light and stock large. We quote at $1.25@1.60.

HOPS—This year's crop is still quotable at 10@12½c.

HIDES—We quote Dry, slaughterer's stock, 18@19 c; Salted; 8@9c. Sales during the week 1,957 Cal. dry.

WOOL—We quote good shipping, at 15@17½c; very choice, 18½c; burry, 10@12½c; slightly do, 13@14c. The market is bare of stock; prices remaining as last quoted.

TALLOW—Quotable at 7@7½c, from ordinary to choice.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c.

BEANS—Quiet at the following rates. Bayo at $2.25@2.50; butter, $2.25; small white pink and red $1.87@2.00; pea, $2.00 per 100 pounds.

FRESH MEAT—The market is firm and quotations unchanged. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11c ₱ lb.
Do 2d do 9@10c ₱ lb.
Do 3d do 7@ 8c ₱ lb.

VEAL—From 8@ 12c.

MUTTON—Steady at 9@10c. ₱ lb.

LAMB—10@11c. ₱ lb.

PORK—Undressed at 5¼@6½c; dressed, grain fed, 8@8½c. ₱ lb.

POULTRY, ETC.—In small supply, and prices slightly advanced. Young Chickens, $6@7; Hens $7@8.50; Roosters, $7@8.00: Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame; $2.50@$3 ₱ pair; wild, $1.75@3 ₱ doz; tame Turkeys, 18@20c ₱ lb; Hare, 1.50 per doz; Doves, 50c do; Quail, $1.25@1.50.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 40@50c; Packed rolls, 32@37½c; Oregon firkin, 20@22½c; Eastern do, 25@37½c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California, new, 12@15c., Eastern, 17c.

EGGS—California fresh, 40@45c; Oregon, 35c; California Lard, 11-lb tins, 12@13½c; Oregon, 13½@14½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $1.00@$2.00; Oregon, $1@$2.00; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $40@$50; Lemons, per box, $16; Pears, searce. Oregon steamer just telegraphed, with apples for San Francisco.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2; Table, assorted, $3.75.

## GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this department has revived in consequence of the late rains, and dealers are now looking forward to a busy season.

BAGS AND BAGGING—Are in moderate request only, and will so be until the approach of the coming season. We quote wool bags at 50@52½c. Oat Sacks 23x40, 12½c; 28x35, 18c; Potato Sacks, 17½c.; imitation Dundees, 18@19 c. Standard burlaps, 22x36, 12½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices are reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5½c; Oregon do, 6½c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ₱ lb; Raisins, layer, $4.25@5.00; Currants, Zante, 16@17c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 16@16½c; Lard, California, 12½@13¼c; Oregon do, in kegs, 13@13¼c ₱ lb.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, Jan. 12.

SOLE LEATHER.—The demand is good and the stock on hand light, on account of heavy shipments to the east. Prices rule firm. We quote:

| | | |
|---|---|---|
| City Tanned | 26 | @29 |
| Santa Cruz | 26 | @31 |
| Country | 25 | @28 |

CALF AND KIP SKINS.—French stocks continue scarce and high on account of the lack of exportation from French ports which has almost entirely ceased. We quote:

| | | |
|---|---|---|
| Best French Calf Skins, ₱ doz | 75 00 | @100 00 |
| Common French Calf Skins, ₱ doz | 35 00 | @ 75 00 |
| French Kips, ₱ lb | 1 00 | @ 1 30 |
| California Kip, ₱ doz | 60 00 | @ 80 00 |
| California Calf, ₱ lb | 1 00 | @ 1 25 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80 | @ 1 00 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10 | @ 1 25 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50 | @ 13 00 |
| Sheep Roans for linings, ₱ doz | 5 50 | @ 10 50 |
| California Russet Sheep Linings | 1 75 | @ 5 50 |
| HARNESS LEATHER, ₱ lb | 30 | @ 37 |
| Fair Bridle, ₱ lb | 33 | @ 40 |
| Skirting, ₱ doz | 4 50 | @ 4 75 |
| Welt Leather, ₱ side | 30 00 | @ 50 00 |
| Buff Leather, ₱ foot | 22 | @ 26 |

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, Jan. 13, 1871.

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 per ton; Railroad, 60c ₱ 100 lbs.; Bar, 1@1½c ₱ lb: Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb. | | |
| Scotch and Eng. Pig Iron, ₱ ton | $34 | @$35 50 |
| White Pig, ₱ ton | | @ 35 00 |
| Refined Bar, bad assortment, ₱ lb. | — 03 | @ — — |
| Refined Bar, good assortment, ₱ lb. | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | |
| Sheathing, ₱ lb | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | @ — 22 |
| Composition Bolts | — 21 | @ — 22 |
| TIN PLATES.—Duty: 25 ₱ cent, ad valorem. | | |
| Plates, Charcoal, IX, ₱ box | 12 00 | @ — — |
| Plates, I C Charcoal | 10 00 | @ 10 50 |
| Roofing Plates | 10 00 | @ 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | @ — 42 |
| STEEL.—English Cast Steel, ₱ lb | — — | @ — 15 |
| QUICKSILVER.—₱ lb | — — | @ — 90 |
| LEAD.—Pig, ₱ lb | — 6 | @ — 7 |
| Sheet | — 9 | @ — — |
| Pipe | — 10 | @ 11 — |
| Bar | — 8 | @ — 9 |
| ZINC.—Sheets, ₱ lb | — 10½ | @ — 11 |
| BORAX | — 35 | @ — 38 |

## San Francisco Market Rates.

**Wholesale Prices.**

FRIDAY, January 13, 1871

| | | |
|---|---|---|
| Flour, Extra, ₱ bbl | 6 00 | @$6 75 |
| Do. Superfine | 5 00 | @ 5 50 |
| Corn Meal, ₱ 100 lbs | 2 25 | @ 2 50 |
| Wheat, ₱ 100 lbs | 2 00 | @ 2 30 |
| Oats, ₱ 100 lbs | 1 40 | @ 1 50 |
| Barley, ₱ 100 lbs | 1 35 | @ 1 45 |
| Beans, ₱ 100 lbs | 1 87½ | @ 2 50 |
| Potatoes, ₱ 100 lbs | 1 00 | @ 1 50 |
| Hay, ₱ ton | 10 00 | @15 00 |
| Live Oak Wood, ₱ cord | 10 00 | @12 00 |
| Beef, extra, dressed, ₱ lb | 8 | @ 12 |
| Sheep, on foot | 2 00 | @ 2 50 |
| Hogs, on foot, ₱ lb | 6 | @ 6½ |
| Hogs, dressed, ₱ lb | 7½ | @ 8 |
| **GROCERIES, ETC.** | | |
| Sugar, crushed, ₱ lb | | @ 15 |
| Do. Hawaiian | 9 | @ 12 |
| Coffee, Costa Rica, ₱ lb | — | @ 21½ |
| Do. Rio | | @ 19½ |
| Tea, Japan, ₱ lb | 65 | @ 1 00 |
| Do. Green | 60 | @ 1 00 |
| Hawaiian Rice, ₱ lb | 9 | @ 10 |
| China Rice, ₱ lb | 10 | @ 11 |
| Coal Oil, ₱ gallon | 50 | @ 65 |
| Candles, ₱ lb | 14 | @ 18 |
| Overland Butter | 30 | @ 37½ |
| Ranch Butter, ₱ lb | 45 | @ 55 |
| Isthmus Butter, ₱ lb | 25 | @ 35 |
| Cheese, California, ₱ lb | 9 | @ 15 |
| Eggs, ₱ dozen | 40 | @ 45 |
| Lard, ₱ lb | 11½ | @ 13½ |
| Ham and Bacon, ₱ lb | 31 | @ 17 |
| Shoulders, ₱ lb | 9 | @ 10 |

**Retail Prices.**

| | | |
|---|---|---|
| Butter, California, fresh, ₱ lb | 50 | @ 65 |
| do. pickled, ₱ lb | 40 | @ 50 |
| do. Oregon, ₱ lb | | @ 25 |
| Cheese, ₱ lb | 20 | @ 25 |
| Honey, ₱ lb | 25 | @ 30 |
| Eggs, ₱ dozen | 60 | @ 70 |
| Lard, ₱ lb | 18 | @ 20 |
| Hams and Bacon, ₱ lb | 22 | @ 25 |
| Cranberries, ₱ gallon | 75 | @ 1 00 |
| Potatoes, ₱ lb | 2 | @ 3 |
| Potatoes, Sweet, ₱ lb | — | @ 2 |
| Tomatoes, ₱ lb | 2 | @ 3 |
| Onions, ₱ lb | 2 | @ 3 |
| Apples, No. 1, ₱ lb | 4 | @ 5 |
| Pears, Table, ₱ lb | 5 | @ |
| Plums, dried, ₱ lb | 10 | @ 12 |
| Peaches, dried, ₱ lb | 10 | @ 15 |
| Oranges, ₱ dozen | 50 | @ 75 |
| Lemons, ₱ dozen | 50 | @ 75 |
| Chickens, apiece | 75 | @ 1 00 |
| Turkeys, ₱ lb | — | @ 25 |
| Soap, Pale and C. O. | 10 | @ 15 |
| Soap, Castile, ₱ lb | 18 | @ 20 |

PNEUMATIC GAS AT MARE ISLAND.—The Pacific Pneumatic Gas Company has been officially notified by Commodore Goldsborough, Commander at Mare Island, that the Company's gas works at the Navy Yard are accepted, and the contract completed to the satisfaction of the United States authorities.

[From our Sample Issue, Dec. 17, 1870.]

## THE PACIFIC RURAL PRESS.

In presenting to our readers the preliminary or sample number of the PACIFIC RURAL PRESS, we do not claim that it is what it should be, by any means; but the efforts of the publishers in conducting and building up the SCIENTIFIC PRESS, is sufficient guarantee that no efforts will be spared to elevate their new paper, as fast as circumstances will permit, to such a standard of excellence and usefulness as will make it worthy and fit to represent the great and growing agricultural interest of the Pacific Coast. All we ask is the prompt and hearty co-operation of our friends in extending to it such a support as will warrant the necessary outlay to make the paper what it should be. Being already provided with an able corps of writers and workers in every department, a well equipped office, and a reputation for integrity and energy, which has been accorded by a generous public and which has proved of the highest pecuniary value, we venture upon our new enterprise with the fullest assurance of success.

The object of the paper will be to please, interest and instruct all who peruse its columns. It will contain nothing which can offend the most fastidious—nothing which will either directly or indirectly inculcate improper ideas or principles in the minds of either old or young. Our only aim will be to benefit and interest.

No pains or reasonable expense will be spared to make the paper what its patrons desire to have it, and what its proprietors mean to make it. Earnest labor, thought and study will be exercised to this end.

Its miscellany will be neither trashy or trifling; and while it will be designed to elevate and instruct, it will at the same time be made to interest and please.

The farmer will find the AGRICULTURAL DEPARTMENT well filled with really useful information, designed especially for use and practice on the Pacific Coast.

The Housewife will find something in every issue to assist her in economizing her means, or in adding to the comforts of her home and the luxuries of her table.

The Home Circle will always find much of interest and instruction for both old and young. Useful lessons will be given in the amenities of life, and in the simple laws of health. The children will not be forgotten; as we propose to establish a department for their especial benefit. We shall give an original New Year's story for the children in the first regular issue of the RURAL.

Our illustrations and embelishments will be of a high order—having utility and the elevation of taste and thought in constant view. Nothing in this line will be presented to pander to a vitiated taste. Improvements in this direction will be our constant aim. The beautiful California illustration which we present to-day, is one of a series of similar ones which we have already on hand and which will be given from time to time; to be followed by others of equal or greater interest and beauty of execution.

The publishers aim to make the PACIFIC RURAL PRESS, just the paper which Californians and other residents on this Coast should select as the one above all others which they would desire to SEND TO THEIR FRIENDS IN THE EAST, as a representative of California interests and as a remembrancer to the "old folks at home," that they are not forgotten in this far off land of gold, and busy industry.

## Commence Now

And patronize your home agricultural paper before all others. We are determined to make a good paper, and one that will not only be profitable to farmers alone, but to their entire households—in fact, a favorite at every Pacific States' hearthstone. We need your encouragement more than ever at the start. Subscribe at once, and get up clubs as rapidly as possible if you believe in benefitting your neighbors.

THE PACIFIC RURAL PRESS.—We have received a sample copy of this new publication from the office of the San Francisco *Scientific Press* of Dewey & Co.

We are much pleased with it. It is a first class agricultural paper and is bound to have a good circulation in the state.

It is in quarto form, and printed on good paper and type.

It is filled with good and appropriate matter, and not spoiled with personal puffs, published for personal considerations.

The illustrations are appropriate and in good taste.

We look upon this journal as one which will fairly represent the industrial interests of California.—*Sacramento Union*, Dec. 26.

## CORRESPONDENTS.

We are authorized to announce the following, among the well known writers on this coast, who will write regularly or occasionally for the columns of the PACIFIC RURAL PRESS: Prof. Ezra S. Carr, of the University of California; I. N. Hoag, Sacramento; W. Wadsworth, Sacramento; T. M. Logan, M. D., Sacramento; Rev. O. C. Wheeler, Sacramento; E. S. Holden, M. D., Stockton; J. S. Harbison, Sacramento; S. H. Herring; Dr. Anderson, of Santa Cruz; besides several others—ladies and gentlemen—whom we may be at liberty to announce hereafter.

OUR ADVERTISERS.—A more worthy list cannot be found in any journal. Much of the limited space allotted to advertising is already engaged.

A NEW AGRICULTURAL PAPER.—We were called upon this week by Mr. C. T. Jennings, who is canvassing this county on behalf of the new agricultural paper to be published by Messrs. Dewey & Co., the publishers of the San Francisco *Scientific Press*.

The new paper is designed to meet a want which is much felt by all intelligent agriculturists of this Coast, where the conditions of climate and soil are so unlike those of the Eastern States and the old world, that but limited application of experience gained there is of value here; and we very much need a medium such as a reliable and judiciously conducted agricultural journal may afford for exchanging and imparting information of observations and experiences which pertain to our own circumstances.

From personal knowledge of the character and resources of the publishers, and of the assistance to be employed, we believe the *Pacific Rural Press*, the first number of which is to be issued on the 7th of January, will prove an interesting and useful paper to those employed in the rural industries.—*Contra Costa Gazette.*

PACIFIC RURAL PRESS.—Dewey & Co., of the *Scientific Press*, have just issued a sixteen-page paper, quarto form, bearing the foregoing title. It is to be devoted to the interests of agriculture, and will be freely illustrated. The specimen number is creditable. The publishers say, in a circular accompanying the paper:

We herewith present to your notice a copy of the *Pacific Rural Press*, the publication of which we undertake after well testing the wants of the Pacific Coast farmers and ruralists by the publication of a Farming Edition of the *Scientific Press*. We have not only learned that there is a demand for a first-class home agricultural paper, but a disposition to *support* a *good* one. We are not only well situated for the undertaking, but have also the means and disposition to make it a success, and shall employ the best writers in every department, and furnish superior engravings for illustrations and embellishments.

We wish it success.—*S. F. Call*, Dec. 24.

NEW AGRICULTURAL PAPER.—We have received from Dewey & Co., publishers of the San Francisco *Scientific Press*, the prospectus of the *Pacific Rural Press*, a new agricultural paper to be published weekly, commencing January 7th. It will treat of agriculture, horticulture, domestic manufactures and all matters pertaining to the industrial interests of California. We understand that I. N. Hoag, of Yolo County, and formerly Secretary of the State Agricultural Society, will be one of the editors and will do much to make it generally acceptable to the community. There is a great opening for a journal in this state of the character mentioned and for talent and ability in the editorial department.—*Sacramento Daily Union*, Dec. 16.


Send in your subscriptions at once to Dewey & Co., Publishers, No. 414, Clay street, San Francisco.

January 4, 1870.

**DEWEY & CO.,**

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Patents Obtained Promptly.
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Examinations made of Assignments Recorded in Washington.
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# DASH CHURN.

Making Butter in from 6 to 10 Minutes.

The only really useful and practical

**CHURN**

Ever Offered to the Public.

The old style of DASHER CHURN always had the preference over all others, and with this simple and

practical attachment, now stands WITHOUT A RIV At the East it is rapidly taking the place of the

Thermometer and Cylinder Churn,

and its sales are enormous. Having bought the

**Right for this Coast,**

we are now prepared to furnish either large or small

CHURNS AND CASTINGS

as may be desired. We manufacture six different sizes of churns and the small casting can be applied to the three smaller sizes, and the large one with the frame and balance wheel to the three larger ones.

## WE CHALLENGE COMPETITION

in this churn and invite any one needing a GOOD churn to examine and try this one before purchasing elsewhere. The gearing is all simple, leaving nothing to get out of order; the dasher is easily removed by simply opening or removing the guide holding it in its place, leaving the churn

ENTIRELY CLEAR OF ANY OBSTACLE.

In fact, it is the only churn that ever has been offered which IS ENTIRELY

FREE FROM ANY OBJECTION,

and we offer it as the

## Best Churn in Existence.

| | | | | |
|---|---|---|---|---|
| No. 1 | Churn | holds | 2 | gallons; |
| 2 | do | do | 3 | do |
| 3 | do | do | 6 | do |
| 4 | do | do | 8 | do |
| 5 | do | do | 13 | do |
| 6 | do | do | 22 | do |

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**OAKLAND.**

Established in 1852.

Is now more fully stocked than ever before.

Fruit Trees, Ornamental Trees, Deciduous

Shade trees, Evergreens of all kinds; Fruit Plants; to wit: Raspberries, Strawberries, Gooseberries, Currants, Grapes, Rhubarb, Asparagus and all Flowering plants, for inside and outside culture.

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of Australia, Europe, China and Japan, in fact we aim to have and to get all and everything desirable.

Parties planting can find in this establishment whatever may be wanted, for use and beauty in furnishing a place without being obliged to go from one nursery to another. 1v1r W. F. KELSEY, Proprietor.

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A choice collection of the most beautiful trees, shrubs, plants etc., to be found in California, suitable for general culture. Evergreen Trees, best standard sorts and fancy varieties; Deciduous and Evergreen Shrubery; Golden and Crimson leafed, and double flowering Geraniums.

Elegant Fuschias,

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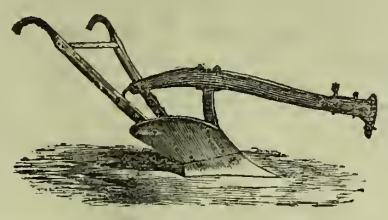

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Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

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At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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in the Pacific States. And more than this, we shall freight its columns with fresh thoughts, and new ideas, which hastened across the continent by rail, shall awaken and quicken the zeal of the more staid and gradual moving culturists of the eastern and European States, to their

### Pleasure and Profit.

We shall not only make a good paper for all husbandmen and homestead owners, (who now, more than ever require a knowledge of new discoveries in science and mechanical improvements,) but shall also render the journal a desideratum for those who contemplate becoming freeholders, and a large class of

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whose interests are more or less identical with successful farming, and the active development of our vast and rich resources. Few there are—male or female—who will not find pleasure and ennoblement in the study of progressive farming and gardening.

Honest, intelligent and correct information will be faithfully given, in behalf of, and urging

An improved Cultivation of the Soil;
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### Valuable and Timely Hints,

will be given weekly to lessen the labors of the farm, the household and the shop, and add to the health, the wealth and the wisdom of every patron of industry.

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As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxilliary and modifying instructions.

The following are among the specialties upon which the PACIFIC RURAL PRESS will treat:

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### A Plain and Simple Style

Of writing will be our endeavor. Necessarily dealing largely in researches for facts we believe it desirable to present them in an inviting shape and in so comprehensive language that our special journalism shall advance in popularity and common relish.

*No editorials or selections of unchaste or doubtful influence; or lottery, quack or other disreputable advertisements, will be admitted into its columns.*

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Publishers Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

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MARIPOSA, Dec. 27th, 1870.—Messrs. Dewey & Co. Patent Agents:—*Gentlemen:*—Allow me herewith to tender you my sincere thanks for the efficient assistance you have tendered me in securing my patent and other papers, as well as the promptness and energy displayed by you in our business transactions.
Very Respectfully Yours, JAY. R. PALMER.

# New Advertisements.

*No quack, indelicate or other disreputable notices will be accepted. All advertisements in this paper appear in our monthly edition and bound volumes of the Pacific Rural Press for Railroad Depots, Steamboats, Hotels, and other free reading rooms.*

**Take Your Choice.**—Since its first issue we have sent this paper to the subscribers of the farming edition of the SCIENTIFIC PRESS. If we have thus transferred the names of any who prefer the SCIENTIFIC PRESS, we will return their names to the list for that paper, and send back numbers, if notified in season.

## ANNUAL MEETING.

The Annual Meeting of the State Agricultural Society for the election of officers for the ensuing year and for the transaction of such other business as may be necessary will be held at the Society's rooms in the Pavilion, corner 6 and M Streets, Sacramento, on the 27th of January 1871, at 10 o'clock A. M. A full attendance of members is desired.

CHAS. F. REED, Prest.

ROBT. BECK, Secretary.

1v1-tdr

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THE ESPECIAL ATTENTION of the owners of some of the best Patent Gang Plows in California, to the

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COLUMBIA Dec. 22d 1870.—Messrs. Dewey & Co.—*Gentlemen:*—I hereby acknowledge the receipt of my Letters Patent for my Sewing Machine, (through your agency), and to say that I am perfectly pleased, is only a poor way of expressing my gratitude for the manner in which you have attended to my business, and established my claims. Respectfully Yours, PER. JOHNSON.

PACIFIC RURAL PRESS

Number 3.] SAN FRANCISCO, SATURDAY, JAN. 21, 1871. [Volume I.

## OUR POULTRY PRESENTATION.

In the annexed beautiful poultry illustration we have represented three of the most popular and valuable breeds of fowls which are now claiming the attention of poultry fanciers.

In the upper left-hand corner is seen a pair of Silver-Spangled Hamburgs. This breed, though beautiful, is scarce, and but very little is said about them in the journals of the day. They are of two varieties—the *Silver* and the *Golden*-Spangled, similar in size and form, but differing in color. The Spangled Hamburgs are non-setters, but very good layers of small eggs. The fowls are of medium size, and are often mistaken for Spangled Poland Fowls, from which they are distinguished by their large top-not being *colored* instead of white. The superior beauty, as well as more useful qualities of this fowl, should cause them to be more abundant. They are indeed both useful and ornamental.

In the lower left-hand corner of the illustration a pair of Dark Bramas may be seen. This fowl stands at the head of the Asiatic breeds, in regard to size, and is perhaps superior, for all really useful purposes, to any other breed known. They are easily confined by a four-foot fence, are quiet and domestic in their habits, lay well, are exceedingly hardy, and furnish large, rapidly-growing chickens for the table. There are light and dark varieties, but we presume there is no difference in the intrinsic value of the two. For the fowls, Mr. Tegitmeir, in the *Journal of the Bath and West of England Society*, recommends a cross between Bramas and Dorkings, and at the winter shows in England, where prizes have been given for the best couple of fattened dead chickens, they have been, in a great majority of instances, carried off by these cross-breeds. The pure Brahmas, however, are all that can be reasonably asked for in a farm yard fowl.

PORTRAITS OF FOWLS FROM THE YARDS OF WM. T. SHEPHERD, EVANSTON, ILLINOIS.

The pair of Houdans, which occupy the right-hand side of the engraving, are fine specimens. This is a French breed, and is very popular in France. The Houdans are also non-sitters, profuse layers, good table fowls, and, in the land of their nativity, are said to be hardy.

Each of the above is a portrait of a living fowl, drawn true to nature, and the whole forms as pretty a group as is often met with anywhere.

The business of poultry raising, in this State, is becoming one of much importance, and it is with no little pleasure that we note the desire that is being manifested among our people to secure good breeds. Indeed, there is a feeling of public interest in that matter felt everywhere throughout the country—a feeling that leads those engaged in the business to regard it as a *science* worthy of study and careful research.

It is also a business that *pays*, wherever it is properly entered upon and conducted in a careful and intelligent manner. Books are now published upon the business, and the papers, everywhere, are giving hints to poultry raisers, which may be read with both profit and pleasure. A paper is also published, devoted exclusively to this interest.

Information is now so generally diffused, and good fowls so easily attainable, that there is no excuse for any serious mistakes, and no reason why farmers should fail to procure the most profitable kinds.

The rapid growth of our cities and large towns is constantly increasing the demand for poultry and eggs; and as this increase is one which will continue indefinitely, there is very little danger that the business will be overdone.

The quantity of eggs consumed in New York is enormous, amounting, by careful estimates, to an annual value of $2,000,000; and that of poultry to fully $1,000,000 more! Boston, with much less than half the population of New York, consumes considerably more than half as much in value of poultry and eggs.

The value of poultry in the United States, according to the census of 1860, was about $15,000,000. We cannot be much short of $20,000,000 at the present time.

We have no statistics from San Francisco; but it is well known that the consumption of eggs and poultry here is much larger in proportion to our population than in either New York or Boston. Eggs are also dearer here, although the cost of food for poultry is much lower. Hence there seems to be no reason why the business should not pay well, or why eggs should be sent to this market over 2,000 miles of railroad.

## MECHANICAL PROGRESS.

VACUUM TANNING.—The editor of the Boston *Hide and Leather Interest* has recently visited the establishment of Messrs. Norton, Dorr and Hunt, at Lewiston, Maine, to see the working of the above named process, and thinks it well worth the attention of tanners. The "vacuum tank" is of wood, copper lined, and capable of containing 100 "sides." At one end, an air-tight iron door, also copper-lined, is opened to receive the hides, which are hung upon hooks within, and the door is then closed. Several "junks," containing tanning liquor of different strengths, are placed underneath the tank, and connected with it by copper pipes so arranged that the liquor from either alone can be admitted into it at will. At the top of the tank enters the pipe from an air-pump driven by water power. There is a pipe and stopcock to admit the external air at the proper time; also a vacuum gauge and a liquor gauge. Everything being ready, the air-pump is started, and at the proper moment as indicated by the vacuum gauge, the liquor from one of the junks is let in, and allowed to flow until the gauge shows that no more will enter, when it is stopped, and the external air admitted. In about two hours the liquor is drawn off and a stronger one sent in in the same way from another junk, and so on, the strength being greater and the time longer for each. The liquor is changed four times the first day, and afterwards as often as may be necessary. The time required to tan a calf skin is two or three days; the heaviest hides need twenty. Some belting which was tanned in 16 days by this process had been running for several months, and was pronounced a very superior article.

The advantages claimed for this method are;—the saving of time,—and therefore of interest on the cost of hides until they are returned to the market as leather,—the saving of labor,—as the hides have to be handled but once,—the saving in bark,—for there is not time for chemical changes which affect the tannin,—and the increased weight, owing to the comparatively slight loss of gelatine by decomposition in a tanning so rapidly carried through. Although the first cost of the "plant" is somewhat greater than for the usual method, these advantages are said to largely counterbalance it.

TRANSMITTING POWER BY MEANS OF COMPRESSED AIR.—At a late meeting of the Polytechnic Club of the American Institute, W. S. Henson read a report prepared by him for Horace H. Day, who had employed him as engineer to conduct a series of experiments, to determine the feasibility of a plan for utilizing at Buffalo, N. Y., a 206 foot fall at Niagara, on the American side, 20 miles distant. We quote from this report:—"In response to your request for the elements necessary for the transmission of 5,000 horse power from Niagara Falls to Buffalo (about 20 miles), using your magnificent power of 206 feet fall, I suggest the utilization of 185 feet of this fall by the direct compressing power of a column of water acting as a ram, without the intervention of water wheels or the friction of cylindrical compressors with moving pistons, because by the use at *that point* of such compressors, you absorb the heat generated in the act of compression and avoid the loss from friction by piston or cylinder, and all the wear and tear of ponderous water wheels. This direct acting hydraulic pressure, working in one sense as a ram, may be made to develop any amount of pressure desirable, and taking into account the cost of pipes and other considerations, I would suggest that the pressure should not be less than 80 lbs. or more than 100 lbs. per square inch; and a pipe of 42 inches in diameter would transmit from Niagara Falls to Buffalo a column of air compressed to 100 lbs., with a velocity of ten feet per second, and a loss from friction of tube, for the whole distance, not exceeding one per cent. of the power transmitted, and deliver for use over 5,000 horse power of cold air. I should recommend, however, a pipe of 36 inches diameter, which should deliver a column of air at 100 lbs. pressure and 14.33 feet per second terminal velocity, and give a full 5,000 horse power of cold air, worked expansively at a loss by friction and exceeding five per cent. for the 20 miles."

NEW MINING LOCOMOTIVES.—The *U. S. Railroad Register* of Dec. 24th describes two small locomotives just completed at the Baldwin Works, for the Wilkesbarre Coal & Iron Co., to take the place of mules underground. We give part of the description: "The wheels were small, but heavy, with a broad, flat tread, and very light flange. The two cylinders, 9 inches in diameter (inside) by 12 inches stroke, lie under the front end of the boiler. The piston rods play between groups of four square slide rods, and a simply adjusted link motion works just forward of the fire box. The connections are of course inside, on the cranked axle of one of the two pairs of drivers (of 30 inches), which are the only wheels. The fire box and low platform overhangs behind. As coal is always at hand, no coal space is needed, and the water tank is folded over the top and sides of the boiler, acting as a jacket, and feeling quite hot to the hand. This tank holds 190 gallons, and the whole engine, with fuel and water weighs nearly 15,000 pounds. The makers guarantee that it shall haul, under all circumstances, with wet and dirty rails, on a level, 340 gross tons; on a 60 foot gradient, 80 gross tons; and on a 100 foot gradient, 50 gross tons."

SOLUTION OF SILK IN PHOTOGRAPHY.—We have alluded to the paper by J. Spiller, F. C. S., upon a method for the detection of other fibres in fabrics purporting to be entirely of silk, based upon the fact that silk alone is immediately and completely soluble in concentrated hydrochloric acid. In conclusion, Mr. Spiller remarks briefly upon the chemical properties of this silk solution. We quote: "The mucilaginous liquid so prepared cannot be evaporated, even over a water bath, without becoming somewhat carbonized; the free acid may be partially separated by dialysis, or by exposure to air in a shallow capsule, placed within a bell-jar charged with a liberal supply of slaked lime to absorb the hydrochloric fumes, but the resulting solution will not then bear dilution with water without precipitation of the animal matter. Ammonia, added in excess, forms a clear solution, which I am hopeful of being able to employ in photography; for when this liquid is evaporated, there is left a brown saline residue of rough astringent flavor, which, when mixed with aqueous nitrate of silver, gives a peculiar flocculent form of argentic chloride, which is no longer curdy, and much more rapidly affected by light than the ordinary condition of chloride of silver. These properties enable the silk compound to be usefully employed in the production of "matt-paper" prints and direct solar-camera enlargements. Its application to the collodio-chloride process appears also to be worthy of trial."

THE "WHITE CLOUD" ENGINE.—We take the following from *The Engineer* of Dec. 9th: "At the request of the inventor, we have recently been present at trials with a first experimental engine on a new principle. This engine compresses air in stages, passing it at each stage through water, by which process it is highly saturated, and the heat given out by the compression of the air at each stage is so entirely taken into the saturation, that even at the 400 lb. per square inch of pressure at which the engine was run during the trials, we witnessed the pumps remain quite cold. The highly compressed "white cloud" resulting from the operation is passed onwards to a coil in a heating chamber, and from this coil to the cylinder. As in all first experimental engines, both the arrangements and proportions are admittedly as yet very imperfect. We may instance one evident defect in the fact that, with the charge cut off at one-fourth the stroke, and 400 lb. pressure, 100 lb. of pressure is wasted into the exhaust. This excessive waste with a larger cylinder might be saved, and with other advantages obtainable from such increase in its size, might be expressed in effective power. With a cylinder of 4¾ inches diameter, and a 6-inch stroke, an exertion of about 4-horse effective power on a continually suspended load was obtained, at a consumption of fuel about equal to that used by those prize engines at the late Oxford engine trials, which so exerted that amount of horse-power."

## SCIENTIFIC PROGRESS.

MIOCENE MAN NOT PROVED.—The following is from a notice by W. Boyd Dawkins, in *Nature*, of M. Hamy's "Palæontology of Man": "The evidence adduced by M. Bourgeois of the discovery of flint flakes and scrapers in the Miocene strata of Thenay, along with remains of the hornless rhinoceros and mastodon, proves, according to M. Hamy, that man was an inhabitant of Miocene Europe. It is, however, rejected by most of the French and English *savants*, because M. Bourgeois has not shown that the implements in question may not have been derived ultimately from the surface of the ground, where they are very abundant. While M. Hamy acknowledges this to be the case, he does not see its full bearing on the value of the testimony. The implements probably are of Quaternary, or even of post-quaternary age, and certainly cannot be considered decisive of the sojourn of man in Europe during the Miocene epoch, although the climate at the time was almost tropical, and the conditions of life easy. Nor can the evidence of the grooved bones of Halithere, found by M. Delaunay at Puancé in Maine-et-Loire be accepted, because it cannot be proved that the grooves may not have been caused by some other agency than that of man. The proof of the existence of man in Europe during the Pliocene epoch derived from the striæ in the fossil bones found at Saint Prest and in the valley of the Arno, accepted by M. Hamy, is equally unsatisfactory. The flint "arrow-head" and other rude fragments said to have been obtained at the former place from the same horizon as the bones of *Elephas meridionalis*, by M. Bourgeois, the stout champion of Miocene man, do not afford the precise and exact testimony which is demanded for the establishment of the case. The presence, indeed, of man in Europe in the Miocene and Pliocene epoch is as yet non-proven, and we must be content to await future discoveries. The result of the labors of archæologists and geologists throughout Europe during the last ten years has not placed the advent of man further back than the river gravels of the Somme, and the epoch of the caves, both of which are post-glacial or post-pliocene, or quaternary, in other words posterior to the great submergence and refrigeration of northen Europe, through which many of the Pliocene mammalia were destroyed."

EOZOÖN CANADENSE.—It will be remembered that some time since Messrs. Logan, Dawson, Carpenter and Hunt, announced the discovery of organic remains in the Laurentian rocks of Canada; and it was said that here we had the earliest known trace of animal life. The subject has been considerably discussed. *Nature* for Dec. 22d contains a letter from T. M. Reade, in which, after briefly reviewing the history of the controversy, the writer gives his own reasons for considering the so-called organism a merely mineral production. We quote a single paragraph: "The broad fact then remains unshaken that in unaltered rocks no Eozoönal structures have yet been discovered. On the other hand, in metamorphosed rocks such structures are abundant, and even Dr. Gümbel, of the Bavarian Survey, a believer in Eozoön, has been much mystified by finding its features in impossible places. Not only do we find it in the Laurentians, but in rocks of a much later date, but curiously only in those that have undergone alteration. If it be an organism, then hydrothermal action, it seems, is necessary to its development, not as one would suspect during life, but ages after its entombment is sedimentary deposits."

ABSORPTION OF SULPHUR BY GOLD.—A paper with the above title was read at a recent meeting of the Philosophical Society at Wellington, New Zealand, by W. Skey, Government analyst. The author, while recently investigating the causes of the reported loss of gold at the Thames gold fields during its extraction from the ore, found that gold is acted on by sulphuretted hydrogen, and thus a sulphide is formed which tarnishes the surface. Also that gold combines with free sulphur at a temperature of 212° Fahr. Gold thus sulphurized on the surface will not amalgamate with mercury. The loss of gold is not altogether due to the condition of the mercury, as has hitherto been supposed, as he has found this sulphide on the surface of native gold of every degree of purity.

VISION UNDER WATER.—A correspondent of *Nature* makes a "Contribution to the dioptrics of vision," from which we quote: "A couple of watch-glasses, placed with their concavities towards one another, so as to enclose a convex lenticular portion of air, when immersed in water, disperse the rays of light and diminish the size of objects seen through them, because they force the more refractive medium, the water, to assume a *concave* shape in relation to the air between the glasses. The same watch-glasses placed with their convex surfaces towards one another, and connected around their edges by a water-tight rim, thus enclosing a concave lenticular portion of air, when immersed in water, refract the rays of light convergently to a focus and magnify objects, because they force the more refractive medium to assume a *convex* shape in relation to the air between the glasses. Their magnifying power or focal distance under water is somewhat less than that of the same glasses in the reversed position and filled with water is in air; the slight difference being owing to the greater refractive power of the glass in air than in water. I found that two glasses of a curvature of about 1¼ inch radius thus placed formed in water a lens having a focus of about two inches. This *air-lens*, as it may be called, completely supplies the loss of our anterior lens in water, and restores perfect vision. Of course the same magnifying power may be obtained by various combinations of differently curved glasses, or by plano-concave or concavo-convex air-lenses. The advantages of this kind of lens for subaqueous vision over a glass lens are obvious. It can be made of any required size so as to command a large lateral field of vision. It ceases to act as a lens the instant it emerges from the water, and does not interfere with vision in the air, as then we merely look through two thin pieces of glass with some air between them. There is no provoking loss of refractive power, as in the case of the glass lens; and lastly, it can be made very cheaply. With either form of lens we can see from below the water objects in the air above us quite distinctly if the surface of the water is smooth, less distinctly if it is agitated."

THE YALE EXPEDITION.—The New York *Herald* of Dec. 24th has an article giving some notes of the excursion of Prof. O. C. Marsh's scientific party, among which we find the following:—At the Antelope well, where Prof. Marsh discovered, in 1868, the fossil liliputian horse, which he has since named *Equus parvulus*,—were found several others, making in all eighteen distinct species of fossil horses so far discovered on this continent. "Of the other animals obtained from this well, there were two kinds of rhinoceros, an animal something like the hog, one or two allied to the camel, and two or three carniverous animals, one of them larger than a lion. In all, fifteen species of extinct animals were found in a space of ten feet in diameter and only six or eight feet in depth, making it by far the most remarkable animal discovery ever made in any part of the world. It is supposed this locality was once the margin of a great lake, and that the animals sunk down in the mire when they went into the water to drink."

AFRICAN EXPLORATIONS.—Dr. Petermann the leading geographical authority in Germany, has just received important letters and maps from the distinguished African explorer, Dr. Schweinfurth with news to the 29th of July. This traveler reports a lengthy journey in the direction of the equator, by means of which our previous knowledge of the sources of the Nile has been enlarged, and to some extent modified. The source of the Schari river, flowing into Lake Tsad, has been discovered, and Lake Piaggias, of which so much has been written, has probably no existence!—*Clerant, Dec.* 31.

SULPHURET OF ZINC.—A. Wagner records a series of experiments made with sulphuret of zinc, purposely prepared and left stand exposed to the air. The chief results that sulphide of zinc hardly oxidizes at all; and for what little it does, it evolves sulphuretted hydrogen, and differs essentially from the sulphurets of iron and manganese, which become, under the same conditions, converted into oxides, sulphur being set free.—*Dingler's Journal.*

DELICATE COLOR-TEST FOR STRYCHNIA.—W. T. Wenzell finds that a solution of one grain of permanganate of potassa in a thousand grammes of sulphuric acid will detect even a trace of strychnia.

# CORRESPONDENCE.

## Bound East.

[Continued from page 19.]

### The Union Pacific Railroad.

The enterprise shown in building this road, the longest in the world, cannot be too highly praised, and its present and prospective value to the whole country cannot be over-estimated. Roads are great civilizers. The action of Marshal Wade in building common roads in Scotland, years ago, is said to have exercised a more beneficial effect on that country in advancing the interests of the people in all respects, than had been accomplished by the most strenuous exertions of legislators and philanthropists during long periods of time. What Wade's roads did for Scotland, our railroads are doing for the United States. Our trans-continental road is opening up vast natural resources, which otherwise would remain lost to the world.

The present Board of Managers of the road are deserving of the highest credit for the manner in which they conduct the affairs of so great and important an institution. They are liberal in their action, ever ready to aid in developing the districts along the line, and do all in their power to forward the interests of the country. In these matters they are aided by the efficient corps of officers connected with the road. The road is built as well and managed perhaps better than most Eastern roads, the traveler has the best of accommodations, and the freight charges are indeed remarkably low.

There has been considerable discussion as to which is the shortest route from St. Louis to San Francisco—*via* Omaha or *via* Kansas City. A gentleman writing to a paper in Omaha, quotes these figures: From St. Louis to Omaha, 438 miles; from Omaha to Cheyenne, 516 miles; total, 954 miles. From St. Louis to Kansas City, 272 miles; from Kansas City to Cheyenne, 745 miles; total, 1,017 miles; showing a difference in favor of Omaha of 63 miles. This difference will be increased fully 100 miles as soon as another road, now building, is completed.

### Omaha and Council Bluffs.

Omaha, the present terminus of the Union Pacific Railroad, is a go-ahead place of 15,000 to 18,000 inhabitants. It was the first settlement made in Nebraska, although it did not attain any considerable importance or size until the Union Pacific Railroad was inaugurated. Since that time it has grown very rapidly. It has a large area of fertile territory tributary to it, and its connections by steamboat and locomotive are bringing to it a vast amount of trade. It now supports four newspapers, has a large number of hotels, contains many fine residences, etc., etc. Between this city and Council Bluffs, situated just opposite, on the east side of the Missouri (but three miles back from the banks of the river), there is considerable rivalry. Council Bluffs is also quite old as a settlement, but young as a city. It was the Kanesville of the Mormons from 1846 until 1853, when the present name was adopted.

The great bridge over the Missouri, built by the Union Pacific, is one of the first objects of attraction. It is built after "Post's patent," will be of iron and half a mile long. It will be 50 feet above high water mark, and will rest on hollow iron pipes (cylinders, 8½ feet in diameter), filled in with concrete, rock, etc. The spans, 250 feet in length, are 11 in number. Work is going on night and day, and the bridge will be completed some time in 1871. I am told that it will cost about $2,000,000.

The machine shops, etc., of the railroad are well worth a visit. They are situated near the river on a tract of some 30 acres in area, are of brick, and are most complete in all respects.

The 12,000 inhabitants of Council Bluffs are live people. They have a street railway, several papers, fine school houses and churches, a large (the State) Deaf and Dumb Asylum, several flouring mills, and other evidences of progressing civilization. The Council Bluffs Iron Works must not be forgotten. Here 40 men are employed. The company has just secured the control of Borchoff's (?) improvements in mining machinery, among which pressed shoes and dies deserve mention. These are made of the best and toughest iron, cast with neck down, and while hot subjected to a heavy screw pressure, which makes them very solid and close-grained. I am informed that they have been tested thoroughly in Colorado, and have given great satisfaction, being very durable.

### The Omaha Reduction Works.

Meeting Mr. Leopold Balbach, I was kindly invited by him to take a walk through the works of the Omaha Smelting and Refining Company. Mr. Balbach has been engaged from boyhood in the smelting operations carried on at Newark, New Jersey, and the company has been fortunate in being able to secure his valuable services as superintendent.

Being anxious to furnish items of interest to the readers of the PRESS, I send you on the information which I have obtained, I try to give *facts*, and facts only.

Ground was broken on the 15th of October. The U. P. R. R. Co. granted the company all the ground which they required, and a side track has been laid to the works, which are now nearly completed. On and after the first of January, the company will be prepared to receive ores and bullion.

The main building is 40x80 feet. Here are two reverberatory furnaces, two shaft furnaces, four separating furnaces and a cupelling furnace. In a side-building, 30x30, is placed a 20-horse power engine, with boiler, etc. Each separating furnace has a capacity of from 4 to 5 tons in 24 hours, is 6x9 feet, the hearth 4x5 feet, and the kettles are 22 in. deep and 30 in. in diameter. The main stack is 55 feet, and the second is 35 feet high. There will be used for furnaces, stacks, etc., 15,000 fire-brick and 175,000 common brick; also 20 tons of castings, etc. The iron work comes from the foundry of Hall and Brothers. They are now building an addition, 30x40 feet, with two more furnaces for refining the lead.

When the works are running, some 20 or more workmen will be employed. Coal from the Wyoming coal mine, on the U. P. R. R., will be used in the reverberatory furnaces. Arrangements have been made with the railroad, by virtue of which ore will be transported from Ogden to the works at the rate of $100 currency per car load of 10 tons. The charges will be: for reducing ores, $30 to 50 currency per ton; for desilverizing bullion, $16½ to $22½ currency per ton. Returns will be made in two to four weeks. The company will increase the capacity of the works as they may find it necessary.

### The Balbach Process.

The Balbach process for separating silver and gold from lead will be used here. The process consists in melting the lead that contains the gold and silver in a furnace with an inclined hearth, and drawing it off into a kettle containing a certain amount of zinc in a molten state. After all the lead is thus drawn off, the latter is thoroughly mixed with the zinc, after which it is cast into pigs or bars and replaced in a similar furnace, and just sufficient heat given to melt the lead, but not to melt either zinc, silver or gold. The latter alloy is then placed in retorts where the zinc is distilled off from the silver and gold with a small portion of the lead, after which the latter three metals are placed upon a cupel for further refining. W. H. M.

[To be continued.]

## Notes of Travel in San Joaquin County.

[Written for the PRESS.]

### Stockton Statistics.

San Joaquin County at present contains 21,079 inhabitants, an increase of 124 per cent. in ten years. The city of Stockton (the county seat) is situated on the San Joaquin river, 125 miles from San Francisco by water and 90 miles by rail, and 50 miles from Sacramento. It contains 10,033 inhabitants, a gain of 170 per cent. in 10 years, and is the fourth city in the state, as regards population, but the second in manufactures. Of these last I will speak further along. The outstanding indebtedness of the county is but $314,102, without any floating indebtedness. The following returns, from the U. S. Marshal's report, show the real value of property in the county to be $23,474,805, an increase of $20,591,761 in ten years. The real estate transactions for the 12 months ending Dec. 31, 1870, were $1,085,488; the U. S. Land Office sales for the same period, in the county at large, foot up 262,825 acres, paid for, pre-empted and otherwise. $160,885 worth of brick and $155,300 worth of frame buildings were erected in Stockton in 1870. The street and sidewalk improvements for the same year amounted to $83,000. The number of children attending the public schools in this city, according to the annual report of the Superintendent of Public Schools, ending July, 1870, was 2,709; and $50,312.38 was expended last year for buildings, salaries of teachers, etc., for the convenience of, and educating the same. The mortality for 1870 was 205. The number of marriages for the same period was 162. The number of inches rain fall for 1870 was 7.66, The city contains 3 banks representing an aggregate capital of $1,250,000.

The secret organizations represented here are the T. and A. M., Independent Order of Odd Fellows, and Red Men; and the order of the Knights of Pithias, are about starting a Lodge here. Of the three former, all are in a prosperous condition and have a large and still increasing membership. The Odd Fellows of this city formed an association in 1867, known as the Odd Fellows Hall Association, and purchased a lot and built one of the finest halls of the kind in the State, which cost $47,000. In 1867, they borrowed $22,500, and on Oct. 1st, 1870, they had decreased this indebtedness to $15,349.83. They expect to clear off the entire indebtedness by June 19th 1873. C. O. Burton, is Prest., Joseph Adams, Treasurer, and T. K. Hook, Secretary of the Association.

### Ship Canal—Railroads.

The Stockton Ship Canal Company is a very important association. The incorporators are G. S. Evans, P. Bargion, J. Sedgwick, S. Eldridge, S. Badger, T. K. Hook, G. A. Shurtleff, J. Schriek, C. G. Hubner, J. M. Cavis, Wm. H. Knight, H. H. Bancroft, G. L. Kenney, N. Sposati, C. M. Weber, P. Neistrath, W. S. Moss, N. M. Orr, K. C. Sargent and C. M. Creanor. The Directors are Wm. H. Knight, (President), T. K. Hook (Vice President) C. G. Hubner, (Treasurer), S. Eldridge, and H. H. Bancroft. The grantees of the Stockton Ship Canal franchise, granted by the last Legislature, have assigned their interest therein to the above named incorporators. The project is one of the greatest importance to Stockton, and the people will help it on if they are alive to their interests. I promise in a future article to give an extended account, and to illustrate this with a diagram, (your space permitting,) and in connection with the same, its converging lines of railroads, in process of completion.

At the present writing, about 10 miles of the S. & C. R. R. are finished, to a point. where a new town is being laid out, to be called Holdenville. Four miles farther along, on the same road, another town is being laid out to be called Petersburg. Both of these are named in honor of two prominent citizens of Stockton. From Petersburg it is proposed to build three lines, one to Angels Camp, and Murphy's; the main road to extend to Copperopolis and Sonora; and the other branch to Farmington, Knights Ferry, and so on. 40 miles of the iron rail is on board vessels now due at your port.

### Manufactures.

The Stockton Woolen Mills, Lambert, Doughty & Tatterson proprietors, have manufactured to date (only recently started) $10,000 worth of blankets, $5,000 worth of which have been actually sold. They employ regularly 20 men. The works are run by a forty-horse power engine, with a capacity of running four times the machinery now in operation. The fabrics of this mill are in good demand with the citizens here, but the lack of funds, to extend their capacity, is the only draw-back to introducing their goods to the world at large.

Of tanneries, there are several here, doing, I am informed, a good trade. As yet I have visited but one, that of J. S. Derby, situated on Mormon Slough in the suburbs of Stockton. Mr. D. employs regularly 5 men, and is doing a business of $20,000 per annum; for nine months of the year he turns out 120 sides per week. Calf, Kip, Harness, Skirting and Sole Leather is his speciality.

The Stockton Iron Works, Farrington, Hyatt & Co., proprietors, manufacture steam engines, iron and brass castings, and regularly employ 11 men. The machinery is run by steam power and is kept busy the year round.

Matteson & Williamson, are the manufacturers of all kinds of plows. They hold the patent-right of the American Chief Iron Sulky Gang Plows, of which they manufactured 120 last year, which they sold for $11,400, besides numerous and sundry other plows, harrows, cultivators, etc., to the extent of $25,000, or $30,000 more. The total amount of manufactured articles by all the different manufactories in iron, wood and tin, in Stockton for the year just ended, was $1,392,918.

Sperry & Co.'s grist mill, on the corner of Beaver and Leavy sts., is 50x100 ft., four stories high, and cost its previous and present proprietors $150,000 to erect. For the last four years it has averaged yearly 70,000 bbls. of flour, and 500 tons of ground barley. It is run by an engine of 185 horse power, supplied by three tubular boilers, of 54 inches diameter, 16 ft., long, with 49 3½-inch tubes in each; the capacity of this mill is 500 bbls. of flour and 25 tons of ground barley per 24 hours run.

Livery and Sale Stables.—M. Magner, of the "El Dorado," has probably the largest stock of horses, from 40 to 50 head. His principal business in summer is with tourists to the Big Trees and Yosemite. He keeps a register of all tourists, names, which it is quite interesting to review. He has on hand all kinds of imported buggies, carriages, and wagons for sale, having the agency of several prominent manufactories in the East. The "Main Street" stable, kept by Doak & Dunning, and the "Weber" stable, by Beldin & Morris, are worthy of mention, but in the absence of statistics, I must pass them.

The "Yosemite" stable, Geo. Fox, proprietor, was completed in May last, and is one of the finest of its kind in the State. It is of brick, 75x75 ft., with gas and artesian water throughout the whole. It has a capacity of stabling 200 head of horses, and cost $14,000. Mr. F. has at present forty-six head of horses, fourteen of which are valued at $500 each and upwards. For his dark bay horse, *Defiance*, he has refused $2,500. This horse is considered one of the fastest *pacers* on the California turf. Without any attempt to flatter, I think he has the largest number of fine horses and corresponding turnouts in the State.

### Fine Stock.

Hiram Drew.—This fine stallion is six years old, a deep cherry bay, with black points, no white, stands 16 hands high, weighs about 1,200 pounds, and shows well for speed, having made a 3 minute gait with 4 weeks training from the bitting harness. He was raised in Penobscot Co., Maine, and imported to this State in May last, by W. E. Green, who disposed of a one-half interest to L. E. Yates of Stockton, where he is now kept. He was raised by 'Old Drew' of Maine, who was the origin of many fine and fast trotters, among which is the celebrated stallion, McClellan, now in San Francisco; also the Cloudman horse, supposed to be now in New Jersey. Both of these have trotted low down in the twenties. Also grand sire to Little Fred, who trotted in the fall of 1869, at Philadelphia, in 2:21. Of the pedigree of Old Drew, but little is known, except that his dam was a fast trotting mare of English origin, having trotted 20 miles in one hour, subsequent to her bringing Old Drew. The dam of Hiram Drew was sired by Old Eaton, of Maine, out of mare sired by Anson Messenger, he by Winthrop Messenger, and he by Imported Messenger. Old Eaton was sired by the Avery horse of Maine out of a Highlander Mare. The Avery Horse by Massachusetts Messenger; dam, a Morgan mare.

Chieftain.—This excellent stallion is owned by J. H. Dodge and M. T. Noyes. He is 16½ hands high, light bay, black legs and tail, weighs 1,350 lbs., is 14 years old, valued at $6,000, and is considered among the best of his kind in the State. He is the sire of Defiance, the celebrated pacer owned by Geo. Fox of Stockton; also of Grant, owned by Sargent of your city; also of Flora, the trotter. L. P. MC.

[To be Continued.]

## MECHANICAL PROGRESS.

VACUUM TANNING.—The editor of the Boston *Hide and Leather Interest* has recently visited the establishment of Messrs. Norton, Dorr and Hunt, at Lewiston, Maine, to see the working of the above named process, and thinks it well worth the attention of tanners. The "vacuum tank" is of wood, copper lined, and capable of containing 100 "sides." At one end, an air-tight iron door, also copper-lined, is opened to receive the hides, which are hung upon hooks within, and the door is then closed. Several "junks," containing tanning liquor of different strengths, are placed underneath the tank, and connected with it by copper pipes so arranged that the liquor from either alone can be admitted into it at will. At the top of the tank enters the pipe from an air-pump driven by water power. There is a pipe and stopcock to admit the external air at the proper time; also a vacuum gauge and a liquor gauge. Everything being ready, the air-pump is started, and at the proper moment as indicated by the vacuum gauge, the liquor from one of the junks is let in, and allowed to flow until the gauge shows that no more will enter, when it is stopped, and the external air admitted. In about two hours the liquor is drawn off and a stronger one sent in in the same way from another junk, and so on, the strength being greater and the time longer for each. The liquor is changed four times the first day, and afterwards as often as may be necessary. The time required to tan a calf skin is two or three days; the heaviest hides need twenty. Some belting which was tanned in 16 days by this process had been running for several months, and was pronounced a very superior article.

The advantages claimed for this method are;—the saving of time,—and therefore of interest on the cost of hides until they are returned to the market as leather,—the saving of labor,—as the hides have to be handled but once,—the saving in bark,—for there is not time for chemical changes which affect the tannin,—and the increased weight, owing to the comparatively slight loss of gelatine by decomposition in a tanning so rapidly carried through. Although the first cost of the "plant" is somewhat greater than for the usual method, these advantages are said to largely counterbalance it.

TRANSMITTING POWER BY MEANS OF COMPRESSED AIR.—At a late meeting of the Polytechnic Club of the American Institute, W. S. Henson read a report prepared by him for Horace H. Day, who had employed him as engineer to conduct a series of experiments, to determine the feasibility of a plan for utilizing at Buffalo, N. Y., a 206 foot fall at Niagara, on the American side, 20 miles distant. We quote from this report:—"In response to your request for the elements necessary for the transmission of 5,000 horse power from Niagara Falls to Buffalo (about 20 miles), using your magnificent power of 206 feet fall, I suggest the utilization of 185 feet of this fall by the direct compressing power of a column of water acting as a ram, without the intervention of water wheels or the friction of cylindrical compressors with moving pistons, because by the use at *that point* of such compressors, you absorb the heat generated in the act of compression and avoid the loss from friction by piston or cylinder, and all the wear and tear of ponderous water wheels. This direct acting hydraulic pressure, working in one sense as a ram, may be made to develop any amount of pressure desirable, and taking into account the cost of pipes and other considerations, I would suggest that the pressure should not be less than 80 lbs. or more than 100 lbs. per square inch; and a pipe of 42 inches in diameter would transmit from Niagara Falls to Buffalo a column of air compressed to 100 lbs., with a velocity of ten feet per second, and a loss from friction of tube, for the whole distance, not exceeding one per cent. of the power transmitted, and deliver for use over 5,000 horse power of cold air. I should recommend, however, a pipe of 36 inches diameter, which should deliver a column of air at 100 lbs. pressure and 14.33 feet per second terminal velocity, and give a full 5,000 horse power of cold air, worked expansively at a loss by friction and exceeding five per cent. for the 20 miles."

NEW MINING LOCOMOTIVES.—The *U. S. Railroad Register* of Dec. 24th describes two small locomotives just completed at the Baldwin Works, for the Wilkesbarre Coal & Iron Co., to take the place of mules underground. We give part of the description: "The wheels were small, but heavy, with a broad, flat tread, and very light flange. The two cylinders, 9 inches in diameter (inside) by 12 inches stroke, lie under the front end of the boiler. The piston rods play between groups of four square slide rods, and a simply adjusted link motion works just forward of the fire box. The connections are of course inside, on the cranked axle of one of the two pairs of drivers (of 30 inches), which are the only wheels. The fire box and low platform overhangs behind. As coal is always at hand, no coal space is needed, and the water tank is folded over the top and sides of the boiler, acting as a jacket, and feeling quite hot to the hand. This tank holds 190 gallons, and the whole engine, with fuel and water weighs nearly 15,000 pounds. The makers guarantee that it shall haul, under all circumstances, with wet and dirty rails, on a level, 340 gross tons; on a 60 foot gradient, 80 gross tons; and on a 100 foot gradient, 50 gross tons."

SOLUTION OF SILK IN PHOTOGRAPHY.—We have alluded to the paper by J. Spiller, F. C. S., upon a method for the detection of other fibres in fabrics purporting to be entirely of silk, based upon the fact that silk alone is immediately and completely soluble in concentrated hydrochloric acid. In conclusion, Mr. Spiller remarks briefly upon the chemical properties of this silk solution. We quote: "The mucilaginous liquid so prepared cannot be evaporated, even over a water bath, without becoming somewhat carbonized; the free acid may be partially separated by dialysis, or by exposure to air in a shallow capsule, placed within a bell-jar charged with a liberal supply of slaked lime to absorb the hydrochloric fumes, but the resulting solution will not then bear dilution with water without precipitation of the animal matter. Ammonia, added in excess, forms a clear solution, which I am hopeful of being able to employ in photography; for when this liquid is evaporated, there is left a brown saline residue of rough astringent flavor, which, when mixed with aqueous nitrate of silver, gives a peculiar flocculent form of argentic chloride, which is no longer curdy, and much more rapidly affected by light than the ordinary condition of chloride of silver. These properties enable the silk compound to be usefully employed in the production of "matt-paper" prints and direct solar-camera enlargements. Its application to the collodio-chloride process appears also to be worthy of trial."

THE "WHITE CLOUD" ENGINE.—We take the following from *The Engineer* of Dec. 9th: "At the request of the inventor, we have recently been present at trials with a first experimental engine on a new principle. This engine compresses air in stages, passing it at each stage through water, by which process it is highly saturated, and the heat given out by the compression of the air at each stage is so entirely taken into the saturation, that even at the 400 lb. per square inch of pressure at which the engine was run during the trials, we witnessed the pumps remain quite cold. The highly compressed "white cloud" resulting from the operation is passed onwards to a coil in a heating chamber, and from this coil to the cylinder. As in all first experimental engines, both the arrangements and proportions are admittedly as yet very imperfect. We may instance one evident defect in the fact that, with the charge cut off at one-fourth the stroke, and 400 lb. pressure, 100 lb. of pressure is wasted into the exhaust. This excessive waste with a larger cylinder might be saved, and with other advantages obtainable from such increase in its size, might be expressed in effective power. With a cylinder of 4⅜ inches diameter, and a 6-inch stroke, an exertion of about 4-horse effective power on a continually suspended load was obtained, at a consumption of fuel about equal to that used by those prize engines at the late Oxford engine trials, which so exerted that amount of horse-power."

## SCIENTIFIC PROGRESS.

MIOCENE MAN NOT PROVED.—The following is from a notice by W. Boyd Dawkins, in *Nature*, of M. Hamy's "Palæontology of Man": "The evidence adduced by M. Bourgeois of the discovery of flint flakes and scrapers in the Miocene strata of Thenay, along with remains of the hornless rhinoceros and mastodon, proves, according to M. Hamy, that man was an inhabitant of Miocene Europe. It is, however, rejected by most of the French and English *savants*, because M. Bourgeois has not shown that the implements in question may not have been derived ultimately from the surface of the ground, where they are very abundant. While M. Hamy acknowledges this to be the case, he does not see its full bearing on the value of the testimony. The implements probably are of Quaternary, or even of post-quaternary age, and certainly cannot be considered decisive of the sojourn of man in Europe during the Miocene epoch, although the climate at the time was almost tropical, and the conditions of life easy. Nor can the evidence of the grooved bones of Halithere, found by M. Delaunay at Puancé in Maine-et-Loire be accepted, because it cannot be proved that the grooves may not have been caused by some other agency than that of man. The proof of the existence of man in Europe during the Pliocene epoch derived from the striæ in the fossil bones found at Saint Prest and in the valley of the Arno, accepted by M. Hamy, is equally unsatisfactory. The flint "arrow-head" and other rude fragments said to have been obtained at the former place from the same horizon as the bones of *Elephas meridionalis*, by M. Bourgeois, the stout champion of Miocene man, do not afford the precise and exact testimony which is demanded for the establishment of the case. The presence, indeed, of man in Europe in the Miocene and Pliocene epoch is as yet non-proven, and we must be content to await future discoveries. The result of the labors of archæologists and geologists throughout Europe during the last ten years has not placed the advent of man further back than the river gravels of the Somme, and the epoch of the caves, both of which are post-glacial or post-pliocene, or quaternary, in other words posterior to the great submergence and refrigeration of northen Europe, through which many of the Pliocene mammalia were destroyed."

EOZOÖN CANADENSE.—It will be remembered that some time since Messrs. Logan, Dawson, Carpenter and Hunt, announced the discovery of organic remains in the Laurentian rocks of Canada; and it was said that here we had the earliest known trace of animal life. The subject has been considerably discussed. *Nature* for Dec. 22d contains a letter from T. M. Reade, in which, after briefly reviewing the history of the controversy, the writer gives his own reasons for considering the so-called organism a merely mineral production. We quote a single paragraph: "The broad fact then remains unshaken that in unaltered rocks no Eozoönal structures have yet been discovered. On the other hand, in metamorphosed rocks such structures are abundant, and even Dr. Gümbel, of the Bavarian Survey, a believer in Eozoön, has been much mystified by finding its features in impossible places. Not only do we find it in the Laurentians, but in rocks of a much later date, but curiously only in those that have undergone alteration. If it be an organism, then hydrothermal action, it seems, is necessary to its development, not as one would suspect during life, but ages after its entombment is sedimentary deposits."

ABSORPTION OF SULPHUR BY GOLD.—A paper with the above title was read at a recent meeting of the Philosophical Society at Wellington, New Zealand, by W. Skey, Government analyst. The author, while recently investigating the causes of the reported loss of gold at the Thames gold fields during its extraction from the ore, found that gold is acted on by sulphuretted hydrogen, and thus a sulphide is formed which tarnishes the surface. Also that gold combines with free sulphur at a temperature of 212° Fahr. Gold thus sulphurized on the surface will not amalgamate with mercury. The loss of gold is not altogether due to the condition of the mercury, as has hitherto been supposed, as he has found this sulphide on the surface of native gold of every degree of purity.

VISION UNDER WATER.—A correspondent of *Nature* makes a "Contribution to the dioptrics of vision," from which we quote: "A couple of watch-glasses, placed with their concavities towards one another, so as to enclose a convex lenticular portion of air, when immersed in water, disperse the rays of light and diminish the size of objects seen through them, because they force the more refractive medium, the water, to assume a *concave* shape in relation to the air between the glasses. The same watch-glasses placed with their convex surfaces towards one another, and connected around their edges by a water-tight rim, thus enclosing a concave lenticular portion of air, when immersed in water, refract the rays of light convergently to a focus and magnify objects, because they force the more refractive medium to assume a *convex* shape in relation to the air between the glasses. Their magnifying power or focal distance under water is somewhat less than that of the same glasses in the reversed position and filled with water is in air; the slight difference being owing to the greater refractive power of the glass in air than in water. I found that two glasses of a curvature of about 1¼ inch radius thus placed formed in water a lens having a focus of about two inches. This *air-lens*, as it may be called, completely supplies the loss of our anterior lens in water, and restores perfect vision. Of course the same magnifying power may be obtained by various combinations of differently curved glasses, or by plano-concave or concavo-convex air-lenses. The advantages of this kind of lens for subaqueous vision over a glass lens are obvious. It can be made of any required size so as to command a large lateral field of vision. It ceases to act as a lens the instant it emerges from the water, and does not interfere with vision in the air, as then we merely look through two thin pieces of glass with some air between them. There is no provoking loss of refractive power, as in the case of the glass lens; and lastly, it can be made very cheaply. With either form of lens we can see from below the water objects in the air above us quite distinctly if the surface of the water is smooth, less distinctly if it is agitated."

THE YALE EXPEDITION.—The New York *Herald* of Dec. 24th has an article giving some notes of the excursion of Prof. O. C. Marsh's scientific party, among which we find the following:—At the Antelope well, where Prof. Marsh discovered, in 1868, the fossil liliputian horse, which he has since named *Equus parvulus*,—were found several others, making in all eighteen distinct species of fossil horses so far discovered on this continent. "Of the other animals obtained from this well, there were two kinds of rhinoceros, an animal something like the hog, one or two allied to the camel, and two or three carniverous animals, one of them larger than a lion. In all, fifteen species of extinct animals were found in a space of ten feet in diameter and only six or eight feet in depth, making it by far the most remarkable animal discovery ever made in any part of the world. It is supposed this locality was once the margin of a great lake, and that the animals sunk down in the mire when they went into the water to drink."

AFRICAN EXPLORATIONS.—Dr. Petermann, the leading geographical authority in Germany, has just received important letters and maps from the distinguished African explorer, Dr. Schweinfurth with news to the 29th of July. This traveler reports a lengthy journey in the direction of the equator, by means of which our previous knowledge of the sources of the Nile has been enlarged, and to some extent modified. The source of the Schari river, flowing into Lake Tsad, has been discovered, and Lake Piaggias, of which so much has been written, has probably no existence!—*Courant, Dec.* 31.

SULPHURET OF ZINC.—A. Wagner records a series of experiments made with sulphuret of zinc, purposely prepared and left standing exposed to the air. The chief result is, that sulphide of zinc hardly oxidizes at all; and for what little it does, it evolves sulphuretted hydrogen, and differs essentially from the sulphurets of iron and manganese, which become, under the same conditions, converted into oxides, sulphur being set free.—*Dingler's Journal.*

DELICATE COLOR-TEST FOR STRYCHNIA.—W. T. Wenzell finds that a solution of one grain of permanganate of potassa in two thousand grammes of sulphuric acid will detect even a trace of strychnia.

# CORRESPONDENCE.

## Bound East.

[Continued from page 19.]

### The Union Pacific Railroad.

The enterprise shown in building this road, the longest in the world, cannot be too highly praised, and its present and prospective value to the whole country cannot be over-estimated. Roads are great civilizers. The action of Marshal Wade in building common roads in Scotland, years ago, is said to have exercised a more beneficial effect on that country in advancing the interests of the people in all respects, than had been accomplished by the most strenuous exertions of legislators and philanthropists during long periods of time. What Wade's roads did for Scotland, our railroads are doing for the United States. Our trans-continental road is opening up vast natural resources, which otherwise would remain lost to the world.

The present Board of Managers of the road are deserving of the highest credit for the manner in which they conduct the affairs of so great and important an institution. They are liberal in their action, ever ready to aid in developing the districts along the line, and do all in their power to forward the interests of the country. In these matters they are aided by the efficient corps of officers connected with the road. The road is built as well and managed perhaps better than most Eastern roads, the traveler has the best of accommodations, and the freight charges are indeed remarkably low.

There has been considerable discussion as to which is the shortest route from St. Louis to San Francisco—*via* Omaha or *via* Kansas City. A gentleman writing to a paper in Omaha, quotes these figures: From St. Louis to Omaha, 438 miles; from Omaha to Cheyenne, 516 miles; total, 954 miles. From St. Louis to Kansas City, 272 miles; from Kansas City to Cheyenne, 745 miles; total, 1,017 miles; showing a difference in favor of Omaha of 63 miles. This difference will be increased fully 100 miles as soon as another road, now building, is completed.

### Omaha and Council Bluffs.

Omaha, the present terminus of the Union Pacific Railroad, is a go-ahead place of 15,000 to 18,000 inhabitants. It was the first settlement made in Nebraska, although it did not attain any considerable importance or size until the Union Pacific Railroad was inaugurated. Since that time it has grown very rapidly. It has a large area of fertile territory tributary to it, and its connections by steamboat and locomotive are bringing to it a vast amount of trade. It now supports four newspapers, has a large number of hotels, contains many fine residences, etc., etc. Between this city and Council Bluffs, situated just opposite, on the east side of the Missouri (but three miles back from the banks of the river), there is considerable rivalry. Council Bluffs is also quite old as a settlement, but young as a city. It was the Kanesville of the Mormons from 1846 until 1853, when the present name was adopted.

The great bridge over the Missouri, built by the Union Pacific, is one of the first objects of attraction. It is built after "Post's patent," will be of iron and half a mile long. It will be 50 feet above high water mark, and will rest on hollow iron pipes (cylinders, 8½ feet in diameter), filled in with concrete, rock, etc. The spans, 250 feet in length, are 11 in number. Work is going on night and day, and the bridge will be completed some time in 1871. I am told that it will cost about $2,000,000.

The machine shops, etc., of the railroad are well worth a visit. They are situated near the river on a tract of some 30 acres in area, are of brick, and are most complete in all respects.

The 12,000 inhabitants of Council Bluffs are live people. They have a street railway, several papers, fine school houses and churches, a large (the State) Deaf and Dumb Asylum, several flouring mills, and other evidences of progressing civilization. The Council Bluffs Iron Works must not be forgotten. Here 40 men are employed. The company has just secured the control of Borchoff's (?) improvements in mining machinery, among which pressed shoes and dies deserve mention. These are made of the best and toughest iron, cast with neck down, and while hot subjected to a heavy screw pressure, which makes them very solid and close-grained. I am informed that they have been tested thoroughly in Colorado, and have given great satisfaction, being very durable.

### The Omaha Reduction Works.

Meeting Mr. Leopold Balbach, I was kindly invited by him to take a walk through the works of the Omaha Smelting and Refining Company. Mr. Balbach has been engaged from boyhood in the smelting operations carried on at Newark, New Jersey, and the company has been fortunate in being able to secure his valuable services as superintendent.

Being anxious to furnish items of interest to the readers of the PRESS, I send you on the information which I have obtained, I try to give *facts*, and facts only.

Ground was broken on the 15th of October. The U. P. R. R. Co. granted the company all the ground which they required, and a side track has been laid to the works, which are now nearly completed. On and after the first of January, the company will be prepared to receive ores and bullion.

The main building is 40x80 feet. Here are two reverberatory furnaces, two shaft furnaces, four separating furnaces and a cupelling furnace. In a side-building, 30x30, is placed a 20-horse power engine, with boiler, etc. Each separating furnace has a capacity of from 4 to 5 tons in 24 hours, is 6x9 feet, the hearth 4x5 feet, and the kettles are 22 in. deep and 30 in. in diameter. The main stack is 55 feet, and the second is 35 feet high. There will be used for furnaces, stacks, etc., 15,000 fire-brick and 175,000 common brick; also 20 tons of castings, etc. The iron work comes from the foundry of Hall and Brothers. They are now building an addition, 30x40 feet, with two more furnaces for refining the lead.

When the works are running, some 20 or more workmen will be employed. Coal from the Wyoming coal mine, on the U. P. R. R., will be used in the reverberatory furnaces. Arrangements have been made with the railroad, by virtue of which ore will be transported from Ogden to the works at the rate of $100 currency per car load of 10 tons. The charges will be: for reducing ores, $30 to 50 currency per ton; for desilverizing bullion, $16½ to $22½ currency per ton. Returns will be made in two to four weeks. The company will increase the capacity of the works as they may find it necessary.

### The Balbach Process.

The Balbach process for separating silver and gold from lead will be used here. The process consists in melting the lead that contains the gold and silver in a furnace with an inclined hearth, and drawing it off into a kettle containing a certain amount of zinc in a molten state. After all the lead is thus drawn off, the latter is thoroughly mixed with the zinc, after which it is cast into pigs or bars and replaced in a similar furnace, and just sufficient heat given to melt the lead, but not to melt either zinc, silver or gold. The latter alloy is then placed in retorts where the zinc is distilled off from the silver and gold with a small portion of the lead, after which the latter three metals are placed upon a cupel for further refining. W. H. M.

[To be continued.]

## Notes of Travel in San Joaquin County.

[Written for the PRESS.]

### Stockton Statistics.

San Joaquin County at present contains 21,079 inhabitants, an increase of 124 per cent. in ten years. The city of Stockton (the county seat) is situated on the San Joaquin river, 125 miles from San Francisco by water and 90 miles by rail, and 50 miles from Sacramento. It contains 10,033 inhabitants, a gain of 170 per cent. in 10 years, and is the fourth city in the state, as regards population, but the second in manufactures. Of these last I will speak further along. The outstanding indebtedness of the county is but $314,102, without any floating indebtedness. The following returns, from the U. S. Marshal's report, show the real value of property in the county to be $23,474,805, an increase of $20,591,761 in ten years. The real estate transactions for the 12 months ending Dec. 31, 1870, were $1,085,488; the U. S. Land Office sales for the same period, in the county at large, foot up 262,825 acres, paid for, pre-empted and otherwise. $160,885 worth of brick and $155,300 worth of frame buildings were erected in Stockton in 1870. The street and sidewalk improvements for the same year amounted to $83,000. The number of children attending the public schools in this city, according to the annual report of the Superintendent of Public Schools, ending July, 1870, was 2,709; and $50,312.38 was expended last year for buildings, salaries of teachers, etc., for the convenience of, and educating the same. The mortality for 1870 was 205. The number of marriages for the same period was 162. The number of inches rain fall for 1870 was 7.66, The city contains 3 banks representing an aggregate capital of $1,250,000.

The secret organizations represented here are the T. and A. M., Independent Order of Odd Fellows, and Red Men; and the order of the Knights of Pithias, are about starting a Lodge here. Of the three former, all are in a prosperous condition and have a large and still increasing membership. The Odd Fellows of this city formed an association in 1867, known as the Odd Fellows Hall Association, and purchased a lot and built one of the finest halls of the kind in the State, which cost $47,000. In 1867, they borrowed $22,500, and on Oct. 1st, 1870, they had decreased this indebtedness to $15,349.83. They expect to clear off the entire indebtedness by June 19th 1873. C. O. Burton, is Prest., Joseph Adams, Treasurer, and T. K. Hook, Secretary of the Association.

### Ship Canal—Railroads.

The Stockton Ship Canal Company is a very important association. The incorporators are G. S. Evans, P. Bargion, J. Sedgwick, S. Eldridge, S. Badger, T. K. Hook, G. A. Shurtleff, J. Schrick, C. G. Hubner, J. M. Cavis, Wm. H. Knight, H. H. Bancroft, G. L. Kenney, N. Sposati, C. M. Weber, P. Neistrath, W. S. Moss, N. M. Orr, K. C. Sargent and C. M. Creanor. The Directors are Wm. H. Knight, (President), T. K. Hook (Vice President) C. G. Hubner, (Treasurer), S. Eldridge, and H. H. Bancroft. The grantees of the Stockton Ship Canal franchise, granted by the last Legislature, have assigned their interest therein to the above named incorporators. The project is one of the greatest importance to Stockton, and the people will help it on if they are alive to their interests. I promise in a future article to give an extended account, and to illustrate this with a diagram, (your space permitting,) and in connection with the same, its converging lines of railroads, in process of completion.

At the present writing, about 10 miles of the S. & C. R. R. are finished, to a point. where a new town is being laid out, to be called Holdenville. Four miles farther along, on the same road, another town is being laid out to be called Petersburg. Both of these are named in honor of two prominent citizens of Stockton. From Petersburg it is proposed to build three lines, one to Angels Camp, and Murphy's; the main road to extend to Copperopolis and Sonora; and the other branch to Farmington, Knights Ferry, and so on. 40 miles of the iron rail is on board vessels now due at your port.

### Manufactures.

The Stockton Woolen Mills, Lambert, Doughty & Tatterson proprietors, have manufactured to date (only recently started) $10,000 worth of blankets, $5,000 worth of which have been actually sold. They employ regularly 20 men. The works are run by a forty-horse power engine, with a capacity of running four times the machinery now in operation. The fabrics of this mill are in good demand with the citizens here, but the lack of funds, to extend their capacity, is the only draw-back to introducing their goods to the world at large.

Of tanneries, there are several here, doing, I am informed, a good trade. As yet I have visited but one, that of J. S. Derby, situated on Mormon Slough in the suburbs of Stockton. Mr. D. employs regularly 5 men, and is doing a business of $20,000 per annum; for nine months of the year he turns out 120 sides per week. Calf, Kip, Harness, Skirting and Sole Leather is his speciality.

The Stockton Iron Works, Farrington, Hyatt & Co., proprietors, manufacture steam engines, iron and brass castings, and regularly employ 11 men. The machinery is run by steam power and is kept busy the year round.

Matteson & Williamson, are the manufacturers of all kinds of plows. They hold the patent-right of the American Chief Iron Sulky Gang Plows, of which they manufactured 120 last year, which they sold for $11,400, besides numerous and sundry other plows, harrows, cultivators, etc., to the extent of $25,000, or $30,000 more. The total amount of manufactured articles by all the different manufactories in iron, wood and tin, in Stockton for the year just ended, was $1,392,918.

Sperry & Co.'s grist mill, on the corner of Beaver and Leavy sts., is 50x100 ft., four stories high, and cost its previous and present proprietors $150,000 to erect. For the last four years it has averaged yearly 70,000 bbls. of flour, and 500 tons of ground barley. It is run by an engine of 185 horse power, supplied by three tubular boilers, of 54 inches diameter, 16 ft., long, with 49 3½-inch tubes in each; the capacity of this mill is 500 bbls. of flour and 25 tons of ground barley per 24 hours run.

Livery and Sale Stables.—M. Magner, of the "El Dorado," has probably the largest stock of horses, from 40 to 50 head. His principal business in summer is with tourists to the Big Trees and Yosemite. He keeps a register of all tourists, names, which it is quite interesting to review. He has on hand all kinds of imported buggies, carriages, and wagons for sale, having the agency of several prominent manufactories in the East. The "Main Street" stable, kept by Doak & Dunning, and the "Weber" stable, by Beldin & Morris, are worthy of mention, but in the absence of statistics, I must pass them.

The "Yosemite" stable, Geo. Fox, proprietor, was completed in May last, and is one of the finest of its kind in the State. It is of brick, 75x75 ft., with gas and artesian water throughout the whole. It has a capacity of stabling 200 head of horses, and cost $14,000. Mr. F. has at present forty-six head of horses, fourteen of which are valued at $500 each and upwards. For his dark bay horse, *Defiance*, he has refused $2,500. This horse is considered one of the fastest *pacers* on the California turf. Without any attempt to flatter, I think he has the largest number of fine horses and corresponding turnouts in the State.

### Fine Stock.

Hiram Drew.—This fine stallion is six years old, a deep cherry bay, with black points, no white, stands 16 hands high, weighs about 1,200 pounds, and shows well for speed, having made a 3 minute gait with 4 weeks training from the bitting harness. He was raised in Penobscot Co., Maine, and imported to this State in May last, by W. E. Green, who disposed of a one-half interest to L. E. Yates of Stockton, where he is now kept. He was raised by 'Old Drew' of Maine, who was the origin of many fine and fast trotters, among which is the celebrated stallion, McClellan, now in San Francisco; also the Cloudman horse, supposed to be now in New Jersey. Both of these have trotted low down in the twenties. Also grand sire to Little Fred, who trotted in the fall of 1869, at Philadelphia, in 2:21. Of the pedigree of Old Drew, but little is known, except that his dam was a fast trotting mare of English origin, having trotted 20 miles in one hour, subsequent to her bringing Old Drew. The dam of Hiram Drew was sired by Old Eaton, of Maine, out of mare sired by Anson Messenger, he by Winthrop Messenger, and he by Imported Messenger. Old Eaton was sired by the Avery horse of Maine out of a Highlander Mare. The Avery Horse by Massachusetts Messenger; dam, a Morgan mare.

Chieftain.—This excellent stallion is owned by J. H. Dodge and M. T. Noyes. He is 16½ hands high, light bay, black legs and tail, weighs 1,350 lbs., is 14 years old, valued at $6,000, and is considered among the best of his kind in the State. He is the sire of Defiance, the celebrated pacer owned by Geo. Fox of Stockton; also of Grant, owned by Sargent of your city; also of Flora, the trotter. L. P. MC.

[To be Continued.]

# HOME AND FARM.

## THE NEEDS OF AGRICULTURAL COMMUNITIES.

[By Dr. E. S. CARR, Prof. of Chemistry and Agriculture in the University of California.]

Written for the PRESS.

In England the highest efforts of statesmanship have been exerted for the elevation of industry. In Prussia, where the government requires that every child should be educated, assuming that it is the right and the duty of the state to protect itself from ignorance as well as crime, the Agricultural and "Building" (i. e. mechanical schools,) are munificently endowed and supported. Those who desire to know on what a vast scale this noble work was progressing in every part of continental Europe, before the war, are referred to the exhaustive report of the American Commission to the Paris Exposition, a work which furnishes an admirable illustration of the value of these international exchanges of knowledge. Should you visit

### The Royal Land and Forest Academy,

at Hohenheim, a few miles from Stuttgard, you will first notice a government forest of five thousand acres. These practical Germans know the importance of preserving their forests; they do not invite droughts and floods by the wholesale destruction of trees. Adjoining this is a farm of 5,000 acres, upon twenty acres of which, divided into one hundred plats, experiments are made upon soils and their preparation, new plants and the best and most economical methods of culture. A Botanical Garden exhibits all the varieties of plants which can be grown in that climate, there is a Beet Sugar Factory, a Brewery, a Distillery, a Starch Factory, a Vinegar Factory, a Malting and Fruit growing establishment, a Silkworm establishment, and Machine Shops, where agricultural implements are made, mended and tested; this department being expected to furnish the rest of Germany with the best models. You are a farmer, and an intelligent and successful one perhaps, yet as you look day after day through each of the various departments, you think how many blunders you and your neighbors have made, and feel what a wise economy it is which has gathered into one place, and under the most favorable conditions, everything which illustrates husbandry.

And if you are a student, looking to agriculture as a life business, you find: First—that all the studies are pursued in connection with actual practice in the field and forest; and, Second—that they embrace not only the general principles of agriculture, composition and quality of soils, etc.; but all specialities, such as meadow culture; hop, grape and tobacco culture; that of fruits and vegetables, breeding of domestic animals in general, and of each class in particular, including the smaller animals, silkworms, bees, the dairy, and the oversight and management of farms. Parallel with this, there is carried along through the course of study, arithmetic and algebra, book-keeping, a knowledge of the laws and principles of taxation, physics, general and agricultural chemistry, geology, vegetable physiology and zoology, veterinary science and forestry.

Somehow the whole business of farming looks very different from what it did at home, and you wonder sometimes that the difference has not been more distinctly stated. Your fellow students will be in the higher departments. Sons of the gentry, fitting themselves for the general management of estates; young men of the middle class, fitting themselves for stewards; lower down, the sons of peasants in training for the routine of farm work, who spend three or four hours in study and the rest in actual labor. Besides, there is a three weeks' course of instruction for common school teachers, who take that time in vacation to post themselves in the general principles of agriculture. And having been brought up in the belief that we "beat the universe in our common schools," you try in vain to recall any common school teacher who knows anything of agriculture, except a way of escape from it, or of any hint you ever got in a common or uncommon school of its importance or value.

### Experimental Stations.

Scattered around in various neighborhoods, in Prussia, are what are called "experimental stations," where from 12 to 20 acres of land are divided into small sections for experiments in fertilizers, rotation of crops, etc., with a chemical laboratory and professor attached, and with accommodations for animals, so that questions of breeding, feeding and fattening may be decided. These are the nurseries which prepare agricultural teachers for the secondary schools, and which are entirely supported by the government. One cannot but dream that the day will come when county and district societies in our own country may aim at some work as far-reaching in its usefulness. Something in this direction would be of special value in a climate as variable as ours.

### Industrial Education in Russia.

But Russia, whose mighty strides in every department of progress marks her as a rising power among the nations, seems to outstrip all others in the magnitude of her plans for industrial education. In 1856 she founded the Imperial Agricultural Institute at Gorigoritz, embracing primary, intermediate and superior departments. Then followed the establishment of centers for the production of silk (with instruction—everywhere instruction, in the art), of fruits and esculents, flax, timber, according to soil, climate and habits of the people. To the Academy of Agriculture in Moscow the government makes an annual appropriation of $100,000. Nor is she doing less for the schools of arts and trades. One hundred thousand dollars is annually expended for the school of arts and trades at Moscow, where there are 14 theoretical professors, and a still greater number of practical mechanics who oversee the work, and add by earnings of themselves and pupils the additional sum of $40,000 to the support of the institution. In Caucasia, the tuition, in excellent schools, is not only free, but small incomes are secured to meet the expenses of students, who receive $40 the first year, $64 the second, $72 the third, and $80 for the fourth and last year, besides board, lodging and books. All this expense and trouble to teach the arts of peace; how to possess the earth and fill it with plenitude of blessing!

### In This Country.

Until within a very few years, there has been no governmental patronage of agriculture and the mechanic arts, except through "State Societies," which have organized annual exhibitions and fairs. These have usually been self-supporting. The Army had its West Point, the Navy its Academy,—Agriculture the crumbs which fell from the table of national bounty, in the shape of a "Bureau." Restricted by inadequate appropriations, and seriously interrupted by the war, this most important and most neglected branch of the public service has nevertheless built up a vast repository of useful knowledge relating to agriculture; has disseminated this by reports, gathered and disseminated seeds and cuttings from every part of the globe; investigated the most important subjects of climates, soils, fertilizers, destructive insects; and has done enough to make every farmer feel the importance of a representation which shall foster and sustain it.

The foreign models I have held up for imitation require an adaptation to our special necessities and the peculiarities of our social and political condition. There, the strong aim of enlightened despotism has reached downward to uplift industry; here the process is reversed, and action has been slow and feeble, because the people have not come to feel, *as one man*, the responsibility of sovereignty. This is the reason why nothing worthy of the nation was done for industrial education, until Congress, by the Act of July 2d, 1862, gave to each of the States the means of *founding*, not of sustaining, nurseries of intelligent industry. The object of the grant was undoubtedly to make more farmers and mechanics, and not, as has been assumed, to educate the sons of farmers and mechanics.

All our *colleges* are feeders of the professions; the object of Congress, in the Act referred to, was to arrange institutions which would feed and fill the ranks of the great industries, and not to make an unfair distinction between the son of a farmer and that of his doctor or clergyman. And therefore the spirit of this act, will never be carried out where an Agricultural Professorship is tacked upon some classical institution, and left to flutter in the unkindly winds of competition with departments which have prestiges and a class or aristocratic sentiment in their favor.

Nor will its noble purpose ever be accomplished in any state whose people do not appreciate the magnitude of the gift, and zealously guard against its perversion.

## UNSUCCESSFUL FARMING.

Farming, like every trade, profession or vocation, has its proportion of unsuccessful followers. This may be attributed to a number of causes, some of which we propose to notice. The man who is about to engage in any vocation should first make himself thoroughly acquainted with the wants of it; then canvass his talents and know his fitness for it. Students shape their education to meet the demands of their professions; so should the young farmer prepare himself to meet all the requirements of his vocation. Many professional men fail, from lack of knowledge of their professions; so do many farmers fail from lack of knowledge of their business, and no ambition or desire to gain it by experience. Colleges are more numerous for the education of professionals than they are for farmers, for the reason that the mind needs more cultivation to accomplish alone as much as the mind and body can together. There is no school better than a well-managed farm, to prepare the young farmer for his duties. Our agricultural colleges are valuable institutions in advancing the student in the primary branches, but the farm only can give the diploma, and make the farmer.

Farmers do not fail so much from lack of knowledge as they do from want of action. If their knowledge is not applied to labor prompted by energy and perseverance, it will accomplish nothing. Book-learning enters largely into the success of farming where it is properly applied; though there are many successful farmers who scoff at what they call book-farming; yet there are thousands of others that can attribute their success in a great measure to that source of knowledge. It is necessary that the farmer should be well acquainted with the different compositions of the soil, and know the wants of every plant, so that he may apply the proper plant-food, or sow his seed where the proper elements exist necessary to make the crop a success.

We have known farmers of many years' experience to plow up old, rich pasture of our rich prairie soil, and sow the same to wheat, and still continue planting their corn in fields that are exhausted of the elements required to make the crop. The result was, there was a tremendous growth of straw with little wheat and a light crop of corn; while, if the fields had been employed *vice versa*, there would have been a heavy crop of corn, and a fair yield of wheat.

One of the plainest indications of unsuccessful farming is to see the manure unemployed and going to waste. When we see this, there is no need of looking beyond the stables and yards to find out the condition of the farm, or judge accurately of the success of its owner. We recently saw a farmer scraping the manure out of his yards into the highway with a road-scraper. Adjacent the yards was a field of corn that told a pitiful tale of want. One fourth of our Western farmers make little or no use of their manures, most of whom think that it don't pay, as it makes the weeds grow; they aim to get their soil in such a condition that it will not sustain the life of weeds, not thinking that it will have the same effect on the crops. We consider the manure-heap a gold mine to every farmer. To be sure, a large amount of dirt and labor must be employed with it in order to secure the precious metal; so the Irishman replied when he was asked as to his success in gold-mining:—"There is plenty of gold, but so much dirt with it, it is hard to gather it."

Not only should the manure be employed, but a system of farming should be followed that would supply abundantly this indispensable article. Very many farmers fail by following a system of farming that exhausts the soil; everything is taken from, and nothing returned to it Thus we see that those who engage in mixed husbandry by raising a variety of stock and produce, and consume the latter on the farm, are more successful.

Many farmers raise one kind of produce to the exclusion of nearly every thing else, and finding a low price for it, they have nothing else to fall back on, to equalize profits. This is the situation of many who have raised broom-corn extensively the past season. A proper rotation of crops is necessary to the success of every farmer. If this is not strictly observed, the crops will deteriorate, and the soil become impoverished. Different soils require different rotations, but all soils should be employed liberally in producing grass for both hay and pasture. It is necessary to raise stock to practice a successful rotation of crops. As stock raising is the most successful branch of American agricultural industry, and by far the most profitable, every farmer should engage in it to some extent, at least. It is self-evident that every one should not raise stock to the entire exclusion of selling grain, for the business would soon be overdone.

A large proportion of our farmers make little or no progress in agriculture, which may generally be traced to lack of energy, want of interest, or mere shiftlessness. Their machinery and all farm implements are left out exposed, at all times, to all kinds of weather; their stocks—generally of the poorest breeds—are kept in close pens or poor pastures during the summer, and fed in the winter on straw and what they can pick up, and sheltered by the warm side of a skeleton fence; their grain is hurried off to market, regardless of the price, or exposed to the weather at home until it is so damaged that it brings a poor price, and stock will scarcely eat it; they take or read no agricultural papers; in fact, everything is conducted in a manner that brings discredit and poverty to the owner.

We believe that there is a brighter day dawning; that a powerful influence is being exerted that will bring about a reformation in due time. Farmers are being awakened to a sense of their duties, and begin to look around with renewed interest, and take hold with increased energy. It is scarcely necessary to add, that this promising state of affairs is being brought about through the powerful influence of our agricultural papers, chief among which is the *Western Rural*. They are searching out nearly every farmer, and pointing out the way to success and long prosperity, that he cannot fail to see and follow therein. There are those who will not yet heed instructions—as there are in every branch of industry—but continue in the even tenor of their slothful career.

Our agricultural press is a cheap and inestimable source of education to every farmer; it is an agricultural college on every farm where its papers are studied and instructions followed. The success of the farmer is due in a great measure to the influence of the agricultural papers; and the admirable success of many of our agricultural journals is due to the hearty support of the farmer—the success of one is the success of the other. Then, brother farmer and Mr. Editor, let us each continue to labor for the benefit of the other, and all will be crowned with success.—*Western Rural.*

## AGRICULTURAL EXCITEMENTS.

The lessons of the past are not well remembered. Every few days some new excitement is raised about the enormous profits that are to be made by such and such crops, or such and such animals. Our older farmers will remember the excitement raised some thirty years ago or more over the silk worm. Everybody was infected by an insane desire to raise silk. A little later and an equally strong propensity was exhibited for Shanghai chickens. After this came the sheep fever; then the strawberry and grape excitement; and now we have the small grain and potato speculations. Interspersed with the above we have had side-shows of hops, cranberries, pigs and cattle. While these excitements have lasted, many credulous farmers have been seduced from their routine of mixed crops, and have ventured their all upon these new fangled ideas.

We are not prepared to condemn these flights of insanity, although they reflect somewhat upon our intelligence; but they have usually resulted in some good to the country, if not to the individuals. We would advise our farmer friends, however, to hold themselves aloof from all such excitements, and not allow themselves to be blinded by any glittering specialities. Stick to a system of mixed crops, for there lies your only sure prospect of making money. If you desire to experiment with broom-corn or Magic hogs, hops or fancy oats, do it in such a way as will not destroy all other sources of making money for the season.—*Kansas Farmer.*

A MODEL GARDEN.—An educated and experienced horticulturist and gardener proposes to establish near this city [San Francisco] a model garden, where exotic fruits will be grown and suplied at all seasons of the year, and vegetables ditto. He intends also to go into the nursery business on an extensive scale. The gentleman comes with the most flattering endorsements from prominent men in the East, where he has inaugurated similar enterprises. He certainly has the most beautiful climate in the world in which to operate, and it is hoped that his plans may be matured and put in operation at once.—*Alta.*

THE NEW CATTLE DISEASE, which has recently appeared in Massachusetts, appears to be making rapid progress, and its mysterious steps and destructive character have caused so much alarm among the stock farmers of that state, that its consideration will be one of the first matters which will be brought up for consideration at the forthcoming session of the Legislature.

## SHEEP HUSBANDRY.

Wool growing being one of the leading industries of the State, the following important facts and hints with regard to it will be read with interest. We copy from the Wool Circular of McLennan, Whelan & Grisar, Wool Graders and Packers, of this city:

### Conditions of the Wool Interest.

CALIFORNIA.—Our wool this spring has redeemed its good character, showing improved blood, tending towards longer and sounder staple, and compares favorably with the clip of 1868. It has come into more general use with our Eastern manufacturers, and has commanded the favor of all those who have used it.

OREGON.—Its condition is not as good as in former years, nor is the staple as uniform. Some lots were of tender staple and of poor texture.

Years ago Oregon wool was characterized by freedom from burrs, seed and tags; it was lustrous and well adapted for combing purposes. Since then, through some mistake in breeding, the nature of Oregon Wool has completely changed, and to-day it is not as good as our choice California.

### Hints About Breeding.

Since wool-growing has become an object of so much importance in California, it must naturally be of interest to the wool growers to ascertain what description of wool can be produced to the best advantage permanently, or, in other words, what class of sheep will become acclimatized here, so as eventually to form a natural standard for this climate.

California Wools at present class as *Medium Wools*, and even the choicest clips do not come up to the standard of *Fine Wools*, as compared with some other wools; but, as medium, they are fast growing in favor with the manufacturers. This, together with the fact that the wool of flocks not too high-bred always are cleaner, sounder in staple, and more healthy than finer wools raised here, would seem to point out distinctly that California must look to a Medium Wool as her standard of production.

Most of the flocks at present in this country would doubtless be much improved by the infusion of a little blood of long-wooled sheep. The introduction of the Cotswold and Leicester breeds of sheep into this State has proved a success in most instances. Undoubtedly, the length of staple and adaptability of the fleece thus raised has rendered California wools desirable for many purposes for which they heretofore were not suitable. With the increasing demand for long wool, together with the well established fact that other countries can grow short fine wools cheaper than California, it would certainly seem to be the most profitable course for sheep farmers here to produce long, sound wool.

### A Suggestion.

We consider it advisable to appeal to the good sense of our farmers to add a few head of sheep to their general farming stock, as is done in Canada. These sheep will be a benefit to their farm in eating the grass which other stock do not consume, and giving the best manure in return. These small herds can be better cared for than large ones, they are more easily kept clean and their wool will always fetch a higher price than others.

RECEIPTS OF WOOL FOR 1870.

| | |
|---|---|
| From California, (pounds) | 21,072,660 |
| " Oregon, " | 1,703,970 |
| On hand Jan. 1st 1870 | 800,000 |
| | 23,576,630 |
| Of the above amount there was: | |
| Exported | 19,237,871 |
| Bought by San Francisco Factories | 3,000,000 |
| " by other Factories | 750,000 |

PHYSIOLOGICAL FACTS in SHEEP-RAISING.—It is a constant physiological result that with a given race, the less skeleton is developed, the longer becomes the staple of the fleece. Such, then, are the new characters deduced one from the other; a more cylindrical structure; a diminution in the volume of the bone; the disappearance of the folds of the skin; a suppression of the horn; a very notable contraction of the head and of the deformities which dishonored it; a descent of the wool upon the parts of the body where it had neither quality nor value; the choice pieces, the sides (cotelettes) and legs, become more marked and acquire more weight; the wool of medium qualities becomes more abundant, and is at the same time soft and long; the growth of the animal is more rapid; the fattening is more easy; the return of flesh greater, and the quality more appreciable.

## TREE CULTURE.

### THE MULBERRY FOR SHADE TREES.

"Amiter" in the Sacramento *Union* of January 7th gives some very good advice in regard to planting shade trees, and recommends the mulberry as one of the best varieties for that purpose. Those who have witnessed the beautiful white mulberry trees lining the streets of Philadelphia, will heartily endorse the views expressed in the following extract:—

In this country everybody who has a house and lot in town or city, or residence or farm in the country, should plant shade trees. It is the cheapest and most rational way to ornament the homestead and render the spot selected as the home of the family inviting, attractive and beautiful. Of course we would not forget the fruit. We like to see every appropriate place in a town lot filled with some choice fruit tree, and we would have an orchard containing all the valuable varieties of fruit on every farm in the country. But there are always places about every town lot or farm where shade trees are more appropriate than fruit. When the front yard of a town or city residence is sufficiently large, an intermingling of fruit trees, shade trees and shrubbery is always pleasing to the eye and agreeable to the senses. It is suggestive—combining, as it does, the useful with the ornamental. The children of every family should be induced to become interested in the cultivation and growth of trees. They will learn from them useful lessons of care and industry, of thrift and prosperity. Trees planted by us live and grow when we sleep. They perpetuate our memory when we are dead.

There is nothing more indicative of the good taste and general enterprise and prosperity of the citizens of a town than to see the sidewalks well lined with appropriate and graceful shade trees. There is nothing contributes more to the beauty and attractiveness of the landscape in the country, than well-selected and thrifty shade trees about the farm buildings, along the public streets, private roads and division fences.

Not only do trees add to the beauty but to the real value of property upon which they are planted. Unlike other improvements which decrease in value by the lapse of time, trees are constantly increasing in value to the land upon which they grow.

The favorable influence of trees upon the soil and climate, especially in this State, might also be urged in their favor, and we might speak of the prospective scarcity of wood and timber as an inducement to plant shade trees, but these arguments apply with greater force in connection with the subject of artificial forest culture. Now, as to the kind of trees to be selected for shade. The cottonwood has been extensively used in this State because in early days it was most easily obtained, and being a rapid grower, it has proved a good substitute for more valuable and appropriate varieties.

It is objectionable in towns especially for want of grace in form and a habit of growing too large. It is also a dirty tree; in the early summer its cotton falling, fills every nook and corner about the place with its disagreeable presence, and in the fall it sheds a sticky and gummy substance upon everything within its reach. The Lombardy poplar has been introduced quite extensively of late. It also has rapid growth in its favor, but this is about its only recommendation. It is majestic and stately, and would be very appropriate as a landmark on some distant corner of the farm or in connection with the weeping willow to mark the living spring or watering place for cattle on an extensive stock range. But as a *shade* tree in a town or city or about a country residence, it is entirely out of place. It is about as graceful and affords about the same amount of shade as a steeple on a school-house. In the Atlantic States, where these trees once had their day, the better taste of the people has doomed them to destruction, and they will soon disappear among us. A few evergreens are always pleasing and appropriate, but too many are offensive to good taste. The locust is a beautiful tree and a fine grower, but of short life.

Its habit of throwing up sprouts from the roots where the soil about it is disturbed or its branches pruned closely, renders it objectionable for planting in or near the garden or along the borders of cultivated fields. The elm makes a beautiful and graceful shade tree, though it is a slow grower. The white mulberry and the variety known as the moretti are highly recommended as symmetrical and rapid growers, and clean and beautiful shade trees. They are in appearance something like the elm, their foliage being somewhat of a deeper green and more luxuriant, and the form of the tree more spreading and compact. Samples of these trees may be seen on the line of the sidewalk in front of the residence of Judge Crocker in this city, also at the old city gardens on L street. They are certainly among the most beautiful trees in the city, and this quality alone recommends them for general trial. It is said that their roots penetrate deep into the soil and never throw up sprouts, however much the surface may be cultivated about them.

Another feature in their favor is their fruit, which would afford food for birds and prevent the destruction of cherries and other more useful kinds. Again, their leaves can be rendered valuable as a food for the silk worm, thus supporting and bringing into general use a valuable and profitable industry. Among the varieties of trees available for shade in this country, I believe the mulberry will in time be found in the first rank.

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DUMMY ENGINES FOR SAN JOSE.—We believe it is generally known that the Santa Clara and San Jose Railroad Co. have ordered from the East one or more dummy engines. A recent number of the Detroit *Inventor* says of this engine:—"We examined the dummy engine invented and constructed for the San Jose and Santa Clara Railroad, and find them to be perfect models of compactness, power and simplicity. They are said, by the makers, to be almost noiseless in their operation, thus overcoming the prejudice which has long existed against the use of engines on street railroads."

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PARASITES IN WILD GAME.—The Contra Costa *Gazette* says that the parasites found in the wild duck, alluded to in our last issue, seem to correspond with those found in the hog—several instances of which have recently been observed in swine killed about Pacheco.

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EGG SUPPLY CUT OFF.—The English are lamenting over a recent edict of the Tours Government prohibiting the further exportation of eggs and butter from France. Johnny Bull's breakfast tables are suffering.

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ENG, one of the Siamese twins who has recently been seriously affected by palsy, is said to be failing rapidly. Chong is not affected physically, thus far, by the illness of his brother.

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AGRICULTURAL REPORTS.—We are under obligation to Hon. A. A. Sargent, our able and industrious Congressman, for late copies of the U. S. Agricultural Reports.

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NEWSPAPER MORTALITY. — Fifty-nine newspapers in the towns and cities of the Pacific coast have perished during the past year.

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THE names of the new officers for the S. C. V. Ag. Society will be found in our list of Societies.

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LEADED.—From thirty to forty men are now lying on the broad of their backs sick, owing to being leaded, caused by working in the mines of this district. The peculiarity of the mines here are that men on an average cannot work over twenty days in any mine or mill in this district without suffering from an attack of leading. Whether this is caused by foul air or like cause we have not ascertained for a certainty, but judge that it is owing to the peculiar kind of rock or ore which they work. Miners will have to use the utmost care in keeping regular in their habits of all kinds, and when an attack starts in, let them start in with the doctor's advice immediately. By observing the necessary caution they will save themselves many a day of suffering.—*Pioche Record.*

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STREETS PAVED WITH SILVER.—The Gold Hill *News* of Jan. 14th, says: A careful assay made a few days ago of the dirt on Main street, Gold Hill, to the depth of four feet, showed a yield of silver of $628, with a trace of gold. Talk about the streets of Jerusalem being paved with gold! Here in Gold Hill our main street is paved with silver or, as the Chinamen used to say in California, "two pan, one color."

## PACIFIC COAST INDUSTRY

The record of exports from this city shows, most unmistakably, that the general industry of the Pacific Coast is in a prosperous condition. The sum total of the products of our industry, aside from the precious metals, is considerably in excess of $20,000,000. That of this State alone reaches very near or quite to that amount.

Our exports of wheat for the year 1870, were within a small fraction of $8,000,000 in value. Though something less than last year, the larger surplus holding over, and the advanced price which it commands, will bring it fully up to last year's figure. Had the season been favorable there would have been quite a large excess.

Our wool product makes a still better proportional exhibit. The yield has increased from 897,938 pounds in 1866, to 3,655,000 pounds for 1870. This is surely most satisfactory progress. Some important facts and suggestions, with regard to this great industry, will be found in another column of our present issue.

Our leather interest presents an almost equally satisfactory exhibit. Although its increase may not be so rapid, its progress is healthy and highly creditable to the State. California leather takes the highest rank in the Eastern States, commands the highest price in the market, and has always a ready sale. One manufacturing house exported 100 tons of leather during six months, only, of the past year.

The general manufacturing industry of the State is steadily progressing in importance and value.

The Pacific Rolling Mill of this city has added the rolling of railroad iron to its other operations, and has taken a contract to furnish a large portion of the iron for a 25-mile section of the Northern Pacific Railroad.

The San Francisco Smelting Works, owned by our worthy Mayor, T. H. Selby, in company with an Eastern party, is doing a very large and profitable business; is working up the "mrtte" from our "base metal mines." Large quantities of bar lead, lead pipe and shot, not required for consumption here, is being shipped East.

Our woolen manufactures are also doing a thriving business and answering large orders from the East.

More than half of all the boots and shoes worn on this coast are now made here; while five years ago more than four-fifths of our supply was obtained from the East. Many minor manufacturing interests—large in the aggregate—have also become well established among us, and others are being constantly introduced. Mr. Strong, an experienced cotton planter from the South, is making preparation to enter largely into he culture of cotton in this state, where he believes the middling grades of that textile can be grown more advantageously than in the so-called cotton states. If his experiment succeeds a new industry of magnificent proportions will be opened up to the state.

The culture and manufacture of silk is becoming more and more promising, and there is every reason to believe that we shall soon be producing silk in considerable quantity, from California cocoons. Arrangements are now in progress which will result in the introduction here of a few skilled operatives from abroad, through whose instructions our own people will soon be able to utilize the thousands of mulberry trees, now coming to maturity in various portions of the State.

We have already in the market, sugar, the product of our own soil and manufacture, which will compare favorably with any imported article; and it is safe to say, that this enterprise, so suddenly and so practically initiated, will very soon take a stand as one of the leading and most important industries of the State.

We may truly say that the year 1871 dawns upon us under circumstances most encouraging for our future prosperity.

# AGRICULTURAL INDUSTRY

## Successful Cultivation of the Desert.

The experiments which are now being made under the direction or encouragement of the Kansas Pacific and Union Pacific Railways in the cultivation of the great unwatered plains near the eastern base of the Rocky Mountains, are most encouraging, and lead to confident anticipations of complete ultimate success. These experiments have been undertaken, by the roads mentioned, to prove the practicability of the cultivation of those lands, and thereby give them a market value from which both the roads and the people at large will profit. The few isolated experiments thus undertaken will encourage the settlement of other sections, similarly situated, until the entire stretch of country across the "Plains," bordering upon the railroad lines, will be brought under cultivation and made tributary to said roads.

Success in those localities will lead to similar experiments on this side of the Rocky Mountains, until, in all probability, millions of acres in California, Nevada, Utah, and Arizona, now considered worth less for cultivation, will be made to contribute to the sustenance of our rapidly-growing interior population, and to the general commerce of the country.

Mr. R. S. Elliott, "Industrial Agent" of the Kansas Pacific Railroad Co., has recently submitted a report of what he has done in this direction, from which we condense as follows: Mr. C. seems to have selected three different locations on the line of the road—viz: Wilson Station, 236 miles west of the Missouri State line, nd 1,586 feet above tide water; Ellis Station, 66 miles still further west, 2,019 feet above the sea; and Pond Creek, 82 miles still further west, and at an elevation of 3,175 feet.

Only a few acres of ground were broken up at each place, merely sufficient for experimental purposes. Owing to the lateness of the season, the work was not done as thoroughly as it should have been; yet the prospects thus far are most encouraging, and given as follows:

The first planting was done at Pond Creek, on the 26th of September, 1870, when four acres of wheat, three of rye and two of barley were sown—timothy being sown on the wheat. On the 19th of October (three weeks from sowing) the grain was up and doing well, and still doing well on the 14th of November. This experiment is being made without irrigation, in the very midst of the "dry plains," and in a soil the least promising on the entire line of the road—and 240 miles west of what has hitherto been considered the *limit* of arable effort, depending upon natural rain fall. A second trial upon a thoroughly rotted sod must be far more favorable.

At Ellis, on the 20th of October, three acres of wheat, three of rye, one of barley were sown; on the 22d and 24th more wheat and rye; also various grass seed—Italian rye grass, Lucerne, Alseike clover, Sainfoin, vetches, etc., were sown. Three weeks from sowing the grain was up, and seen from the car windows as the trains passed; and the Lucerne was forming its third leaf. This experiment is also without irrigation. The fullest success is anticipated; and such a result, it is claimed, will establish the practicability of diversified agriculture throughout the entire region.

At *Wilson*, two acres of wheat, two of rye, one of barley, and one, each, of timothy and Lucerne, were sown; also nuts and seeds of trees—burr oak, pecan, chestnut, peach and ailanthus were planted—all on the 11th and 12th of November. Nineteen days afterwards the grain was up and promising well, notwithstanding the late sowing. Winter wheat was sown in each case.

Mr. Elliott concludes his report with the expression of his belief that forests can also be established in nearly all parts of the plains—even without artificial irrigation, if deep plowing and thorough cultivation are adopted, and rapid growing trees selected for the first planting. Seedling trees at Bunker Hill Station, 252 miles from State Line, and 1,800 feet above the sea, and transplanted trees at Kit Carson, attest the practicability of tree belts, as snow shields, at the cuts along the track.

Wherever irrigation can be made practicable, in comparatively rainless countries, no doubt much better results may be obtained than can be realized from natural moisture. Along the line of the Union Pacific Railroad that company has under consideration plans for an extensive system of irrigation. In Arizona, works for irrigation have been set on foot under the direction of a Federal officer, for which an appropriation of $150,000 has been made by Congress. In Utah there are already 130,000 acres under a judicious system of artificial irrigation, which are now producing annual crops valued at $4,500,000. Irrigation is doing much for Colorado. A late number of the Denver *News* publishes some highly interesting facts, showing the trifling cost of irrigation compared with the favorable results obtained, in that Territory.

Every intelligent person is or ought to be aware of what has been done in India and China by artificial irrigation; and notwithstanding the advantages of cheap labor there, a similar plan and scale of irrigation on the comparatively rainless portions of this continent would do equally as much for us. We may not be able to convert our deserts into gardens of paradise; but we can cause flowers and fruits and grains and grasses and trees to grow, wherever water can be made to flow over our arid lands, and thus support large populations, where now all is desolation and waste. What irrigation has done for India, it may be made to do, at least to a reasonable extent, for us on this Pacific Slope.

Thousands of acres along the valley of the Humboldt, and in numerous other sections of what has generally been considered the desert land of the "Great Interior Basin," may, by proper culture and care, be made to yield bounteously of the diversified fruits of the soil. We look upon the experiments now being made in this direction as of the highest importance and most fruitful in promise.

## CORN SHELLER.

Our readers will remember that we showed them a device last week, which rendered the husking of corn a light task. We now take another step, and show them an invention which renders the *shelling* easy. The large engraving shows the progressive farmer, who,—instead of banishing himself to his cold barn to shell the necessary turn of corn, (for which work he has had no time during the day), and wearing the skin off his hands, in the old way,—has adopted the new device, and now shells by his own fireside, amid pleasant company.

The small cut shows more plainly the construction of the device to which we refer (which is known as O'Hara's Pocket Giant Corn Sheller), and the manner of holding it. It certainly commends itself to the favorable consideration of the practical farmer, who has to do his own work. It is small, light and cheap, is very durable, and enables one to work very rapidly. As evidence of this last, we have the testimonial of a farmer, of Ottowa, Ohio, who shelled 22 bushels of corn in four hours with it on the first trial. Many others might be given. It can be used in shelling for meal or seed with especial advantage, for any part of the ear can be shelled into one measure, and the rest into another, and thus the farmer can at once sort the grains, selecting the larger ones for seed, etc., etc.

O'HARA'S PATENT POCKET GIANT CORN SHELLER.

Although only about a year has elapsed since the sheller first appeared, it has become very extensively used, 50,000 having been sold in this short time. We have been presented with one, and are inclined to consider it a very valuable little affair, which it is economy to possess. It is cheap, costing but $1.50—a sum which it will probably save to the purchaser in a short time. It does not scatter, and will shell the largest Indian corn and the smallest pop corn.

Any person desiring further information may obtain it by addressing Chas. M. O'Hara, 114 W. Fourth street, Cincinnati, Ohio; or by applying to Wiester & Co., 17 New Montgomery street (Grand Hotel), San Francisco.

## California Agricultural Notes.

LIVE STOCK IN CALIFORNIA.—The number of live stock in California, according to the Surveyor General's Report, (Marin, Plumas, Tuolumne and Shasta not included) is as follows: Neat cattle, 787,771; oxen, 11,345; beef cattle, 300,367; calves, 168,614; cows, 247,603; asses, 1,866; mules, 26,284; horses, 241,146; sheep, 2,975,753.

HOGS POISONED.—The Snelling *Argus* of January 7th chronicles an accident which has many a precedent: "We understand from a gentleman living in the neighborhood of Plainsburg, that our friend, A. Harrel, present Chairman of our County Board of Supervisors, had the misfortune to lose about fifty fat hogs by poison last week. The poison was phosphorus, put out in adjoining fields to destoy squirrels, gophers and other vermin."

THE CACTUS FENCE is an institution peculiar to Mexico. The variety of the plant used for this purpose is called the orgando. It is eight-sided, and shoots up straight as an arrow, from ten to twenty feet in height and five to eight inches in thickness. The fence-builders cut their cactus in sections of the right length, stick the cut into a trench, cover the earth around it to the depth of a foot, and the fence is made. The pieces are set as closely together as possible, and as they take root and grow for centuries, the fence improves with age, instead of going to decay like many other fences.

CASTOR BEANS IN LOS ANGELES COUNTY.—The Los Angeles *News* says that the raising of castor beans is attracting something of attention hereabouts. Several farmers, who last season cultivated a few acres, have met with results that have been eminently satisfactory. In this section the crop must undoubtedly prove a profitable one. The plant will thrive upon soils that are too dry for many other products, and the cost of cultivation is said to be less than for the same number of acres in corn. A ready market, at remunerative rates, is always open.

LARGE FLOCK OF TURKEYS.—A man in the lower part of Placer has had a flock of turkeys numbering fifteen thousand, and has employed five men in herding them.

MERINO SHEEP.—A drove of 98 Spanish Merino sheep, selected from the best flocks in Vermont, were shipped to California overland a few days since.

CATTLE are perishing in Douglas county, Oregon, for want of feed.

TALL GROWTH.—Lombardy poplars, says the San Jose *Mercury*, grown from the slip, in this valley, the past season, have attained the height of fifteen feet.

NEW CROP OF ORANGES.—By the last steamer from Los Angeles, about 55,000 oranges and lemons, of the new crop, were received. The quality is, as usual, better than that of any others brought to this market, though not as good as they will be a few weeks hence.

SHEEP FROM LOS ANGELES.—The steamer *William Tabor* brought up 1,000 sheep from Los Angeles, one day last week.

TO PREVENT balls of snow on horses feet, let the hoof and fetlock be well cleaned, and then rub with soft soap previous to their going out in snowy weather.

## Eastern Agricultural Notes.

CASTOR BEANS—REMARKABLE GROWTH.—The editor of Howe's *Monthly*, St. Louis, Mo., has raised the past season a castor bean plant which was 12½ inches in circumference at the ground, and 15 feet 3 inches high, and the aggregate length of the branches was 90 feet 8 inches; so that the whole longitudinal growth of the main stem and branches was 105 feet 10 inches. The branches were evenly distributed along the length of the stem, giving the tree (for such it may be called) a very symmetrical form.

APPLES.—Seventy-five bushels of apples, of fair quality, were recently sold by auction in Grafton, Vermont, for one cent a bushel.

AN acre of land near Newport, Rhode Island, lately sold for $5,393.40.

THE RHINE VINTAGE.—The vintage of the Rhine for 1870 is a failure. German superstition avers that every year written with a cypher at the end is a fatal one for the vintage. The wine in 1860 was anathematized under the epithet of "Garibald," and that of 1870 will doubtless be cursed in the name of "Napoleon."

A MAN in Maine has a cow that in a twelve-month made as many pounds of butter as there are days in a year, besides fattening a calf to 110 pounds.

# POPULAR LECTURES.

## Vaporization and the Elastic Force of Steam.

[Prof. JOHN LECONTE before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

### Physical Science.

LECT. I., Jan. 14th. In commencing this series of lectures, the Professor made some introductory remarks with reference to the branch of knowledge to which the lectures relate. Physical science, he said, treats of the phenomena of matter, of the external world, in distinction from the phenomena of the internal consciousness. Attention should be paid to the meaning of the term "law" in physics. The word was originally borrowed from civil and moral life, and then applied to physical facts. In morals, we understand laws to be rules laid down for the government of rational beings, and in accordance with which we ought to act. But natural laws are the rules, not according to which nature *ought* to act, but according to which she *does* act. If we find deviations from a supposed rule, this is proof that it is not a natural law. In this sense, it is absurd to speak of violations of the law of nature. The mixing of these two meanings of the term has given rise to much sophistical writing.

Physical Science is a science founded on observation and experiment. By observation we mean the careful scrutiny of what is going on in nature; by experiment, the artificial reproduction of these facts. The latter aids very materially the former, so much so that a science where experiments are possible, advances much faster than one where this is not the case. On this account, meteorology progresses very slowly. Climatic changes are so connected in all parts of the world, that we cannot expect very great advance here until all portions of the earth communicate by the telegraph, so that we can know of the meteorological conditions everywhere. Again, astronomy made but slow progress until it became a branch of mathematics, when it advanced more in 50 years than it had done previously in 2,000. The reason is obvious. When the phenomena are complex, we can divide them up into their factors by experiments, and study out the causes one by one.

The sources of errors in experiments may be classified under four heads. 1st. Those arising from the imperfections of our senses, which often tend to mislead; 2d. Those from the imperfections of our apparatus. These two classes of errors can be avoided in great measure by proper care and study. 3d. Those caused by our temperaments. Thus, in astronomical observations, it has often been noticed and acknowledged that a person of sanguine temperament is apt to anticipate, and one of lymphatic temperament to delay, the moment when, for instance, a star crosses the lines of the telescope. 4th. From a want of conscientiousness, a tendency to see things as we want them. In the present state of physical science, hardly any one would designedly state that he saw things which he did not see, yet the views of many are modified by their pre-existing ideas, by partiality, combativeness or bad temper.

Although observation and experiment supply facts, yet they do not make science, for science is not a mere collection of bare facts, but facts classified and reduced to order.

Physical science is necessarily connected with the science of numbers; all physical facts are capable of measurement. Hence this science demands a knowledge of at least the elements of mathematics. But for this reason,—as the human mind is not satisfied with the mere knowledge *that*, or *what*, a thing is, but desires to know *how much* it is,—physical examinations carry much satisfaction with them.

Physical science does not investigate the *essence* of things, does not tell what heat or gravity or electricity *is* (the function of metaphysics), but what heat or gravity or electricity *does*.

### Boiling—Evaporation.

The lecturer, after these introductory remarks, proceeded to speak of the immediate subject of the evening. All are familiar with the fact, he said, that, in applying heat to water, alcohol, ether or like bodies, vapor is generated, with a distinct elastic force, in the body of the liquid, which vapor rises and causes that movement in the liquid which is called boiling. All know, moreover, that such liquids will generate vapor, without boiling, on their surface, which action we call evaporation. In most liquids this will occur at all temperatures. It has often been observed that snow disappears from high places even at 20 or 30 degrees below zero, and laundresses know that the wet linen will get dry although it may be so cold that the water is frozen on them. Now boiling takes place at certain fixed temperatures, as at 212 degrees, Fah., for water, or at 176 degrees for alcohol, while evaporation occurs, as before said, at all temperatures. The term *vaporization*, as used in these lectures, will include both boiling and evaporation.

The first point to be now considered is,—whether there is any limit to vaporization; whether we can make a liquid so cold that it will not give off vapor. Dalton and Sir Humphrey Davy adopted the idea that every body, even metals, give out vapor. Biot applied this idea in his theory of meteorites, supposing that through electrical agency the vapors of metals were collected and condensed, and the meteoric stones were thus formed. But Biot's theory has been proved entirely false.

### Experiments about Evaporation.

The vapor theory alluded to has also been disproved. Bellini suspended, from the cork, a strip of bright polished zinc in a bottle over a little sulphuric acid. If the sulphuric acid always gave out vapors, these would of course attack and oxidize the surface of the zinc. But Bellini found that by proper care he could keep the zinc bright a long time; he did so for two years. Faraday made a similar experiment, suspending gold leaf in a bottle over mercury. At a temperature of 80 or 90 degrees, Fah., vapors given off amalgamated the gold, but by reducing the temperature, the amount amalgamated was reduced, and at 60 degrees no amalgamation took place, therefore no vapors were given off by the mercury. Many other experiments made in a similar way with other substances showed the same apparent results—that by reducing the temperature sufficiently, no vapors were given out by bodies which vaporized at higher temperatures.

In 1854, Brame attempted to re-investigate the whole subject. He suggested that the above experiments did not disprove the existence of vapors, as perhaps these might still exist (at the low temperatures given) but in a state of such tenuity that they could not attack the bodies experimented with. So he took much more sensitive substances, and repeated the experiments, using, as a very delicate test, iodine and chlorine. Although his results did not always agree with the exact limits of temperature before obtained, yet they tended to the same general result—that at sufficiently low temperatures no trace of vaporization could be found. He noticed one interesting fact in his studies—that at a certain low temperature the vapor rose, say, an inch above the body experimented with, and above this height no vapor could be discovered.

Most liquids evaporate, we said before, at all temperatures which we can obtain. But as we reduce the temperature, the amount of vapor given off decreases, and analogy (although analogy must be very carefully employed) would lead us to believe that none would be generated, if we could get a sufficient degree of cold. Thus, by using mathematical formula, we can calculate that water will not evaporate at 344 degrees below zero; but the lowest temperature we have ever obtained is 228 degrees below zero.

### Cause of Evaporation.

Two wrong ideas of the cause of evaporation have been held. One was that this was caused by the water being dissolved in the superincumbent air. This idea, first suggested by Hamburger, in 1750, was adopted by eminent men, Halley, Le Roy, Dr. Franklin, Dr. Hamilton, of Dublin, and others, and by it many phenomena can be explained apparently. Thus, the wind blowing, evaporation goes on faster, for fresh air is constantly being brought in contact with the water. Heat increases evaporation, for hot air would dissolve more water, etc. The second idea was, that the superincumbent air absorbs moisture from the water like a sponge, and this too would appear to explain many facts.

But after a while, a blow was given to these ideas by the discovery that evaporation will go on *without air*. The true theory of evaporation was published in 1802, by John Dalton, of England, and his experiments to prove it can be here repeated.

### Simple Experiment.

We have here a number of long glass tubes, closed at one end. One of these tubes we fill completely with mercury, invert, closing the open end tightly with the finger that the mercury cannot run out nor air enter, and insert the end closed with the finger in a bath of quicksilver. Now, on withdrawing the finger, the mercury falls a little distance, until the pressure of the column of quicksilver in the tube balances the pressure of the air on the bath. This apparatus is then a barometer, and the space over the mercury in the tube is of course a vacuum, for no air can be there. If we apply heat at this point, the level of the mercury will not be changed. In the accompanying cut, this tube is denoted as tube 1.

Now we take a similar tube, nearly full of mercury, and add water until it is quite full. Closing the open end, inverting and placing in the bath as before, the water rises to the top, but the space above the mercury, instead of being *smaller* (for water weighs only about one-fourteenth as much as quicksilver) is *much larger*, as denoted in the cut by tube 2. Now this cannot be caused by the (inferior) weight of water. It must be that the water has changed, in part at least, to vapor, the elastic force of which presses down the mercury. No air can be there, and this proves that the presence of air is not necessary for vaporization. If we heat the upper part, the mercury is forced down still lower, giving additional proof of the presence of vapor.

Repeating this experiment in tube 3 with a little alcohol in the place of the water used in tube 2, the mercury is depressed still lower; and in tube 4, with ether, it rises only a short distance in the tube. Now if we should heat the spaces in tubes 2, 3 and 4, to the boiling points of the liquids used, what would be the result? In each case the mercury column

would be lowered until its top was on a level with the mercury in the bath.

These simple experiments, then, disprove wholly the two theories just spoken of, for they show not only that the presence of air is not necessary for vaporization, but that its absence—a vacuum—*aids* vaporization.

### The True Cause

of vaporization is the repulsive force of heat overcoming the feeble attraction of the particles of substances.

These experiments of Dalton's, moreover, enable us to measure the elastic force of the vapors at different temperatures. If we use a graduated tube and place it in a larger tube, having the space between the two filled with a liquid heated to different degrees, we can thus measure the elastic force up to the boiling point. We can also measure the weight of each cubic foot of water for different temperatures. This we can also find for other substances. For the weight, we have the proportion,—the elastic force at 212 degrees (found by experiment) is to the elastic force at the temperature desired, as the weight of steam is to the required weight. In these ways indicated, we find the values given in the following table for water vapor.

| Temp. Fah. | Elastic Force. In. Mercury. | Difference. In. Mercury. | Wt. of cu. ft. of vapor in grs. |
|---|---|---|---|
| 30° | 0.167 | .... | 1.969 |
| 40 | 0.248 | 0.081 | 2.862 |
| 50 | 0.361 | 0.113 | 4.089 |
| 60 | 0.518 | 0.157 | 5.756 |
| 70 | 0.733 | 0.215 | 7.992 |
| 80 | 1.023 | 0.290 | 10.949 |
| 90 | 1.410 | 0.387 | 14.810 |
| 100 | 1.918 | 0.508 | 19.790 |
| 212 | 29.922 | | 257.16 |

### Law of Elastic Force of Vapor.

Many formula have been given for reckoning the increase of this elastic force at increased temperatures. Dalton suggested an increase by geometrical progression, which is perhaps near enough for the small ranges, but not for the larger ranges, as can be seen by making calculations and comparing the results with the differences given in the third column of the above table. The lecturer spoke at considerable length on the topic, and showed how drawing curves on paper to a given scale, and comparing those found by experiment with those according to any given formula or ratio, would aid in getting accuracy in this matter.

The study of vaporization at low temperatures shows two things:—that all volatile liquids vaporize instantaneously when put in a vacuum; and that, at the same temperature, the vapors of different liquids have different elastic forces. Dalton proposed another law which is pretty nearly true:—that different vapors, at temperatures equally removed from the boiling points of the generating liquids, have nearly the same elastic force.

## NAPA TWENTY YEARS AGO.

Napa City, Jan. 2d, 1871.

EDITORS PRESS:—Nearly twenty years have now passed away since I first visited this beautiful valley. In May, 1851, in company with some friends, I started for a visit to the Gysers. We gathered additions to our number on our route through the valley, and the second morning after we left McDonald's we were fourteen in number, all well mounted,—a genial set of ministers, teachers and doctors, with two old hunters acting as guides. The sexes were equally represented—there being seven couples, if the writer is mated with the infant Ann McDonald, then in arms. Wonder what has been her history since?

At this distance of time, I clearly remember many pleasant incidents of that trip. The luxuriant growth of wild flowers, oats and peas; the vivacity and gallantry with which the younger gentlemen vied with each other in plucking the first of some new specimen of wild flowers, as a present to the fair lady accompanying.

Then the herds and herds of deer, seen in the course of that morning ride, and the three grizzly bears which our guides brought down, within an hour's ride of Mr. McDonald's, will serve as samples. A spare rib from a half-grown bear, and a saddle of venison, taken a little farther on, gave proof that we should not lack food in the wilderness through which we were passing. We spent the night at the Gysers; camping under a magnificent buckeye on Professor Shepard's claim. We hoed his patch of corn and repaired his fence.

We were delighted with our trip and unanimously resolved to come again next year, and stay at least a week on the grounds; but I have not been there since. At that early day a few pioneers had made experiments in tilling the soil. Mr. Younts had made a beginning; Mr. Hopper had a few acres of wheat which gave good promise of an abundant yield; Mr. Richie, whose two daughters were in our company, and Mr. Kellogg, with his thousands of vines, are among the names which still linger in memory.

What a change has been wrought in twenty years! Now I propose to go through this valley again, and make note of the prominent industries and to gather facts for publication in the "PRESS." You need not head these letters "All about Napa," for it may not be best to give you *all*, even if I were able to do it. Neither am I quite sure that all of what I may write will be so strictly confined to my text, as to merit that title. Well, so much for a preface and by way of getting my hand in again. In my next I shall proceed straight to business and give you "Something about Napa." J. R.

A NEEDLE IN A WOMAN'S HEART.—In the post mortem examination of Mrs. Margaret A. Jones, of New York, who was recently killed by her husband, Dr. Beach found a needle imbedded in the fleshy part of her heart.

POISONED BY EATING BUCKWHEAT CAKES.—Fifteen men were poisoned nigh unto death, recently, by eating buckwheat cakes—the cause, as examination proved, being that deadly night-shade berries had been unintentionally ground up with the buckwheat.

CONCORD COACHES FOR AFRICA.—A Concord, (N. H.) coach-maker is building six coaches for use in the diamond region of South Africa.

THE TOMATO is supposed to be a modern fruit, but it is mentioned in a book printed in London in 1,600 as having been long known.

NOTABLE BEGINNINGS.—California records for 1870 will include three memorable industrial events—the shipment of the first bale of home-raised silk; the raising of the first successful crop of cotton, leading to the planting of several large tracts of that staple; and the first success in the manufacture of beet sugar.—*Bulletin.*

WHO OWNS THE REAL ESTATE.—It has been estimated that there are nearly *six million* owners of "Real Estate" in the whole Union—and of this number more than *two-thirds* are the *Farmers of the Union* who are the free-holders of the soil of our Country.

A SMART GIRL.—The Antioch *Ledger* says, Agnes Lewis, a girl of sixteen summers, has plowed over 100 acres of her father's ranch near Antioch, driving six horses attached to a three-gang plow.

MARTIN FRAIN, the champion hunter of Siskiyou county, Cal., has killed during the present season 67 deer and 9 bears.

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SAN FRANCISCO:

Saturday, January 21, 1871.

## OUR WEEKLY CROP.

A handsomer collection of Fancy Poultry than that shown by us this week cannot be found on our coast, and the improvement of the breeds, arising from transportation to our Pacific Slope, can only be hinted at now. Our library of Progress in Mechanics and Science has been increased and enlarged. The letter from one Bound East is continued, as are the Notes of Travel in San Joaquin County.

Prof. Carr contributes another very interesting article on the Needs of Agricultural Communities, showing what is being done to further farming interests in Europe. The example given of Unsuccessful Farming will prove valuable to many, as also those of Farming Excitements. To balance them, we are shown A Model Garden. From the hints on Raising Sheep, much is to be learned. Our grounds have been beautified by the introduction of Mulberries as Shade Trees, and we hope that our example may be widely followed. Sitting in the pleasant grove, we have a pleasant view of our Pacific Coast Industries.

We see the interior Deserts Cultivated and made to blossom. We see the home picture of the farmer Shelling Corn amid pleasant surroundings. We pass in review notable cases of California and Eastern Agriculture. Then Prof. Le Conte reads us a lecture, illustrated with interesting experiments, about Boiling and Evaporation; and then we are told a little history of Napa Twenty Years Ago.

Wandering through our Mulberry grove again, we see what is being done in the Silk Interest. Close by our grove we are busy Reclaiming Alkaline Soil with good results; and right here our Farmers' Gardens are doing well, the grass being kept nice and smooth around the house by the use of the "Landscape" Lawn Mower, which is to be seen. The Beet Sugar Interest receives attention at this point.

Coming into the farm house, sitting in our Home Circle, we are told the tale of the Donner Tragedy, with several new incidents never before related. The bachelors and benedicts may here learn how they may have a Loving Wife. We converse socially with the housekeeper concerning the properties of Dried Beef, Soups, Pumpkins and Cloves; we learn How to Act in Case of Poison, how to remedy Biliousness; and we are given many a valuable Household Receipt, Mechanical Hint, and the like.

We visit several Large and Small Sugaries and compare their workings. We wander, in imagination, through San Mateo and Along the Coast, when the evening comes on, as we sit in the pleasant light of the Improved Lamp. We talk of Hotel Life in '49, look over the City Market Reports, run through the Advertisements, and go to bed.

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TO CORRESPONDENTS.—Our Los Angeles correspondent "F. W. S." will find some valuable hints with regard to small beet sugaries, in another column. We shall endeavor to make some further reference to his letters in our next issue.

"J. B." sends us some agricultural and mechanical "hints" which we shall use.

"J. R." from Napa will appear next week.

"Observations by the way" received.

"S. H. H." sends us an interesting account of "A Cabinet of Natural History in Alameda County."

## SILK CULTURE.

### Varieties of Mulberry Trees.

There are but two varieties of mulberry used in European Countries for feeding worms—or for silk culture. These are known as the *Morus Alba* and *Morus Moretti*. The former takes its name from the color of its berry—which when ripe is a bluish white. The *Morus Moretti* is supposed to be a seedling of the *Alba*, and differs from it principally in the color of the berry, which is of a dark purple color. The seeds from either will produce both kinds of trees. Indeed seedlings from the mulberry are like seedlings of all other kinds of cultivated fruit trees. They are all mulberry trees, but of an indefinite number of shades of varieties. Hence in European countries it is as much the custom to bud or graft the mulberry as it is with us to graft or bud the apple or peach or other kinds of fruit trees. The object of budding the mulberry however is not to secure a particular kind of berry or fruit—but to secure a large sized and good textured leaf. They want the large leaf to facilitate piching and the proper texture to ensure a good quality of food for the worms. Experienced silk growers also claim that they can determine from the leaf, to some extent, the quality of the silk to be produced.

Hence their seedling trees are all grafted or budded when young, with cions or buds selected from those trees that bear the leaf most valued for its size and peculiar glossy and fine appearance.

There is no doubt but that some advantages are gained by this system of cultivation of the mulberry tree. Particularly in the rapidity with which the larger leaves can be picked and handled. As to the difference in the quality of silk made from the different appearing leaves we are not certain.

The Europeans reject the Multicaulis or Chinese mulberry for silk culture. They claim that the leaf is not so healthy food for the worm, and that the silk produced from it is of a coarser quality and not so strong and glossy.

Indeed, the French and Italians call the Multicaulis the poison mulberry. They say that the leaf of the Multicaulis contains too much water in its composition, and induces disease among the worms. We are inclined to believe that in France and Italy and other countries having a moist atmosphere and when rain showers are of frequent occurrence during the spring and summer months, these objections to the multicaulis are true to some extent. But when we remember that China is not only the oldest but one of the most successful silk growing countries in the world and that the Chinese use none but the Multicaulis leaves, it would seem that the trouble experienced by the French and Italians in the use of this kind of leaf is attributable more to the climate in which the leaf is grown than to the leaf itself. Again it is well known that with all the care and science of the French and Italians brought to bear upon this industry, still those countries suffer more from the various diseases of the worm than any other country where this industry is prosecuted.

It is a fact too that while the Japanese are among the most successful silk growers in the world they use altogether, leaves from seedling trees which seem to be almost, if not quite identical with the seedling *Alba* and *Moretti* grown and used in this State. In fact we have comparatively compared the leaves of the variety known as the *Japonica*, imported by Mr. Schness from Japan, with those of some of our seedlings, and we must confess that we cannot discover any difference, though some writers (are they silk culturists?) have professed to know that there is a material distinction between them. From the above facts, and from our own observations in an experience of a number of years in the business of feeding worms, we have come to the conclusion that the climate has more to do with the success of silk culture in any country than the variety of mulberry used. We believe also that the leaf of the Multicaulis is more susceptible of change in quality, owing to climatic changes, than that of the other varieties. We are confirmed in these opinions from the fact that Italians and Frenchmen who come here strongly prejudiced against the use of the Multicaulis have, after one year's experience in its use, almost uniformly dismissed that prejudice. In this State therefore where the atmosphere is dry and pure we do not think so much depends on the particular variety of mulberry used in feeding worms; and if we were, to-day, going to set out a plantation of trees to go into silk culture we would select about an equal number of the Multicaulis and the Alba or Moretti.

### Preparation of the Mulberry.

The mulberry is propagated from cuttings and from seed. The best way to propagate the Multicaulis is undoubtedly from cuttings, as there is no variety of tree that will grow more surely in this manner than this kind of mulberry. The cuttings may be taken from the tree at any time from December to March. They should be selected from well matured wood and if intended to be planted or set out in well prepared and pulverized soil that will retain plenty of moisture through the season, the cuttings need not contain more than one bud each and need not be more than two or three inches long. The ground should be well plowed and pulverized and then deep furrows run for the rows say four or six feet apart. It would be well to run a subsoil plow through these furrows, thus loosening the soil from ten to fourteen inches deep when the cuttings are to be planted. This being done the cuttings may be dropped in the furrows the same as you would drop potatoes, at a distance of six inches apart cover them with a hoe with loose fine soil about three inches, leaving a little hollow or depression when they are planted so that the eye can easily follow the rows before they come up. This will enable the operator to hoe the weeds down before the young sprouts push through the surface if necessary. And then to the weeds may also be cultivated between the rows before the cuttings come up sufficiently to enable the eye to follow them.

If the ground to be used is not so damp and not in as good a condition the cuttings should be made longer, say from six to eight inches and instead of dropping them as above they should be set in the furrow at an angle of say forty-five degrees—the upper end always being below the level of the general surface of the soil. Cover them as before with the hoe so that the upper end will be at least one inch below the surface. All cuttings will do much better in this country thus entirely covered from the drying effects of the hot sun. If one bud is left out as is the custom with many horticulturists, it will be found that the second bud is almost invariably the one that grows while the cutting dries and dies down as far as it is exposed. But one sprout should be allowed to grow from each cutting—and to ensure good growth the first season, should be well cultivated and the weeds kept down the season through.

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VANDALISM IN SACRAMENTO.—Mr. T. K. Stewart, of Sacramento, planted an orange tree, seventeen years ago, which in due time bore fruit, and has since remained a living proof that this luscious fruit can be raised in and about Sacramento. On New Years' Day the tree showed upwards of 200 oranges; but the day after, during the absence of the proprietor, some miscreant shot a valuable dog left to guard it, and carried away about 150 choice oranges.

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THAT'S SO.—The Placer *Herald* says it is useless to talk of feeding sheep where men have thousands upon thousands of head, and no previous arrangements made for such an emergency.

## RECLAIMING ALKALINE SOILS.

There are few agricultural districts in this State, or on this coast, where there cannot be found tracts of alkaline soils. In some places it will show itself in the salt-grass and weeds peculiar to such soils; in others it may be seen glistening like frost upon the surface, or blackening the water that settles upon it. In no one thing does the soil of this coast differ from that of the Eastern States, more than in its superabundance of these salts. There the soils are generally too acid, while here too much alkaline matter is frequently found. Our alkali would be good manure for many eastern farmers; while if we could get their sour, swamp soil, rich in vegetable mould, it would be just the thing to mix with our saline soils.

The various cheap compositions of lime, soda, and potash, make the best manures for the sour Eastern soils; while on our soils, already too full of such salts, they would be an injury, instead of a benefit to growing crops.

The plowing under, and plowing in, of straw, strawy manure and grain crops, will tend to correct the surplus alkaline matter in our soils, by absorbing, and through chemical decomposition, neutralizing the active principles that are injurious to growing crops; as also in making light and porous such soils as have become compact, by settling in low places.

In such places as can be flooded with water; where the water, after dissolving the alkaline salts, will readily drain off, such washing, is one of the best means that can be taken to get the surplus salts out of the soil.

Where the strata of alluvium containing the surplus salts is shallow or thin, this method will succeed admirably; while the plowing in of manure and green crops, with a cultivation of beets or some crop which absorbs the salts, will reclaim the land.

But where the strata of alkaline alluvium is deep, and the alkali is constantly rising to the surface, and being deposited, through capilary action and evaporation, there is something else necessary to be done to avoid it.

A thorough system of deep underdrainage will accomplish much towards such an end. The alkali from beneath will rise only as high as the underdrainage, and flow away with the water which holds it in solution. By such action the surface soil will soon lose its alkali, and, with proper tillage, become very valuable.

Our alkaline soils—now comparatively valueless—when once fairly reclaimed, make the richest and most productive tracts when rightly handled. The "mystery of farming" ceases to be a mystery when intelligently comprehended and understood. If the "power of mind over matter" was as fully realized in agriculture as it is in mechanics,—and the time is coming when it will be,—successful cultivation would be no stranger than successful engineering.

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A GOOD MOVE.—A movement is on foot among a number of leading farmers of Suisun, looking to the establishment of a County Agricultural and Horticultural Society for the diffusion of useful knowledge, the thorough testing of new fruits, seeds, grain, etc., and the importation of new breeds of stock.

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WINE-MAKING.—The Orleans Hills Vinicultural Association, organized in 1869, have pressed, this season, over 600 tons of grapes, yielding 80,000 gallons of wine. The grapes, to the amount of one-half the quantity used, were the growth of their own vineyards; the balance were produced along the foothills of Placer, El Dorado, Amador and Sacramento. Last season they made only 20,000 gallons of wine, which were readily sold. The demand for their brands is proportionate to the increase of their stock. All this wine was made in this city.—*Sac. Bee.*

## FARMERS' GARDENS.

### Preparation of Soil.

While on this subject, last week, we remarked that the soils along the banks of the creeks and rivers of this state are generally well adapted to the production of garden vegetables. These soils are called "made land," and are principally composed of clay, fine sand or sediment and decayed vegetation. They are of recent formation, and have been made by the operations of Nature. The annual deposit of the leaves of the forests, and the annual growth of the grasses and weeds have been covered by the occasional overflow of the streams, bringing along and depositing fine clay and sand from the mountains. Since the commencement of mining in this country the making of land in this manner has been going on very rapidly. If the deposit has been with too great a proportion of clay, then the soil thus made is heavy, stiff and sticky, and though very rich and strong, and excellent, when properly and carefully worked, for some kinds of crops, it is not well adapted to the production of garden vegetables. It settles too close and compactly together when wet, by heavy rains or overflows, and if allowed to dry without stirring it is so hard and stiff that it is almost impossible to plow or work it at all. If worked in this condition, it is unproductive—the lumps and clods refuse to yield to the roots of vegetation the necessary nourishment and food for their growth. If plowed when too wet, its condition is still worse, it assumes the hardness of puddled soil or manufactured adobes. Such soil must be worked with the greatest possible care, and only when in a proper condition, and even then it is not good for garden purposes. You may with great care get your seed into such soil in good condition, but if you have a spring shower, followed by warm, sunny days, before your vegetables are out of the ground, there will form a crust over them, which it will be impossible for the tender shoots to penetrate, and you will be under the necessity of replanting. We have seen corn and peas and even beans, after sprouting vigorously, thus prevented from coming out of the ground, by a crust formed on the surface.

The proper proportion of sand and vegetable decomposition mixed with the clay, tempers the soil and renders it easily worked at all times. It renders it porous and susceptible of absorbing and retaining moisture, in the proper degree to dissolve the nutricious elements of the soil, and thus feed and nourish the plants. We have seen just such stiff adobe soils as we have described above completely renovated and converted into the very best of garden land by a single overflow of a river, and a deposit upon it of two or three inches of fine sand. By plowing deep, and cultivating, and mixing the deposit of sand with the old clay, stiff soil, we obtain a lively mellow and porous soil, capable of being worked at almost any time in the year without injury. A soil that will allow the air to penetrate to a great depth, and which will extract from that air sufficient moisture to support the growth of plants in the driest of seasons. We have known large tracts of land bordering the Sacramento river to be thus changed, and more than quadrupled in value, by the deposits of a single overflow. We have known such renovated land to rent annually, for garden purposes, for more money than it could, in its original condition, have been sold for. Thus Nature manipulates and makes land, and changes whole sections, in a single year, from stiff, heavy and intractabls soils to light, lively and sandy loams, thus doubling and quadrupling their value for many purposes.

### A Lesson from Nature.

From such operations of Nature, the farmers, on the stiff, clay soils of the prairies and oak openings of our state, including all our red soils, and in fact nearly all of what are generally recognized as the best grain districts, may learn an important lesson. From these operations they may learn just what they may do with a small piece of land to give each of them as valuable a garden spot as Nature ever formed. These prairie soils are stiff and heavy, and want to be tempered with sand and vegetable matter. The vegetable matter is always at hand in every barnyard. There are but few localities in this state where plenty of good sediment sand can also be obtained within a reasonable distance.

One hundred and sixty feet square—a space sufficiently large—for a good vegetable garden for a large sized family, could be covered three inches deep by almost any farmer, within a year, and he would scarcely feel the expense. Having selected the place for the garden, he should in the first place plow and subsoil it, at least from sixteen to twenty inches deep—two feet or more would be still better. Then draw on the manure—well rotted barn manure would be best—and sand in about equal proportions. Let the whole be thoroughly mixed with the soil, as low down as it has been subsoiled, but leaving a larger proportion of sand and manure mixed with the surface foot of earth. A deep ditch—say three or four feet deep—around the entire plat, with two or three blind ditches, say two feet deep, and equal distances apart running from one side to the other and emptying into the border ditch, would add very much to the life and elasticity of the soil and to its productiveness. It may be doubted by some whether land on the dry plains of California would be benefitted by drainage. In answer to this doubt we would remark that the object of such drainage is to introduce air into the soil and thus render it more moist in dry weather, as well as lighter and drier in wet weather. It has been well and truly said, "that drainage makes cold land warmer, wet land drier, dry land wetter, and heavy land lighter." The principal object to be attained by the introduction of sand and manure, is to open the pores, as it were, of the soil and keep them open; and this object is still more perfectly attained by the proposed drainage. It enables the soil to breathe, and thus extract from the air the moisture as well as the fertilizing gases, and distribute them among the rootlets of of the growing plants, just as the lungs of the animal extracts the oxygen from the air and diffuses it through the animal system. Soil thus prepared will thereafter require only an annual top dressing and good cultivation to render it almost incredibly productive.

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WILL RAISE THEIR OWN POTATOES. Santa Barbara, which has heretofore imported her potatoes from this city, will hereafter raise her own. There are some other localities in the state which might profit by this example.

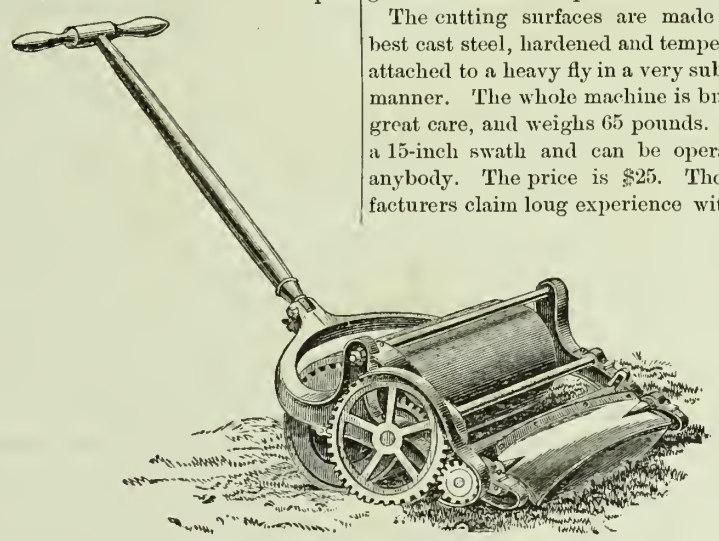
## LAWN MOWER.

There comes to us the description of a very neat lawn mower, which seems to embody the good points of many other machines, without their objectionable features. This is the so-called "Landscape" mower, an illustration of which is here given, and of certain points of which mention may be made.

For throwing the machine in or out of gear, in place of a rachet and spring, a patent friction pawl is used, so that the mower is always in gear when going forward, and always out of gear, and noiseless, when going backwards. This pawl is entirely concealed, and, like the gearing, is protected from obstructions by grass, dirt and other substances.

By means of an adjustable roller, in the rear of the knife bar, an easily-running machine is produced, which, we are told, accommodates itself to any unevenness of the ground, mowing borders or lawn alike, complete without trouble of change, and thus dispensing with shoes or rollers in front of the cutter, which beat down the grass and make it impossible to cut evenly.

The cutting surfaces are made of the best cast steel, hardened and tempered, and attached to a heavy fly in a very substantial manner. The whole machine is built with great care, and weighs 65 pounds. It cuts a 15-inch swath and can be operated by anybody. The price is $25. The manufacturers claim long experience with lawn mowers of every description, and that they can recommend this with perfect confidence in its merits. They seem to have a very good article. For particulars, apply to Hovey & Co., No. 57 State street, Chicago, Ill.



THE "LANDSCAPE" LAWN MOWER.

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CALIFORNIA RAISINS.—We meet with notices in nearly all our agricultural exchanges, speaking of small lots of raisins which have been produced, the past season, in their various localities. These facts are of considerable interest as showing that the attention of our grape growers is being more than ever turned to this important product. This is no reason why we should not prepare at home all the raisins needed for the supply of this coast. Let our grape growers experiment in this direction—put up their own raisins, at least, and gradually educate themselves so that they may eventually prepare them for the market. Grapes are worth only two, three, or four cents per pound, while raisins are worth from 15 to 25 cents—a large per centage to add to the raw product.

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A COMFORTABLE PROPERTY. — Alvinza Hayward of this city, while on the witness stand, a few days since, in the Fourth District Court, was called upon to give a schedule of his assets and liabilities. The list of his assets footed up $2,701,335, his liabilities $939,000, leaving the very comfortable net balance of $1,762,335. Mr. Hayward was a poor man ten years ago. The chief part of his fortune has been derived from the famous mine in Amador county, which bears his name.

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FRAUDS IN WOOL.—McLennan, Whelan & Grissar's wool Circular urges upon flock masters the necessity and policy of honest packing. Corral dirt, sand, wet fleeces, etc., are still occasionally met with, and operate to the disadvantage of the business generally.

## THE BEET SUGAR INTEREST.

Whenever any new manufacturing interest is started in this city or vicinity, there is always a hard fight made by jobbers and importers to crush out the new industry. Of course the Beet Sugar enterprise has been no exception. The first attack upon that was in a material reduction of the price of the class of sugar manufactured at Alvarado; but the people were greatly benefitted by that move, and the Alvarado Company can well afford to manufacture at the reduced price.

The next attempt was to frighten capitalists from investing in the numerous projects for other manufactories which were set on foot, as soon as the success at Alvarado was made known. A statement in detail of the cost of manufacturing beet sugar was widely circulated in several of our leading papers; but its authors overdid their work by the extravagance of their figures, which were so arranged as to show an annual loss of about $30,000 to an establishment of the capacity of the Alvarado works. The fallacy of the unfriendly figures has been fully shown; and thus that matter rests for the present.

The gentlemen who have initiated this business, in Alvarado, are perfectly conversant, not only with the manufacturing details thereof; but with its economical details and value as well. They have fully counted the cost, and are prepared to put their home grown article upon the market at as low, and, if necessary, at a *lower* figure than the same quality of sugar can be afforded by those who depend upon a foreign market for the raw product.

The manufacture of sugar from beets is no new or untried business; but has become one of the leading and most profitable industries of Europe, where improvements are now being largely introduced which have greatly lessened the cost of machinery, and consequently the cost of manufacture. This reduction, we have good authority for saying, reaches to a large percentage of both the original outlay required, and of the cost of manufacture. Moreover, as the chief improvement referred to relates to the direct treatment of the beets, in their pulp or sliced condition, and is applicable to "cane" only to a limited extent, if at all, it thereby gives the beet a still greater advantage than it has heretofore held over its tropical rival.

The condition of political affairs in Europe, and upon the island of Cuba assures us that the sugar market of the world must for a long time remain in a state to greatly stimulate the production of sugar in the United States, toward which many countries, heretofore supplied wholly by Europe, are now beginning to look for this article of prime necessity. Sugar has already been shipped from New York to Valparaiso; and if New York can supply that market, surely the time is not far distant when San Francisco can do so to a better advantage.

A more favorable opportunity for the initiation of this new industry, on the Pacific Coast, could not have been selected; and we are fully convinced that the protection which is now incidentally secured to us, will be amply sufficient to float us over the oppositions, discouragements and mistakes which are always incident to new undertakings, and place us in the full tide of successful experiment. Such a point reached, we ought thereafter to be able to supply our own wants, and manufacture largely in addition for both foreign and domestic export. This accomplished, we shall not only save the four or five millions now annually disbursed for foreign sugar; but shall also be in a condition to add still other millions to the vigorous employment and development of the numerous other resources with which this coast abounds.

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THIRTY-FOUR ships have loaded with wheat at Vallejo, the present season.

BY OUR LADY EDITORS.

## The Donner Tragedy.

### A THRILLING CHAPTER IN OUR PIONEER HISTORY.

[Written for the PRESS.]

The sufferings of the Donner party, who were snowed in, and detained on the mountains more than three months, in the winter of 1846-7, has been much talked about, and some garbled stories have been published; but from the very nature of the case, anything like a true history was difficult to come at. My informant, who was one of the general company to which the Donner party originally belonged, says that she has never seen anything like a true or competent history of that most horrible period in the lives of these unfortunates. The following she is ready to vouch for, as truth; and if anyone desires further information, or confirmation of what is alredy given, her name and address will be at their service.

By retracing, though but in idea, the difficult and dangerous steps of the early emigrants, we are enabled more fully to appreciate the homes of comfort, competence and beauty, to which they have led us.

In the year 1846, about the 1st of May, 500 emigrants, under the guidance of Wm. Fowler, left Independance, Missouri, bound for California and Oregon. They all continued in one company until they reached Big Blue River, when the decline of pasturage made it necessary to separate into small companies, that of Mrs. C—— being piloted by Wm. Fowler. They were all in advance of the Donner party, but after crossing the Salt Lake Desert the latter nearly caught up with them.

On going over the mountains, the Read and Donner Company, when they came to the Devil's Canyon, known as Hasting's Cut-off, sent some men forward to examine the route. On their return, they represented the pass impracticable; and leaving the old road, they attempted to cut their way around the high peak, felling, or removing such timber as impeded their progress. In this toilsome work they spent eighteen days, thus exhausting their time, strength and provisions. This detention was one of the chief causes of their being caught in the snow, and of all their subsequent sufferings,

Read and McCutchins came to their camps nearly starved, having made a meal of wheel-grease and mustard taken from Mr. C——'s wagon, which he had left on the mountain, intending to go back for it.

#### A Night in the Snow.

At night Mr. C—— finding that his cattle had gone off, set out in pursuit of them, leaving his wife alone in that wild and horible place. But the brave heart of the heroic woman was not easily to be dismayed. Patiently, hopeful, resolutely she watched the night through, with a kind of latent faith that her husband would be preserved, though he was exposed and unsheltered to the pitiless snow storm, which, soon after he left, began raging with great fury; and the dismal howling of their faithful dog, hightened the horrors of the scene. But the brave heart fainted not; and every little precaution the occasion prompted or required, was patiently and quietly taken. She trimmed the fire; she watched and adjusted the warming and drying garments; she heated and replenished the evaporating tea; and several times during the night, she went out with a long-handled iron scraper, to scrape the snow from the tented roof, lest it should be broken down by the weight, and leave her without shelter.

Morning came; for the most protracted periods of anxiety and anguish must some time have an end; and aided by the earliest light, the straining eyes of the lonely watcher went out over the wild, for sight or sign of the wanderer; but no track appeared on the mountain road, that lay, still and solemn as death, draped in a winding sheet of spotless snow. Still she hoped—still she believed—that her husband would yet come; and once more, and again and again, she went to the place of lookout; but over all the ghastly whiteness of the scene no form of life appeared.

But look yonder, up the mountain road, to the remotest point of sight! Is that a man? a horse? Do they move? At first sight the motion was slow, so faint as to be nearly imperceptible. Ah, yes! her faith is rewarded at last. He is living! He comes! She flew to meet him, with whatever speed she could make through the depths of snow, and found him greatly exhausted and nearly insensible. He was soon put to bed, and by help of warm blankets, heated stones and hot drink, he partially revived and was able to give a coherent account of himself.

He had followed the cattle about twelve miles, and brought them to the brow of the long hill that overlooked their encampment; but in his weak and exhausted state he could not get them over the brink, from which they drew back in terror. Finally he became bewildered and lost in the storm. He had stood all night, hugging his horse, to keep up animal life; and it was with the greatest difficulty that he was able to regain his seat in the saddle, and keep it until he reached the camp.

Mrs. C., being informed where the cattle were, put on snow-shoes and a pair of pantaloons, and after a hard walk up the mountain side, found the cattle, and drove them down without any difficulty.

#### A Strange Proceeding.

That afternoon, for fear of being snowed in, they killed an ox; and while they were preparing some of the meat for supper, Reed and McCutchins came to the camp, with two Indians and 30 horses, sent by Gen. Sutter for the relief of the suffering party. During the night the Indians took two of the best horses and decamped; and in the morning Mr. Reed, with his companion, set off for the snow-bound company, following the trail of the cattle about 12 miles. After traveling as far as the ox-trail reached, they concluded it was not safe to proceed further, and returning to the camp of Mr. C., staid all night. But instead of hastening forward to the relief of the sufferers, who were but a short day's travel back, Mr. Reed left his provisions in the wagon of Mr. C., and returned to Sutter's Fort, Mr. and Mrs. C. accompanying them. Here was another great and terrible mistake, to say the least. This was about the middle of November; and had Mr. Reed pushed forward to the rescue of the sufferers, including his own wife and children, more than 80 persons might have been spared three months of suffering, so horrible as to defy description. We cannot conceive of them. There were, doubtless, sufficient reasons for this strange behavior; but at the time the whole proceeding was draped in impenetrable mystery.

#### Snowed In.

Do any of you imagine what these two simple words may mean? Go with me, then, to the Donner camp; and we shall see. Is this a company of ghastly spectres that haunt the snowy wilderness with the writhing memories of inconcievable, inscrutable suffering? Their wan features, shrinking forms and the trembling limbs, all betoken the deep corroding anguish of unappeased hunger. Their wild eyes burn in the sockets; and the dilating pupil nearly covers the iris. They are dying of starvation; and even on the wan and wasted features of the dead, the biting expression of the horrible hunger still remains.

They are now taking their morning meal; and yonder gentle matron—Mrs. Reed—ever more thoughtful for others than herself, is cutting off strips of raw hide, and dividing them into small pieces; and the children come around her with their little tin cups, to receive the precious morsel, that may sustain life a little longer. O, God! that *little longer* will lay many of them to rest in the sheltering snows!

They had killed all their animals; and their skins had been providentially saved. Hence the supply of raw hides. But at length even this became scarce, and, compared with what followed, was a luxury. Old boots and shoes, bits of saddles or harness, and fragments of leather in every form, were now gathered and rigidly economised. One of the company, who was a child at the time, but afterwards married and lived at San Jose, gave quite an account of the interior of the camp at this period. She said that she and a sister had a quarrel, and almost a fight, for the possession of a little shoe that one of them had found. She declared, too, that she, herself, had eaten a piece of her mother! It is believed that, driven to the last extremity, they devoured the bodies of their dead. But enough is known to show that their sufferings were drawn out to the most terrible strain that human anguish could support, or human strength endure. Let us, then, leave these awful secrets undisturbed, and gently draw a curtain over the revolting scene.

Mr. and Mrs. Brene, with their nine children, had encamped eight or ten miles behind the Donner party; and between the two camps there was kept up such an interchange of neighborly kindness, as the circumstances would allow. By this means the dreadful condition of the Donner camp became known to Mr. & Mrs. Brene. By a careful and wise economy, they had made their provisions hold out; and thus they were able, not only to sustain themselves, but to assist others. They took Mrs. Reed with her four children, and one adopted child, home to their camp, and kept them until relief arrived. Let no one say that economy is an ignoble virtue, remembering that by its help, six precious lives were saved. The woman who could look upon her own nine children and give to others what would shorten their allowance—possibly bring them to starvation—must have a great heart, indeed. It has been said that there is no greater love than this, that a man should die for his friends but; this is by far a nobler action and a diviner love. Mrs. Brene was, indeed, a noble woman; and her name should be inscribed in golden lettering on the page of history. By such high examples, the world is made happier and better; for she who could give to others what her own children might soon suffer for, deserves, and must soon receive; the *crown of virtue*.

#### Relief Itself Horrible to Behold.

About the middle of February, seven men and women, finding their condition intolerable, left the Donner Camp, hoping to reach the valley in safety; and out of the fourteen, only five women and two men, came into Mr. Johnson's ranch, then the first house on this side of the mountains, one-half of the whole number having perished by the way.

Mr. Johnson, on hearing the great distress of the snow-bound company, sent a messenger to Sutter's Fort, with an account of their terrible sufferings. When the news came in, the citizens volunteered for the rescue of the sufferers. Gen. Sutter, with his well-known promptness and liberearity, offered them horses and provisions; and without delay seven men were despatched, Messrs. Glover, O'Brien, Montgomery, Curtis, and three others, whose names are not remembered.

These seven brave men set off on their difficult and perilous undertaking, and pursued their journey as far as Bear valley, with their horses and packs. But finding their route thence impassible for horses, they resolved to take as much as each man could carry and proceed on foot. Leaving the horses and the remainder of the provisions with one of their number, the six men, each with a heavy load on his back, boldly set foot on the trackless mountain, and on the second day reached the Donner camp, when the desperate fate of the unfortunates was discovered. No description can give any competent idea of this horrible scene. Some were snow blind, others insane, others dying, others dead; while the wasted forms and ghastly looks of all presented a most shocking sight.

Language cannot describe the features of the living when they saw that relief had actually come. Some became nearly insensible or delirious from excess of joy; others were still as death in the intense strain of another moment's waiting: while many faces were distorted by a crazy, foolish, almost demoniac laugh, horrible to behold. They swallowed the small pittance allowed, almost without mastication, and held out their trembling hands for more. Great caution was necessary in order to avoid the ill effects of a giving them too much at a time, but the madness of their hunger soon began to subside.

Fortunately the news spread rapidly over all the then inabited parts of the state. At San Jose another expedition was fitted out; and, with Mr. Reed at their head, they set off with sufficient food to bring the sufferers in. By the time this new supply arrived their former stock of provisions was exhausted, and now comes the task of getting the sufferers, all weak and emaciated, into some settlement.

Three were left behind to their fate: a Dutchman by the name of Reesburgh, old Mrs. Donner, and a child that Mrs. McCutchins, one of the fourteen who went out, had left behind. The child died the next day; and Mrs. Donner was probably murdered by the Dutchman. She had about her several thousand dollars in specie, and, not being permitted to take it with her, she preferred to stay with it, and with a true miser-feeling, loving her money better than life, she surrendered herself, hugging her purse to the last.

A party of men who afterwards visited the camp, found the old lady with her throat cut, and a bucket near by which had been used to catch her blood. Part of her body was sliced into steaks to sustain the life of the murderer. Thise Resburgh was afterwards tried for the murder; but on the discovery of gold he came up from the Bay, where he had been sojourning since his acquittal, and opened an eating house at Fort Sutter, which was well known as *Cannibal Tent*.

A touching little incident is related of these times. On the passage from the camp to Fort Sutter, Mr. Brene and one of his little daughters became very faint, and it was feared that they would die. It was proposed to Mr. Read that they should stop and light fires, and try to restore them. He treated the matter coolly, not to say gruffly, saying he didn't think it worth while to take much trouble about it. On hearing this, his little girl took him by the hand, saying in the sweet earnestness of a grateful child, "Papa, if it hadn't been for Mr. Read we should all have been dead!" The sight of the sweet pleader brought the lesson home to his heart. He instantly ordered a halt; when they kindled fires on each side of them, administered remedies, and the sufferers were saved.

F. H. MCD.

## How to Have a Loving Wife.

If you would have a loving wife, be as gentle in your words after as before marriage; treat her quite as tenderly when a matron as when a miss; don't make her maid-of-all-work, and then ask her why she looks less tidy and neat than when "you first knew her;" don't buy cheap, tough beef, and scold her because it does not come on the table "porter-house;" don't grumble about squalling babies, if you can't make up a "nursery," and you remember that "baby" may take after papa in his disposition; don't smoke and chew tobacco, thus shatter your nerves, spoil your temper, and make your breath a nuisance, and then complain that your wife declines to kiss you. Go home joyous and cheerful to your wife, and tell her the good news you have heard, and not silently put on your hat and go off to the "club" or the "lodge," and afterwards let her learn that you spent the evening at the opera, or at a fancy ball with Mrs. Dash. Love your wife, be patient; remember that you are not perfect, but try to be; let whisky, tobacco and vulgar company alone; spend your evenings with your wife, and live a decent Christian life, and your wife will be loving and true—if you did not marry a thoughtless beauty, without sense or real worth; if you did, who is to blame if you suffer the consequences.—*Phrenological Journal.*

## Modern Rules of Good Breeding.

A work entitled "Good Society" says that the corner of a visiting card is turned down to indicate that the caller intends the compliment of her visit to include some other member of the family in the house. A lady should not rise from her seat when a gentleman is brought up and introduced to her, unless he is an elderly man, or, from peculiar circumstances or family connection, the lady wishes to pay him the marked attention of shaking hands at a first interview. When people meet at the house of a common friend, they may converse together without an introduction, if they find themselves in proximity, and an occasion arises for speaking; but, without a special introduction, neither lady should recognize the other if they meet in public the next day.

DANGER OF REVERIE.—Do anything innocent rather than give yourself to reverie. I can speak on this point from experience. At one period of my life I was a dreamer and a castle builder. Visions of the distant future took place of present duty and activity. I spent hours in reverie. I supposed I was seduced in part by physical debility. But the body suffered as much as the mind. I found, too, that the imagination threatened to influence the passions, and that if I meant to be virtuous I must dismiss my musings. The conflict was a hard one; I resolved, prayed, resisted, sought refuge in occupation, and at length triumphed. I beg you to avail yourself of my experience. —*Channing.*

A LADY and gentleman of Troy, N. Y., whose connubial bliss is perfect in everything, save the presence of children around the domestic fireside, were examining some illuminated mottos in a book store, the other day, when the wife picked out one bearing these words: "God bless our home." The husband thought that very good, but still not exactly what they wanted. Looking a little farther, he picked up this one: "Suffer little children to come unto me."

# HOUSEHOLD READING.

## Dried Beef.

In our last issue we gave a very good receipt for cooking dried beef. We here append some very pertinent remarks upon the use of this very good and convenient article of diet, from the American *Agriculturist:* "The good qualities of dried beef as an article of food for the family, are not fully appreciated. In point of excellence, it is one of the nicest articles, when properly prepared, that we have in our storeroom. It is also one of the most economical articles of food; quite a small quantity of dried beef, shaved very fine, and cooked with a nice gravy, will serve for meat for a family at very small expense. Then it is so convenient to have; always ready; always acceptable. To people who live convenient to market, it is not of so much importance; but to us, who live at a distance from towns, dried beef is one of the necessary articles in our bill of fare. We frequently entertain guests at our table who never have seen dried beef served other than as a relish for bread and butter; shaved and eaten without cooking. There are several methods of cooking it. Some prefer it cooked with a gravy of water, seasoned with butter, thickened with flour, and, perhaps, eggs broken in while cooking. Others cook it with crumbs of sausage, frying the sausage first, then adding the beef with water, and thickening with flour. It is also very good cooked with a little sweet milk and sweet cream, the gravy being thickened with flour; allow it to boil once; that is all the cooking it requires. A dish of dried beef, properly cooked, served with toast, baked potatoes, and boiled eggs, is a very nice provision for breakfast or a dinner prepared in haste. When too salt, it can be remedied by soaking, after cutting and before, and cooking, and adding a little white sugar while cooking, to restore the sweetness lost by soaking. Sugar-cured beef is much nicer than that cured with salt alone. I put mine into a sweet brine, such as is used for pork hams."

SOMETHING ABOUT SOUPS.—It is the general impression that a soup which, when cold, sets into a strong jelly must be the most nutricious; but such is not the fact. The soup "sets" because it contains the gelatine or glue of the sinews, flesh and bones; but on this imagined richness alone, it has, by recent experiments, been proved that no animal can live. The jelly of bones boiled into soup can furnish only jelly for our bones; the jelly of sinews or calf's feet can form only sinew; neither flesh nor its juices set into a jelly.

It is only by long boiling we obtain a soup that sets, but in a much less time we get all the nourishing properties that meat yields in soups that are no doubt useful in cases of recovery from illness, when the portions of the system in which it occurs have been wasted; but in other cases, though easily enough digested, jelly is unwholesome, for it loads the blood with not only useless but disturbing products. Nor does jelly stand alone in that particular. Neither can we live on meat which has been cleared of fat, long boiled, and has all the juice pressed out of it; a dog, so fed, lost in forty-three days a fourth of his weight; in fifty-five days he bore all the appearance of starvation, and yet such meat has all the muscular fiber in it.

HOW TO ACT IN CASE OF POISON.—Whatever is done must be done quickly. The instant a person is known to have swallowed poison by design or accident, give water to drink, cold or warm, as fast as possible, a gallon or more at a time, and as fast as vomited drink more; tepid water is best, as it opens the pores of the skin and promotes vomiting, and thus gives the speediest cure to the poisonous article. If pains begin to be felt in the bowels, it shows that part at least of the poison has passed downwards; then large and repeated injections of tepid water should be given, the object in both cases being to dilute the poison as quickly and as largely as possible. Do not wait for warm water—take that which is nearest at hand, cold or warm, for every second of time saved is of immense importance; at the same time send instantly for a physician, and as soon as he comes turn the case into his hands, telling him what you have done. This simple fact cannot be too widely published; it is not meant to say that drinking a gallon or two of simple water will cure every case of poisoning; but it will cure many, and benefits all by its rapidly-diluting quality. —*Journal of Health.*

## About Biliousness.

Biliousness is a common malady. A great many people are bilious. They have no dyspepsia, they never had a symptom of dyspepsia in their life; they are only *bilious.* Now this word biliousness is a sort of respectable cover for piggishness. People are not bilious when they eat as they should.

Reader, are you bilious? [Rather a hard question after the above hard word.] Let me prescribe for you. If you follow my prescription, and don't get well, write me, and in the next edition I will announce my error.

First, on getting up and going to bed drink plenty of cold water. Eat for the morning meal, until the bilious attack passes, a little stale bread, say one slice, and a piece as large as your hand of boiled beef or mutton. If the weather is warm, take instead a little cracked wheat or oatmeal porridge. For dinner take about or near the same thing. Go without your supper. Exercise freely in the open air, producing perspiration, once or twice a day. In a few days your biliousness is all gone. This result will come, even though the biliousness is of the spring sort, and one with which you have from year to year, been much afflicted.

Herb dishes, bitter drinks, lager beer, ale, whisky, and a dozen other spring medicines are simply barbarous.—*Ex.*

MEDICAL QUALITIES OF PUMPKINS.—A prominent physician of New York City, speaking of the properties of pumpkins, says that in his travels in Syria he found pumpkin seeds almost universally eaten by the people for their supposed medical qualities. Not because they are diuretic; but as an antidote against animalculæ, which infest the bowels.—They are sold in the streets as apples and nuts are here.

It is said to be a medical fact that persons have been cured of tape-worm by the use of pumpkin-seeds. The outer skin being removed, the seeds are bruised in a morter into an oily, pasty mass. It is swallowed by the patient after fasting some hours, and it takes the place of chyle in the stomach, and the tape-worm lets go its hold on the membrane and becomes gorged with this substance, and, in some measure, probably torpid. Then a large dose of castor oil is administered, and the worms are unable to renew their hold.

WHAT CLOVES ARE.—Cloves are the unopened flowers of a small evergreen tree that resembles in appearance the laurel or the bay. It is a native of the Molucca or Spice Islands, but has been carried to all the warmer parts of the world, and is now cultivated in the tropical parts of America. The flowers are small in size, and grow in large numbers, in clusters, to the very ends of the branches. The cloves we use are flowers gathered before they are opened and while they are green. After being gathered, they are smoked by a wood fire, and then dried in the sun. Each clove consists of two parts, a round head, which is the four petals or leaves of the flower rolled up, enclosing a number of small stalks, or filaments; the other part of the clove is terminated with four points, and is in fact, the flower cup and the unripe seed vessel. All these parts may be distinctly seen if a few cloves are wet for a short time in hot water, when the leaves of the flower soften, and readily unroll. Both the taste and smell of cloves depend on the quantity of oil they contain. Sometimes the oil is separated from the cloves before they are sold, and the odor and taste in consequence much weakened by such unfair proceedings.

PURE AIR in all buildings is of primary importance, whether it be a family dwelling, or the abode of those animals in the healthfulness, and consequent usefulness, of which the owner has so deep an interest. Success, in any pursuit, depends very much upon the amount of intelligence which is employed in its prosecution.

Foul air is probably, directly or indirectly, the cause of nine-tenths of the diseases of the land, especially of fevers. Diptheria, typhoid and scarlet fever and many other most serious illnesses have their origin in cellars, both in city and country; and we can do our readers no greater service than to urge them to see that, at all times, they are in a dry, sweet, wholesome condition. Even foul air enough to seriously taint a whole house rises from the drains of stationary wash-stands left open over night.

PEANUT OIL FOR BUTTER.—Peanut oil, used in the South during the war, as a substitute for butter, is again coming into use in view of the high price of the latter.

## Household Receipts.

MUFFIN PUDDING—SOMETHING NICE.—For a muffin pudding, cut six stale muffins in very thin slices, lay them in a deep dish, pour over them half a pint of brandy, in which you will let them soak. Simmer half a pint of cream with a stick of cinnamon, the grated peel of a large lemon, and four ounces of lump sugar. Let it remain simmering over the fire for ten minutes, then take off and keep stirring until cold, then mix it by degrees with the yolks of eight eggs, well beaten, butter a plain mold and line it with muffins, the crusty side being outwards. Fill up the mold with alternate layers of dried cherries or other fruit, and the crumbs of the muffin. Flavor the custard with orange-flower water, and pour it into the mold. Keep the mould upright, by sitting it in bran until the custard has soaked in. Then bake it half an hour.

TO SOFTEN KID BOOTS.—Melt a quarter of a pound of tallow, then pour it into a jar, and add to it the same weight of vegetable oil, stir and let it stand till cold; apply a small quantity, occasionally, with a piece of flannel. This will soften and will not injure the kid.

TO CURE DYSPEPSIA.—Take raw clams and broth or, the uncooked broth alone, from a gill to a half pint, on an empty stomach, before breakfast, for a month, if necessary, or even longer. This is in reply to *Sarah's* inquiry, and in my case, I have found it of great benefit.—*August Cor. Rural New Yorker.*

APPLE FRITTERS.—Pare and core some large apples, cut them into round slices. Soak them in wine, sugar and nutmeg for two or three hours. Make a batter of four eggs, a tablespoonful of milk; thicken with enough flour, stirred in by degrees, to make a batter; mix it two or three hours before it is wanted, that it may be light. Heat some butter in a frying pan; dip each slice of apple separately in a batter, and fry them brown; sift powdered sugar and grate nutmeg over them.

FRICASSED CHICKEN.—Cut up chicken, and boil with slice or two of pork in sufficient water to cover till quite tender. Fry some pork and when cooked a little, drain the chicken and fry with the pork till quite brown. Then take out, and pour the broth into the frying pan, with the pork fat, and make a gravy with browned flour, season well with butter, put the chicken into the gravy; be sure and have the fat quite hot when the chicken is put in, so it will brown readily.

## Mechanical Hints.

RURAL PICTURE FRAMES.—Rustic wood for this and other purposes is in great favor nowadays. With a little care in selection of material, and skill in handling tools, we may frame our engravings and paintings at slight cost. Oak wook, denuded of the bark, presents a beautifully corrugated surface, out of which the knife easily removes the few fibres which adhere, and it is ready for varnishing as soon as it is seasoned. The "season cracks," should they occur, may be filled with dark-brown putty, and will even highten the general effect.

Take a thin board, of the right size and shape, for the foundation of "mat," saw out the inner oval or rectangular form to suit the picture. Nail on the edge a rustic frame made of the branches of hard seasoned wood, and garnish the corners with some pretty device, such, for instance, as a cluster of acorns. Ivy may be trained to grow around these frames with beautiful effect.—*Scientific American.*

BRONZING FOR LEATHER.—Dissolve a a small amount of so-called insoluble aniline violet in water, and brush the solution over the article to be bronzed; it will dry quickly and may have to be repeated. Shoes treated in this manner have a beautifully bronzed appearance.

ELASTIC AND SWEET STARCH.—Good common glue is dissolved in water, on the water bath, and the water evaporated down to a mass of thick consistence, to which a quantity of glycerine, equal in weight to the glue, is added, after which the heating is continued until all the water has been driven off, when the mass is poured out into molds, or on a marble slab. This mixture answers for stamps, printers' rollers, galvano-plastic copies, etc. The sweet glue, for ready use by moistening with the tongue, is made in the same way, substituting, however, the same quantity of powdered sugar for the glycerine.

VARNISH FOR OIL PAINTINGS.—Take dextrine 2 parts. alcohol 1 part and water 6 parts.

## Life Thoughts.

THERE comes a time when one sweet child-face is more to us than all the world beside.

HE is our friend who helps us to one new thought or who inspires us to one noble action.

THE soul without passion is like unripe fruit; not until the sunshine of a real love touches it, does it develop sweetness and perfection.

THE best sometimes err, but still remain the best; while the worst is well at times, yet still remain the worst.

A BEAUTIFUL THOUGHT was that in the mind of a little girl, who, on beholding a faded rose, round which three little buds were unfolded, exclaimed to her brother: "See, Willie, these little buds have awakened in time to kiss their mother before she dies."

HOW TO SECURE PLEASANT DREAMS.—A French writer has said that to dream gloriously, you must act gloriously when awake; and to bring angels down to hold converse with you in your sleep, you must labor in the cause of virtue during the day.

HOW TO DESTROY ENEMIES.—"Why do you show favor to your enemies instead of destroying them?" said a chieftain to the Emperor Sigismund. "Do I not destroy my enemies by making them my friends?" was the Emperor's noble reply. Kindness is the best weapon with which to beat an adversary.

## Testing a Man.

No man is a man till he is tried; till he has passed through the ordeal; through deep water and scorching fires. A man surrounded with comforts, friends and relations, food and raiment; whose barns are filled with plenty, and whose presses gush out with new wines; who eats his fill; sits and reads, doles about, taking his ease and pleasure; smoking his pipe and chewing his cud; is he a man? Far from it. A man is not a man until he is proved—has passed the ordeal—drank the bitter cup; risen above life's conflicts; mounted the billows of the wave.

Was Joseph a man in deed, till he was cast into the pit; torn away from the bewitching tempter, leaving his garments behind; till he groaned in the prison house? Was Moses a man till he had passed the fiery ordeal? Was Paul truly a man till he suffered perils by sea and land, and finally received forty stripes save one.

Let a man be forsaken of all, as was Job—then if he comes out, rising triumphantly over all obstacles, he is a man.

LIVING TO ONE'S SELF.—The cure of a little village near Bellizona, to whom a traveler expressed wonder that the peasants allowed the Ticini to flood their fields, replied that they would not join to build an effectual embankment, high up the valley, because everybody said, "that would help his neighbors as much as himself." So every proprietor built a bit of low embankment about his own field, and the Ticini, as soon as it had a mind, swept away and swallowed up all together.

LEISURE HOURS.—It was a beautiful observation of the late William Hazlitt, that "There is room enough in human life to crowd almost every art and science into it. If we pass no day without the company of books—we may with ease fill libraries or empty them of their contents. The more we do, the more we can do; the more busy we are, the more leisure we have."

INDUSTRY.—It is no man's business whether he has genius or not; work he must, whatever he is, but quietly and steadily; and the natural and unforced results of such work will be always the thing God meant him to do, and will be his best. No agonies or heart rendings will enable him to do any better. If he is a great man, they will be great things; but always, if thus peaceefully done, good and right.—*Ruskin.*

DON'T BE LIKE A LOBSTER.—It is said that when the waves carry a lobster up into the rocks and leaves him there, high and dry, there he remains perfectly inactive, waiting for the waves to come and wash him off again. And should the waves fail to reach him he miserably dies, when by a little exertion of his own he could have reached the water which was lying only a few feet from him. So it is with some men. When the waves of fortune leave them high and dry on the rocks of adversity, they wait to be borne off again without making any effort of their own. Young man, don't be like a silly lobster.

## LARGE AND SMALL BEET SUGARIES.

EDITORS PRESS:—Four years ago, when the late George Gordon gave to the public his views on the introduction of the beet sugar industry to California, it became quite generally understood from his writings, that the profitable working of what he termed "Rural Sugaries" was a matter of grave question. Whether the farmer having suitable soil, and say $10,000 or $15,000 ready cash, could engage profitably in beet sugar making, without recourse to association as the means of raising a much larger capital.

It is quite true that when $300,000, can be had for the erection of a sugarie capable of working daily 200 tons of beets, yielding 16 tons of sugar, that the profit on the investment is much larger in proportion than when $200,000 is employed in a 100 tons-a-day sugarie, or $100,000 in a 50 tons-a-day sugarie, or only $12,000 in a sugarie capable of working but 16 tons in a day, and yielding but 2,560 pounds of sugar.

But it does not follow from this, that the $12,000 sugarie cannot be made to pay, even as high as twenty per cent. per annum; for it certainly can.

There are numerous sugaries in both France and Germany, that did not originally cost more than $12,000, which have since grown into large establishments, employing a capital of half a million.

It is in this way that the large establishments, which are said to be "swallowing up the lesser ones," are doing it. They are doing it out of the very profits derived from working the lesser establishments, wherever there is suitable soil and in sufficient quantity to warrant an extension of works.

In putting up a $12,000 sugarie it will not do to erect works simply on a smaller scale, copying all the elaborate apparatus of the larger ones; but entirely different machinery, and even a different process for extracting the juice is resorted to. Quite as much difference in this regard, as in the extraction of gold from quartz, between the primitive arastra and the 30 stamp mill.

A large expense can be saved in the erection of a sugarie, large or small, by placing it upon a hill-side instead of on level ground, amounting sometimes to thousands of dollars.

I have seen a sugarie thus situated, in which the longest conducting pipe for juice or syrup, in the whole establishment, was less than six feet. The entire building, though sixty feet long; was but sixteen feet wide, and but one story of twelve feet high with a continuous roof from the top of the hill to the bottom. The beets were received into the building at the top; and the finished sugar delivered on the lower floor, in twenty-two hours from the raw beet; and yet so small was the concern that but fifteen tons were worked per day; and this sugarie paid annually from twenty-eight to thirty-two per cent. upon its cost.

In proof of my position that small sugaries will pay, I produce in evidence of their success in France, where the average product of beets per acre is hardly fifteen tons, and the cost of labor forty cents a day, the following from the *Journal of Practical Agriculture*, edited by M. Barral:

"The profitable annexation of the *sucrerie*—sugarie—to the farm establishment is no longer a question admitting of doubt. That to the sugarie should be annexed the distillery; not that the distillery is second in importance as a profitable industry, but that sugar as a farm product, is accorded a merited preference.

1st. Because it is easier to make sugar than alcohol from beets.

2d. Sugar is a product of certain and ready sale, an article of the first necessity; whilst alcohol, notwithstanding its importance, does not present entirely the same conditions.

3d. The production of sugar is a social good, and though alcohol is of great importance, in many of the arts, it does not possess equal alimentary principles.

"But the introduction of the sugarie upon the farm is very far from being a new idea; that idea being inherent in sugaries themselves, and it is impossible not to see in it a return to sane traditions. All that is required to insure success, is a rational method, an economical construction and management of the works."

He cites the following in proof of his position:

METHOD OF M. KESSLER.

"M. Kessler called on us to conduct us to the farm of M. Belin, agriculturist and distiller. We there found a sugarie in full operation, treating easily 15,000 kilogramms—sixteen and a half tons—of beets in 24 hours, and yielding a product of 740 kilogramms—1,653 pounds—of sugar, and this from the first washing of the pulp; the second and third washings and the molasses going to the distillery.

"This sugarie did not cost more than 25,000 francs—$5,000. The accounts which we have examined and studied in all their details, prove to us that the amount received from sugar from the first washing of the pulp, was a better return than though the whole juice had gone to the distillery.

"The process is very simple and consists in washing the beets, their division by the rasp, washing the pulp, extraction of the juice, its defection by lime and evaporation by boiling in the open air—the product being a sugar with a good dry grain and a perfectly merchantable article. Not one of the men employed had ever seen sugar made before commencing in this little sugarie of M. Belin, one month previous to our visit."

He further says:

"An apparatus that will work 14,000 kilogramms—16½ tons—of beets in 24 hours, need not cost more than 16,000 or 18,000 francs—$3,600; so that it is quite possible to manufacture *sucre au village*—village or home-made sugar, by the introduction of sugaries upon farms." W. W.

## LAMP ATTACHMENT FOR SEWING MACHINES.

The importance of a good light directly on the work in hand, and not thrown into the eyes of the operator, cannot be overestimated, especially for those persons who are obliged to subject their eyes to severe tests. Only too little attention is paid to this matter, and we consequently see many with sight weakened and injured.

In using sewing machines, there is considerable difficulty in securing such a light. A lamp placed on the machine interferes greatly with the operations, and is liable to be knocked over. Experience in this matter has led to the invention here illustrated, which is a neat and simple bracket, easily adjusted so as to throw the whole light directly where it is needed. By this arrangement, the light can be directed to any desired point, while the lamp is securely held in a position which does not interfere with the working of the machine. The cut shows the device sufficiently well without need of description.

The lamp used in connection with the bracket is a medium-sized hand lamp, which can be detached and used for other purposes if desired. An improved burner and a neat shade are used, and the whole can be made quite an ornamental addition to the machine. By the uses of such a device, not only is increased speed in work obtained, but the eyes of the sewer are protected from injury.

A patent has been granted for this invention, through the SCIENTIFIC PRESS patent agency, to Mr. Campbell, of this city. Messrs. Cohen and Campbell, 912 Kearny street, are the general agents, and will furnish any further information desired.

## SAN MATEO CO.—ALONG THE COAST.

[Written for the PRESS.]

EDITORS PACIFIC RURAL.—The position of San Mateo County, ranging along the west side of San Francisco Bay, is too well known to need a description; and yet, with its beautiful stretch of sloping lands, divided by several mountain streams and as many mountain spurs, into pleasant valleys, where homesteads and villas and villages and cultivation have added a multitudinous evidence of wealth and civilization; where the lavish hand of Nature seems to open, as it were, into the lap of luxury, one sees much to note and specify. But we will now call attention to the country along the coast, over the mountains that seem to have been elevated as a special barrier against the bleak winds of the ocean.

### Along the Ocean Beach

there is a chain of open valleys, interspersed with sloping hills and sheltered ravines, that reach well into the frowning mountains, and widen into fine fields and rolling hills, all rich in moist and friable soil, most prolific in its yield of produce, wherever the magic plow has touched the land.

A varying scenery meets the eye at every mile. The sleeping valleys lie hidden by circling hills of most romantic forms, with many shady nooks and winding streams. The sloping plains that sweep toward the sandy beach, and the frowning bluff or mountain spur which defies the rage of battling waves, and grand old ocean reaching out beyond the vision—each and every scene quite fills the imagination, as Nature rivals Nature, only to please anew, with unrivalled scenes, at ever varying landscape.

The country around Half Moon Bay is quite rich in soil that lays easy to tillage being mostly level, or nearly so. The hillsides, too, when cleared from brush, yield finely of vegetables and grain. The farmers are busy sowing grain and planting potatoes for an early crop, which will ripen in May or June.

### Agricultural Advantages.

The principal crop here is potatoes; although the soil is capable of producing anything. Oats take second rank, then barley and beans. Wheat is liable to rust; and corn suffers in the cool, raw sea winds—so say the farmers here. Stock raising and dairying seems to be the favorite business for that class which monopolizes thousands of acres (and they are too many for the good of this region, as well as in other parts of the state).

The crude idea that wild lands in abundance are necessary to the business of stock raising seems to be chronic in this state, in spite of the truth that we can produce three times the amount of feed from an acre, with one half the amount of labor, on an average, than they can East, where they depend on what they can raise to keep stock, and find it profitable, too.

Here, we are told that 200 sacks of potatoes have been harvested from an acre, and that 125 is an average crop—each sack weighing 125 pounds. From 50 to 100 tons of stock beets are realized from an acre, besides untold quantities of squashes, etc.; while the slightest sort of cultivation will insure a good yield in the light, rich soils. But still, owing to the miserable improvidence practised by most of its inhabitants, many cattle are half starved upon the hills.

### The little Village of Spanishtown,

Situated in a rich district, so far as natural soil and productiveness goes, is like a desert in its appearance and surroundings, without trees or other attractive evidences of civilization and refinement. A little Yankee enterprise and intelligence would make it a garden of fruit and ornamental trees, and infuse life and business and prosperity, where negligence and indigence too much abound. The spirit of speculation, however,—idle speculation,—has inflated the imaginations of land owners, so that honest worth is barred out as effectually as high prices can do it. There are some really fine places, be it understood, along the coast—well managed farms and neighborhoods—with flourishing orchards, homes and people.

### At Pescadero

There is an excellent settlement, and the place, in contrast with Half Moon Bay, is a paradise; and any word but praise would be mis-spoken, when referring to Pescadero, although there is still chance for improvement there, and they are improving. The farms are fenced, the houses painted, the front yards planted with trees and shrubbery, the homes pleasant and business flourishing. A new wharf is in contemplation, when shipping will be facilitated and the rates of freight lowered. There is now a monopoly that charges exorbitant rates to San Francisco.

The mountains, back, are filled with excellent timber, and several saw mills are already at work; while the soil is very fertile and productive. The best hotel on the coast is here, kept by a gentleman who knows how to do it, and does it too—Mr. C. W. Swanston. Pebble Beach, near here, is one of the attractions that draws a crowd in "the season." Between Half Moon Bay and Pescadero there are several stations where business is, or may be, good, according to the disposition of the inhabitants, which are mixed.

Taken all in all, this section of California is the most varied, the richest in soil, entirely independent of drouth, and the finest "in the rough" of any we have seen.

S. H. HERRING.

## HOTEL LIFE IN '49.

We have received from A. L. Bancroft & Co., 721 Market street, an interesting volume,—the History of San José and Surroundings.* The book is pleasantly written, and forms a valuable collection of facts concerning the city of San José and the valley of Santa Clara, one of the richest of vales, and one which contains the most ancient Pueblo in the State. A hasty perusal of pages here and there calls to mind many facts forgotten and brings up many reminiscences of similar events. We give an extract concerning hotel life, which is not entirely unknown even now in some parts of our coast.

The principal hotel of San José, the City Hotel, was a frame building, one and a half stories high. The table was remarkably good,—equal to many of the present day. Vegetables were the scarce articles. Although very good, the boarding was expensive. The price was five dollars in gold per day; that is, board and lodging. The sleeping apartments were not equal to the eating; in fact, the house was not sufficiently large to accommodate one-half, nay, one-fourth of the boarders; the dining-room and bar-room floors were used to stretch out the weary eaters at night; not only occasionally, but regularly as the night came, and no deduction of price was made because a boarder was kind enough to get so low down. Whether a man had rested on the floor, or on the best bed in the house, he soon found that, although not caring much for a great deal of, or very elegant furniture, yet he did deem it absolutely necessary to have about him a pocket-comb; and when he was about to purchase that article, he never for a moment doubted whether to take a fine or coarse one. He found joint-tenants in that house, which claimed and took possession, though not registered; nor could they be ejected by the law, except the law of self-preservation. If a man scratched his head, nobody for a moment supposed it was for an idea. If there were no ideas running in his head, there were other subjects that attracted his attention. It was a hazardous undertaking to attempt to eat at the first table; the rush was so great, that crowding through the dining-room door put one in mind of trying to drive a four-horse team through a single door of a stable.

A dinner cost two dollars, a good bed for a night's lodging the same; but one could obtain a cot, or bunk with blankets, one night, for one dollar. Eggs were worth 50 cents each, vegetables of all kinds were scarce and high; potatoes were the principal vegetables eaten, and the only class that appeared to be found at all times; a few onions at 25 or 50 cents each could be had. Beef and mutton were the only meats, with the exception of, now and then, chickens, wild duck, rabbit and squirrels, at high rates.

* With Biographical Sketches of Early Settlers. By Frederick Hall. Illustrated. A. L. Bancroft & Co., S. F., 1871. 800 pp. 537.

BUTTE COUNTY.—It is claimed that Butte County grain lands will produce crops, when they can be raised in any portion of the state—drouths being less injurious there than almost anywhere else.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., P. M., Jan. 19th.

FLOUR—Is only in limited demand for export; while the demand for local trade continues fair. We note a slight advance in prices from last quotations. Standard Oregon brands are quotable at $6.00@6.75; local brands—superfine, $5.50@5.75; extra $6.50@6.75. Transactions include 4,000 bbls. Cal. extra, and 16,000 qr. sacks Cal. superfine, the latter for export.

WHEAT—During the early part of the week the offerings were light and prices advanced. At the close, offerings are more free, downward tendency. Sales embrace 17,000 sacks. We quote the range of all kinds at $2.20@2.35; good to choice shipping, $2.20@2.27½, choice milling $2.25@2.32. Liverpool quotations are reported at 11s. 7d. New York rates remain unchanged—$1.60@1.65 per bushel.

BARLEY—Is still in fair demand, and prices remain about the same as last week. We quote $1.35@1.50, from fair to choice; $1.45 at close.

OATS—We note a limited demand for oats. Fair to good may be quoted at $1.40@1.60.

CORN—May be quoted at $1.50 for large yellow, small yellow and white $1.55.

BUCKWHEAT—Nominal at $3@3.50 from the wharf.

RYE—In limited demand. The latest sale is reported at $2.50.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $28@30; MIDDLINGS, $— for feed, and $35@40 per ton for fine; OIL CAKE MEAL has advanced to $30.

HAY—The receipts have been free since our last, but with a good demand prices have advanced. We quote ordinary wild oat to choice wheat at $13@17 50 ₱ ton.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, $12@16, and Potter's, 2 ℔ do, at $4 ₱ dozen.

POTATOES——Market firm, with advanced prices. We quote Carolinas at $1 00; other kinds $1 40@$170, from fair to choice.

HOPS—This year's crop is still quotable at 10@12½c.

HIDES—We quote Dry, slaughterer's stock, 16½@18 c; Salted; 8@8½c. Sales during the week 1,490 Cal. dry.

WOOL—We quote good shipping, at 15@17½c; very choice, 18½c; burry, 10@12½c; slightly do, 13@14c. There are being no stock on the market, the above quotations are merely nominal.

TALLOW—Quotable at 7@7½c, from ordinary to choice.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c.

BEANS—Quiet at the following rates. Bayo at $2.25@2.50; butter, $2.25; small white pink and red $1.87@2.00; pea, $2.00 per 100 pounds, 100 sacks bayo, from first hands, sold for $2 50 per 100 pounds.

FRESH MEAT—The market is firm and quotations unchanged. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11c ₱ ℔.
Do 2d do 9@10c ₱ ℔.
Do 3d do 7@ 8c ₱ ℔.

VEAL—From 8@ 12c.

MUTTON—Steady at 9@10c. ₱ ℔.

LAMB—None in market.

PORK—Undressed at 5¼@6½c; dressed, has advanced to 9@9½.

POULTRY, ETC.—In small supply, and prices remain unchanged. Young Chickens $6@7; Hens $7@8.50; Roosters, $7@8.00: Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame; $2.50@$3 ₱ pair; wild, $1.75@3 ₱ doz; tame Turkeys, 18@20c ₱ ℔; Hare, 1.50 per doz; Doves, 50c do; Quail, $1.25@1.50.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 45@50c; Packed rolls, 35@40c. Oregon firkin, 20@22½c; Eastern do, 25@35c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California, new, 13@15c., Eastern, 16@17c.

EGGS—California fresh, 37½@40c; Oregon, 30c; California Lard, 11-℔ tins, 12@13½c; Oregon, 13½@14½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $1.00@$2.00; Oregon, $1@$2.00; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $40@$50; Lemons, per box, $16; Pears, scarce.

CASE GOODS—In 2 ℔ cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2; Table, assorted, $3.75.

## GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this department still contains good; and dealers are looking forward to a busy season.

BAGS AND BAGGING—Are in moderate request only, and will so be until the approach of the coming season. We quote wool bags at 50@52½c. Oat Sacks 23x40, 12½c; 28x35, 18c; Potato Sacks, 17½c.; imitation Dundees, 18@19 c. Standard burlaps, 22x36, 12½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices are reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5½c; Oregon do, 6½c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ₱ ℔; Raisins, layer, $4.25@5.00; Currants, Zante, 11½@12½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 16@16½c; Lard, California, 12½@13¼c; Oregon do, in kegs, 13@14½c ₱ ℔.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, Jan. 12.

SOLE LEATHER.—The demand is good and the stock on hand light, on account of heavy shipments to the east. Prices rule firm. We quote:

| | | |
|---|---|---|
| City Tanned | 26 | @29 |
| Santa Cruz | 26 | @31 |
| Country | 25 | @28 |

CALF AND KIP SKINS.—French stocks continue scarce and high on account of the lack of exportation from French ports which has almost entirely ceased. We quote:

| | | |
|---|---|---|
| Best French Calf Skins, ₱ doz | 75 00 | @100 00 |
| Common French Calf Skins, ₱ doz | 35 00 | @ 75 00 |
| French Kips, ₱ ℔ | 1 00 | @ 1 30 |
| California Kip, ₱ doz | 60 00 | @ 80 00 |
| California Calf, ₱ ℔ | 1 00 | @ 1 25 |
| Eastern Wheel Stuffed Calf, ₱ ℔ | 80 | @ 1 00 |
| Eastern Bench Stuffed Calf, ₱ ℔ | 1 10 | @ 1 25 |
| Eastern Calf for Backs, per ℔ | 1 15 | @ 1 25 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50 | @ 13 00 |
| Sheep Roans for linings, ₱ doz | 5 50 | @ 10 50 |
| California Russet Sheep Linings | 1 75 | @ 5 50 |
| HARNESS LEATHER, ₱ ℔ | 30 | @ 37 |
| Fair Bridle, ₱ ℔ | 33 | @ 40 |
| Skirting, ₱ doz | 4 50 | @ 4 75 |
| Welt Leather, ₱ doz | 30 00 | @ 50 00 |
| Buff Leather, ₱ foot | 22 | @ 26 |

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, Jan. 20, 1871.

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 per ton; Railroad, 60c ₱ 100 lbs.; Bar, 1@1½c ₱ ℔; Sheet, polished, 3c ₱ ℔; common, 1½@1¾c ₱ ℔; Plate, 1½c ₱ ℔; Pipe, 1½c ₱ ℔; Galvanized, 2½c ₱ ℔. | | |
| Scotch and Eng. Pig Iron, ₱ ton | $34 | @$35 50 |
| White Pig, ₱ ton | | @ 35 00 |
| Refined Bar, bad assortment, ₱ ℔ | — 03 | @ — — |
| Refined Bar, good assortment, ₱ ℔ | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ ℔; Pig and Bar, 2½c ₱ ℔. | | |
| Sheathing, ₱ ℔ | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | @ — 22 |
| Composition Bolts | — 21 | @ — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX, ₱ box | 12 00 | @ — — |
| Plates, I C Charcoal | 10 00 | @ 10 50 |
| Roofing Plates | 10 00 | @ 10 50 |
| Banca Tin, Slabs, ₱ ℔ | — — | @ — 42 |
| STEEL.—English Cast Steel, ₱ ℔ | — — | @ — 15 |
| QUICKSILVER.—₱ ℔ | — — | @ — 90 |
| LEAD.—Pig, ₱ ℔ | — 6 | @ — 7 |
| Sheet | — 9 | @ — — |
| Pipe | — 10 | @ 11 — |
| Bar | — 8 | @ — 9 |
| ZINC.—Sheets, ₱ ℔ | — 10½ | @ — 11 |
| BORAX | — 35 | @ — 38 |

## San Francisco Market Rates.

**Wholesale Prices.**

FRIDAY, January 20, 1871.

| | | |
|---|---|---|
| Flour, Extra, ₱ bbl | 6 00 | @$6 75 |
| Do. Superfine | 5 00 | @ 5 50 |
| Corn Meal, ₱ 100 lbs | 2 25 | @ 2 50 |
| Wheat, ₱ 100 lbs | 2 00 | @ 2 30 |
| Oats, ₱ 100 lbs | 1 40 | @ 1 50 |
| Barley, ₱ 100 lbs | 1 35 | @ 1 45 |
| Beans, ₱ 100 lbs | 1 87½ | @ 2 50 |
| Potatoes, ₱ 100 lbs | 1 00 | @ 1 50 |
| Hay, ₱ ton | 10 00 | @15 00 |
| Live Oak Wood, ₱ cord | 10 00 | @12 00 |
| Beef, extra, dressed, ₱ ℔ | 8 | @ 12 |
| Sheep, on foot | 2 00 | @ 2 50 |
| Hogs, on foot, ₱ ℔ | 6 | @ 6½ |
| Hogs, dressed, ₱ ℔ | 7½ | @ 8 |
| GROCERIES, ETC. | | |
| Sugar, crushed, ₱ ℔ | | @ 15 |
| Do. Hawaiian | 9 | @ 12 |
| Coffee, Costa Rica, ₱ ℔ | — | @ 21½ |
| Do. Rio | | @ 19½ |
| Tea, Japan, ₱ ℔ | 65 | @ 1 00 |
| Do. Green | 60 | @ 1 00 |
| Hawaiian Rice, ₱ ℔ | 9 | @ 10 |
| China Rice, ₱ ℔ | 10 | @ 11 |
| Coal Oil, ₱ gallon | 50 | @ 65 |
| Candles, ₱ ℔ | 14 | @ 18 |
| Overland Butter | 30 | @ 55 |
| Ranch Butter, ₱ ℔ | 45 | @ 55 |
| Isthmus Butter, ₱ ℔ | 25 | @ 35 |
| Cheese, California, ₱ ℔ | 9 | @ 15 |
| Eggs, ₱ dozen | 40 | @ 45 |
| Lard, ₱ ℔ | 11½ | @ 13½ |
| Ham and Bacon, ₱ ℔ | 31 | @ 17 |
| Shoulders, ₱ ℔ | 9 | @ 10 |
| **Retail Prices.** | | |
| Butter, California, fresh, ₱ ℔ | 50 | @ 65 |
| do. pickled, ₱ ℔ | 40 | @ 50 |
| do. Oregon, ₱ ℔ | | @ 25 |
| Cheese, ₱ ℔ | 20 | @ 25 |
| Honey, ₱ ℔ | 25 | @ 30 |
| Eggs, ₱ dozen | 60 | @ 70 |
| Lard, ₱ ℔ | 18 | @ 20 |
| Hams and Bacon, ₱ ℔ | 22 | @ 25 |
| Cranberries, ₱ gallon | 75 | @ 1 00 |
| Potatoes, ₱ ℔ | 2 | @ 3 |
| Potatoes, Sweet, ₱ ℔ | — | @ 2 |
| Tomatoes, ₱ ℔ | 2 | @ 3 |
| Onions, ₱ ℔ | 2 | @ 3 |
| Apples, No. 1, ₱ ℔ | 4 | @ 5 |
| Pears, Table, ₱ ℔ | 5 | @ |
| Plums, dried, ₱ ℔ | 10 | @ 12 |
| Peaches, dried, ₱ ℔ | 10 | @ 15 |
| Oranges, ₱ dozen | 50 | @ 75 |
| Lemons, ₱ dozen | 50 | @ 75 |
| Chickens, apiece | 75 | @ 1 00 |
| Turkeys, ₱ ℔ | — | @ 25 |
| Soap, Pale and C. O | 10 | @ 15 |
| Soap, Castile, ₱ ℔ | 18 | @ 20 |

A NEW AGRICULTURAL PAPER.—We were called upon this week by Mr. C. T. Jennings, who is canvassing this county on behalf of the new agricultural paper to be published by Messrs. Dewey & Co., the publishers of the San Francisco *Scientific Press.*

[ADVERTISEMENT.]

A NEW PAPER FOR 1871.

—THE—

PACIFIC RURAL

PRESS

A First Class Pacific States Agricultural and Home Journal.

Will be issued weekly on Saturdays, commencing Jan. 7th, 1871, containing sixteen pages devoted to

**Agriculture, Horticulture, Stock Raising, Domestic Economy, Home Manufactures Mechanics, Industries, etc.**

With an able and ample corps of editors, special contributors and correspondents, we shall publish a liberal variety of articles, entertaining as well as instructive, which will not only make the RURAL PRESS an able assistant to its patrons, but an attractive and welcome visitor to every reader in every intelligent

Home Circle,

in the Pacific States. And more than this, we shall freight its columns with fresh thoughts, and new ideas, which hastened across the continent by rail, shall awaken and quicken the zeal of the more staid and gradual moving culturists of the eastern and European States, to their

Pleasure and Profit.

We shall not only make a good paper for all husbandmen and homestead owners, (who now, more than ever require a knowledge of new discoveries in science and mechanical improvements,) but shall also render the journal a desideratum for those who contemplate becoming freeholders, and a large class of

Mechanics, Teachers, Students, Business, Professional and Trades Men,

whose interests are more or less identical with successful farming, and the active development of our vast and rich resources. Few there are—male or female—who will not find pleasure and ennoblement in the study of progressive farming and gardening.

Honest, intelligent and correct information will be faithfully given, in behalf of, and urging

An improved Cultivation of the Soil;
A greater Diversity of Products;
Better Breeds of Stock;
Better Varieties of Fruits;
The Culture of New Products;
Creation of New Home Industries;
Adoption of Improved Implements;
Higher and Happier Aims in Life, etc.

Valuable and Timely Hints,

will be given weekly to lessen the labors of the farm, the household and the shop, and add to the health, the wealth and the wisdom of every patron of industry.

How to Farm in the Pacific States.

As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxilliary and modifying instructions.

The following are among the specialties upon which the PACIFIC RURAL PRESS will treat:

Silk, Cotton and Sugar Beet Culture; Nurseries, Orchards, Tropical and small Fruits; Steam-plowing, seeding and harvesting for large tracts; Reclamation of swamp and unproductive lands; Hill and mountain farming; Grape growing; Fig, Raisin and Fruit drying; Irrigation; Lessons and Lectures on the chemistry of growing crops and on fertilizing lands; Practical Farming vs. Speculation; Taxation of unimproved lands; Railroads and improved transportation for crops and the better class of immigrants; Farmer's Clubs, lectures and associations; Co-operation in farming, mechanism, manufacturing and other industries; Government lands for settlers whether sold by R. R. operators or the U. S.; Reliable wholesale and retail market reports; Brief notices of Mechanical and Scientific Progress; Instructions for regular and farmer mechanics; Household Reading; Health and domestic receipts; a sprinkling of sprightly reading; Life thoughts; Poetry, condensed stories, items of news, etc., will be given.

A Plain and Simple Style

Of writing will be our endeavor. Necessarily dealing largely in researches for facts we believe it desirable to present them in an inviting shape and in so comprehensive language that our special journalism shall advance in popularity and common relish.

*No editorials or selections of unchaste or doubtful influence; or lottery, quack or other disreputable advertisements, will be admitted into its columns.*

Arrangement of Matter.

Our reports of agricultural, horticultural and other fairs, lectures, farmers' clubs and social literary meetings [the improvement and increase of which we shall especially advocate] will be carefully prepared in a valuable form for preservation; and the matter of our entire columns will be so classified as to be convenient to readers of various minds and individual tastes for ready perusal and future reference.

Interesting Illustrations of Pacific States and Eastern Inventions and Machinery, Fine Arts, Science, Fruits, Rare Stock and Natural Scenery,

Of special or peculiar interest to our readers will be published weekly in liberal variety. No pains or reasonable expense will be spared to furnish a

Large and Richly Filled Journal

Nicely printed on fine paper, which will favorably compare with the long established class journals of more populous fields and older communities. Although the latter have less opportunities than new communities to be benefitted by printed information of discoveries,

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We enter the field after a careful consideration and consultation with many of our leading agriculturists, with the strong conviction that such a journal on this coast is greatly needed and earnestly desired by the most prospectively flourishing and rapidly progressing community in the Union if not in the world. We know the task before us,—two of the proprietors and editors having experienced respectively 18 and 13 years of successful journalism in this state.

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|---|---|
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LOCAL CANVASSERS WANTED for every town, city and county. Special inducements offered.

Parties desiring to get up clubs or act as agents, will be furnished sample copies and prospectus free.

DEWEY & Co.,

Publishers Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

[Being also publishers of the SCIENTIFIC PRESS, we would say here that no change will be made in that paper except to improve it in its present character. Each journal will be published entirely distinct from the other.—D. & Co.]

THE PACIFIC RURAL PRESS.—We have received a sample copy of this new publication from the office of the San Francisco *Scientific Press* of Dewey & Co.

We are much pleased with it. It is a first class agricultural paper and is bound to have a good circulation in the state.

It is in quarto form, and printed on good paper and type.

It is filled with good and appropriate matter, and not spoiled with personal puffs, published for personal considerations.

The illustrations are appropriate and in good taste.

We look upon this journal as one which will fairly represent the industrial interests of California.—*Sacramento Union*, Dec. 26.

PACIFIC RURAL PRESS.—Dewey & Co., of the *Scientific Press*, have just issued a sixteen-page paper, quarto form, bearing the foregoing title. It is to be devoted to the interests of agriculture, and will be freely illustrated. The specimen number is creditable. The publishers say, in a circular accompanying the paper:

We herewith present to your notice a copy of the *Pacific Rural Press*, the publication of which we undertake after well testing the wants of the Pacific Coast farmers and ruralists by the publication of a Farming Edition of the *Scientific Press*. We have not only learned that there is a demand for a first-class home agricultural paper, but a disposition to *support* a *good* one. We are not only well situated for the undertaking, but have also the means and disposition to make it a success, and shall employ the best writers in every department, and furnish superior engravings for illustrations and embellishments.

We wish it success.—*S. F. Call*, Dec. 24.

NEW AGRICULTURAL PAPER.—We have received from Dewey & Co., publishers of the San Francisco *Scientific Press*, the prospectus of the *Pacific Rural Press*, a new agricultural paper to be published weekly, commencing January 7th. It will treat of agriculture, horticulture, domestic manufactures and all matters pertaining to the industrial interests of California. We understand that I. N. Hoag, of Yolo County, and formerly Secretary of the State Agricultural Society, will be one of the editors and will do much to make it generally acceptable to the community. There is a great opening for a journal in this state of the character mentioned and for talent and ability in the editorial department.—*Sacramento Daily Union*, Dec. 16.

## Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.

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**Lightness, Cleanliness, Elasticity and Durability,**

**Any other Spring Bed Ever Invented.**

Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

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Buff Cochins,
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White Leghorns,
Aylesbury Ducks.

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A Chicken Ranch within the city,

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Shade trees, Evergreens of all kinds; Fruit Plants; to wit: Raspberries, Strawberries, Gooseberries, Currants, Grapes, Rhubarb, Asparagus and all Flowering plants, for inside and outside culture.

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I am thinning out my MULBERRY PLANTATIONS and will sell my surplus trees

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Liberal discount on large orders or to the trade.

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Fruits guaranteed true to name. My stock embraces all the leading fruits of the country from the Apple to the Strawberry—including the

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Also all the leading and favorite

*SHADE AND ORNAMENTAL TREES, SHRUBBERY, VINES AND PLANTS, MULBERRY TREES AND CUTTINGS, AND SILK WORM EGGS, ALSO THE*

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On the Los Gatos Creek 2 miles south of San Jose. This new nursery now contains as fine an assortment

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*FRUIT TREES, ORNAMENTAL TREES, FOREST TREES, NUT TREES, SHRUBS AND PLANTS, AMERICAN, EUROPEAN AND AUSTRALIAN EVERGREENS, AND PALM TREES!*

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**Reliable Standard Sorts,**

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**BEST VARIETIES;**

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Our large and splendid collection of

**NUT TREES,**

we deem worthy of special mention. These include 2000 Chestnuts, 1, 2 and 3 years old. 5000 Pecan Nut, 1 2 and 3 years old; Wood very valuable for timber. Butternut, 1 and 2 years old. States Black Walnut, 1 and 2 years old. California Black Walnut, 1, 2 and 3 years old. Hickory Nut. English Walnut, 1, and 2 years old. Sweet Almond. Soft Shell Almond. Paper Shell Almond, etc.

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## SHADE AND ORNAMENTAL TREES,

**Grape Vines and Cuttings.**

WE OFFER A LARGE LOT OF THE

**White Mulberry, (Morus Alba)**

Of suitable size for shade trees.

The Mulberry is the most desirable tree to be had for shade or Ornament, and as rapid growers as the Locust. They are long lived and will flourish on any soil where other trees will grow, and will live in overflowed land as well as the Cottonwood or Willow, and can be used for Silk business if desired and are also valuable for timber.

ALSO,

**THE ELM, ASH AND OSAGE ORANGE,**

All very desirable Trees for shade and ornament.

ALSO,

**Grape Roots and Cuttings.**

Of all the choice varieties of Foreign and California, or Mission. Mulberry trees can be supplied by the 100 or 1000 to the trade at low prices.

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**Established in 1853.**

We are prepared to furnish a GENERAL ASSORTMENT of Fruit and Shade Trees at as low rates as they can be sold at any reliable Nursery in California.

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## AMERICAN SEED STORE!

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A new and complete supply

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*FRESH SEEDS OF ALL VARIETIES FOR THE FARM AND GARDEN, ADAPTED TO THE PACIFIC COAST.*

All our seeds are warranted good and true to name, and are sold at lowest rates both at WHOLESALE AND RETAIL. A liberal reduction to the trade and those buying in large quanties. We are determined to

GIVE SATISFACTION TO ALL OUR CUSTOMERS.

Among our stock will be found all valuable kinds of Garden, Field, Flower, Herb and Tree Seed. Also 30,000 lbs. Alfalfa, of California growth. Red and White Clover. Timothy, Red Top, Blue Grass direct from producers in Kentucky, &c., &c.

**The celebrated Ramsdell Norway Oats $5 per Bushel.**

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**[Ambergier of Clermont.]**

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FIVE DOLLARS PER POUND.

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☞ *Warranted to make Butter in from Three to Five Minutes.*☜

It is self-cleaning, requires no scrubbing.

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**State Agricultural Society.**—Officers; President, Chas. F. Reed, Grafton, Yolo County. Directors: H. M. Larue, Sacramento; H. R. Covey, San Francisco; R. S. Carey, Yolo; C. T. Wheeler, Sacramento; Edgar Mills, Sacramento: Robert Hamilton, Sacramento William Blanding, San Francisco; E. J. Lewis, Tehama; William P. Coleman, Sacramento. Officers of the Board. Secretary, Robert Beck, Sacramento; Treasurer R. T. Brown, Sacramento.

**San Joaquin Valley Ag'l. Society.**—Officers; President, J. K. Doak; Vice Presidents, Geo. S. Ladd, John Tuohy; Secretary; H. T. Compton; Directors, James C. Gage, George West.

**Upper Sacramento Agricultural Society.**—Officers—President, Harman Bay; Secretary, E. Hallet.

**Bay District Horticultural Society, of Cal.**, S. F.—Officers: H. N. Bolander, Prest.; E. L. Reimer, V. P.; F. A. Miller, Sec.; R. Turnbull, C. Schumau and F. A. Hering, Trustees.

**Contra Costa Co. Agricultural Society.**—Officers: Geo. P. Loucks, Prest., Pacheco; Henry Shuey, V. P., Lafayette; R. R Brock, Sec., Martinez; S. W Johnson, Treasurer, Pacheco; G. W. Bryant, R. G. Davis, Directors, Pacheco.

**Santa Clara Valley Ag. Society.**—Officers: President, William C. Wilson; Vice Presidents, Cary Peebles, Chas. B. Polhemis; Directors, James P. Sargent, Wm. O. Donnell; Treasurer, M. Schallenberger; Secretary, Tyler Beach.

**Sonoma and Marin Dist. Ag. Society.**—Officers: President, E. Denman; Vice Presidents, Lee Ellsworth, H. Mecham; Treasurer, Wm. Hill; Secretary, J. Grover; Directors, N. L. Allen.

**Send us Communications.**—They will be respected. If you have not time or the experience to write finished articles, send us facts brief and plain. We will take care of them. Remember that writers improve themselves with others by use of the pen. Officers of societies, clubs and meetings, please report.

**Our Printed Mail List** notifies subscribers when their term expires, the last figures on the label signifying the year. We wish to be notified at once if any errors occur in names or dates.

**Thursday Noon** our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

**Our General Agent at Sacramento.**

Mr. I. N. Hoag, at the office of the State Agricultural Society, in the Pavilion, corner of Sixth and M streets, in the capital city, is our duly authorized agent for receiving subscriptions, advertisements, and receipting for the same.

**Mr. S. H. Herring,**

Our valuable agricultural correspondent during the past year, will continue to travel, and will report for the Pacific Rural Press.

**Eastern Travelling Agent.**

Wm. H Murray, our active and valuable agent and correspondent, is now on his way East, and will look after the interests of our papers in the Western and Eastern States.

**L. P. McCarty,**

Is our live California travelling agent and correspondent.

Trovis & Wagner, 41 First St.—Mill Stones, Belting Cloth and general Mill Furnishing's. Portable Mills all sizes from 16 to 36-in. No superior manufactory for farmers & ranchmen.

Success in Business.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education This question being settled, the next is where to go. Why, go to the best, of course. Go to Heald's Business College, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and Heald's College Journal, which will be sent free upon application. Address, E. P. Heald, President, business College, San Francisco, Cal. 1v1-3msnr

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**The Pacific Pneumatic Gas Company**

Begs to call the attention of the public to its gas works which are suitable alike for domestic, manufacturing, and general uses. Their apparatus is the only one worthy of the confidence of those who desire an economical and brilliant light, with perfect safety from accidents.

These works are in successful use in the following private residences: Gov. Haight, the Encinal, Alameda: H. F. Williams, Esq., South San Francisco; J. R. Arguello, Esq., Santa Clara; A. P. Brayton, Esq., Oakland; O. W. Childs, Esq., Los Angeles; Mrs. Brayton, Oakland; Capt. Wilcox, San Diego; J. P. Jones, Esq., Gold Hill, Nevada; W. B. Isaacs, Esq., Post St., San Francisco; Jos. A. Donohoe, Esq., Menlo Park; M. Schallenberger, Esq., San Jose; Capt Kidd, Stockton; John Parrott, Esq., San Mateo; Col. J. C. Hays, Oakland; A. A. Cohen, Esq., Alameda; A. D. Bell, Taylor street, San Francisco; J. S. Emery Oakland, and Isaac Requa, Esq, Virginia City Nevada.

Also in the following public institutions: the City and County Almshouse, San Francisco; the County Hospital, Sacramento; the Industrial School, San Francisco; the State Institute for the Deef, Dumb and Blind, Berkely.

Also, the following private institutions: The College of Santa Clara, Santa Clara: the Alameda Insane Asylum; Alameda; and the New Hall and Theater, Petaluma.

Also in the following Mining and Manufacturing works, The Pacific Iron Works, San Francisco; the Chollor-Potosi Hoisting Works, Virginia City; the Eureka Gold Mining Company's Hoisting Works and Mill, Grass Valley, California; the Crown Point Mining Co.'s Mill (the Rhode Island), Gold Hill, Nevada.

Also, in the following stores; E. Cohn & Co., Marysville, Gibson and Cross' (saloon), Gold Hill, Nevada; P. Brown & Bro., Marysville; Wm. Klein, Marysville, J. M. Browne, Gilroy; and N. Waguer & Bro., Marysville.

Also, in the following hotels; Horton's New Hotel, South San Diego; the International Hotel, Virginia City, and the St. Charles Hotel, Carson City.

Also, in large works adapted for town purposes: in the Workshops, Streets and Officers' Residences, at the United States Navy Department, Mare Island.

Pacific Pneumatic Gas Company; office 206 Sansome street, San Francisco. Send for Illustrated Pamphlet and Price List. A. D. BELL, Secretary.

J. W. STOW, President. 1v1-3m-r

## Willamette Farmer,

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**The only Agricultural Paper published in Oregon.**

The Best Advertising Medium.

Terms of Subscription:—One year, $2.50; six months, $1.50. Address

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## WIESTER & CO.,

No. 17 New Montgomery Street, San Francisco.

**PATENTS BOUGHT AND SOLD ON COMMISSION.**

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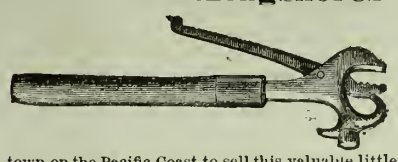

This device is just what its name indicates. As a Kitchen Tool it is indispensible. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

### P. Davis' Wire and Picket Fence.

Although about two hundred different styles of fences have been invented and patented in the United States within the past ten years, yet this Fence, for GENERAL FARM USE, stands at the head of the list. This is a Virginia invention, and the actual cost of the Fence complete in that State is less than fifty cents per rod. Three men can put up six hundred yards per day. You men who are idle, why hang about the city talking hard times when you can make from five to eight dollars per day building this Fence? We will make a present of ONE FARM RIGHT in each county on the Pacific coast to farmers who will erect one hundred rods of the fence in good style within thirty days after the privilege is granted. We wish to employ several working men to travel in this State and Oregon. Price of territory, and circular with full description of fence sent on application.

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This Light takes the place of the Candle, the Kerosene Lamp and Coal Gas. Each Lamp is a perfect Gas Factory, making its own gas as fast as it is required. It is a safe, cheap and beautiful light. Circulars and full particulars sent on application.

A few good traveling agents wanted to sell this and other valuable Patents.

### Hay Press.

The best and cheapest hay press in the United States. Presses furnished at manufactory cost to parties buying County or State Rights. The profits on a few Presses will pay for a county Right.

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1871. 1871.

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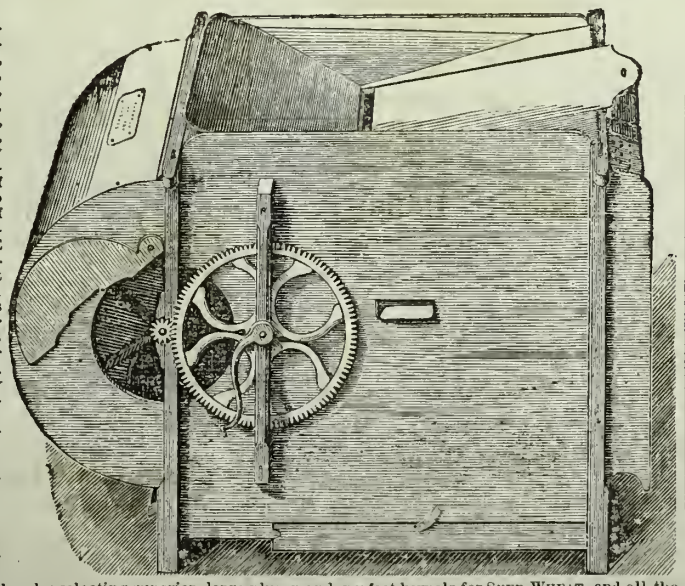
Bound Volumes.—Six Numbers—from January to June, and July to December—constitute a volume. Bound volumes will be sent, post-paid, for $3.00, paid in advance.

## NOVELTY MILL AND GRAIN SEPARATOR.



THE undersigned having purchased of the Patentees, WIRTS & SWIFT, of Hudson, Michigan, their right to this mill, Patented June 22d, 1869, for California, Oregon, Washington Territory, Montana, Utah, New Mexico and Arizona, wishes to call the attention of Farmers, Millers and Grain Dealers to one of THE GREATEST IMPROVEMENTS OF THE AGE for cleaning and separating grain. While it combines all the essential qualities of a first-class Fanning Mill, it also far excels anything that has ever been invented for the separation of grain. It has been thoroughly tested on all the different kinds of mixed grain, separating all the different seeds in almost a magical manner, placing them in their different compartments in the mill arranged for their reception, at the same time taking out all the *Mustard, Grass Seed, Barley and Oats*, and making two distinct qualities of wheat if desired, thereby selecting superior, large plump and perfect kernels for Seed Wheat, and all the small and cut kernals, such as merchantable wheat, is deposited in another compartment By the use of this Mill a great quantity of wheat usually sown that has been cleaned in the common mills will be saved to the farmer, as the cut or shrunken kernals will never germinate.

The above mentioned Novelty Mill is the only mill known to possess all these superior qualifications, and was exhibited and tested at the last Michigan State Fair held at Jackson, Michigan, September 21, 22, and 23, 1869, and bore away the palm over some thirty other different mills from all parts of the United States, including the famous Dicky Mill of Racine, Wisconsin. All who have witnessed here the operations of the NOVELTY MILL, declare it perfection, and the most beneficial invention to the Farmers, Millers, and Grain Dealers ever introduced on the Pacific Coast. The farmers in Santa Clara County, are loud in its praise, and also in other parts of the State where it is being introduced. No. 1 Mill, complete, is capable of cleaning 25 tons of grain per day; No. 2 Mill, 15 tons; No. 3. Mill, 8 tons. A large number of recommendations and certificates of the practical working of the mill will be furnished, Circulars containing references sent free by mail. N. B. Town, County, or State Rights for sale on favorable terms. For further particulars apply to

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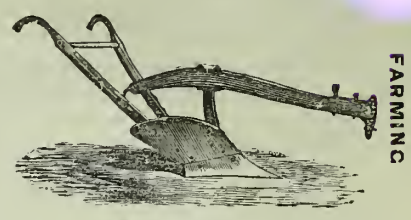

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**IMPLEMENTS AND MACHINES, PORTABLE STEAM ENGINES, HARDWARE,**

Would call the attention of Farmers and Dealers in Agricultural Implements to their very extensive stock for the trade of 1870-1871,

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**Plows, Harrows, Cultivators, Horse Hoes, Gang Plows, Seed Sowers, Buckeye Grain Drills, Hill's Cal. Sowers, Hay Cutters, Seed Cleaners, Grist Mills, Barley Mills, Cider Mills, Fan Mills, Grape Crushers, Mow-**

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**HAVING ERECTED A MANUFACTORY** of sufficient capacity to supply their Asphaltum Pipe in large quantities,

**Are now Prepared to Take Orders**

**AND MAKE CONTRACTS.**

This Company will manufacture Pipe and guarantee it to stand any pressure required; it is lighter than iron pipe and more durable, it is not affected by chemical action, cannot corrode, and being glazed imparts no disagreeable taste to water. To miners and farmers it is invaluable; any body can put it down; it is twenty per cent cheaper than iron pipe and ten times more durable. For further particulars, apply at the office of the Company, Room No. 2, 645 Market street.

☞ Circulars sent on application. 16v21-tf

## Swamp Land Reclamation.

—THE—

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OWNERS OF THE

**Roberts' Steam Ditching Machine,**

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## TEAM WANTED TO PURCHASE.

A four or six horse team is wanted by the advertiser with or without wagon or gang plow. Required to be delivered at Gilroy, Watsonville, Salinas, or the vicinity of those places. A party wishing to sell a team, etc., can hear of a purchaser by sending a letter addressed B Rural Press, containing price and other particulars.

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Scientific Press, from San Francisco This Mining, Farming and Mechanic Arts Journal, after a most singular absence from our table, has again made its appearance and is heartily welcomed. It is the recognized mining organ of the Pacific coast, and rightly so, since it is conducted ably and honestly in all respects. It scorns humbug and avoids all merely speculative commendations of sudden discoveries in the treatment of ores. The reliability of the Press in all matters pertaining to mines and mining news, makes it a most desirable paper for our people here. Per annum, $4.—*Colorado Herald, July 6th.*

ACKNOWLEDGMENT.—We have to return thanks to our brethren of the PRESS for their extremely liberal and almost universal compliments to our new paper—a column of which we shall insert next week. Subscriptions are still coming in freely from both city and country, and from distant states.

## TO CLUBS.

Send in your subscriptions as fast as obtained. After the first ten names have been paid for, others can be added within my reasonable time, thereafter on the same terms. Clubs may be composed partly of names for RURAL, and partly for SCIENTIFIC PRESS Blanks and extra copies furnished when desired.

## What our Neighbors say of the Pacific Rural Press.

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An admirable specimen both as to execution and contents. ... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—[*Stockton Daily Ind.*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—[*Encinal Alameda.*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life." —[*Encinal.*

They can, if they will, make it a creditable work. [We will that.] It opens well.

Excellent paper and type—and a first-class agricultural journal. .Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—[*Vallejo Recorder.*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—[*Arizona Miner.*

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Just the kind needed on this coast, and merits an extended circulation.—[*Red Bluff Independent.*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation....

Is running over with entertaining and instructive reading matter, and embellished with numerous engravings.

The heading is beautiful and appropriate.—[*Pajaronian.*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press.*

If the first number is to be taken as an earnest of what will follow, each week, we can advisedly say to all interested in agricultural pursuits..subscribe.—[*Vallejo Chronicle.*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—[*Krangel, S. F.*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the bill.

We notice that I. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—[*Yolo Mail.*


## California Stock and Poultry ASSOCIATION.

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**SPECIALTY.**

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Dark Brahmas, Houdans, La Fleche, Derby Game, Dominique, White Cochins, Buff Cochins, White Leghorns, White Crested Black Polands, White Faced Black Spanish, Golden Laced Seabright Bantams, White Bantams, Silver Grey Dorking, Grey Dorkins.

**Pigeons.**—Black Fantail's, Ponter's, Nuns, Priest's.
**Pigs.**—White Chester, White Suffolk.
LOP EARED RABBITS.


**Take Your Choice.**—Since its first issue we have sent this paper to the subscribers of the farming edition of the SCIENTIFIC PRESS. If we have thus transferred the names of any who prefer the SCIENTIFIC PRESS, we will return their names to the list for that paper, and send back numbers, if notified in season.

# New Advertisements.

*No quack, indelicate or other disreputable notices will be accepted. All advertisements in this paper appear in our monthly edition and bound volumes of the Pacific Rural Press for Railroad Depots, Steamboats, Hotels, and other free reading rooms.*

## ANNUAL MEETING.

The Annual Meeting of the State Agricultural Society for the election of officers for the ensuing year and for the transaction of such other business as may be necessary will be held at the Society's rooms in the Pavilion, corner 6 and M Streets, Sacramento, on the 27th of January 1871, at 10 o'clock A. M. A full attendance of members is desired.

CHAS. F. REED, Prest.

ROBT. BECK, Secretary.

1v1-tdr


## ITALIAN BEES.

Are steadily gaining in favor with bee-keepers in the Eastern States and in Europe. Their hardiness, greater industry, superior quantity and quality of honey produced by them, as well as their more peaceable disposition while being handled, make them doubly as valuable as the common Black Bee. Many thousands of Italian Queens are reared and sent by express and mail to all parts of the country annually by numerous breeders in the Eastern States, who are taxed to their utmost to supply the demand.

I have as PURE ITALIAN STOCK as any in the United States, and will sell at Eastern prices. Bee Hives and Bee Books for sale. Also, Shade Trees, Mulberry Trees and Silk Worm Eggs, at lowest prices. Send for Circulars, Address J. S. HARBISON,
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—ALSO—

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LANDSCAPE HAND LAWN MOWER.

The best, most simple and effective mower in use.

**PRICE---$25.**

Send for catalogues of seeds, bulbs. Circulars of Lawn Mower free to all on application.

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L. G. PRATT & CO., Proprietors,

DEALERS IN

Garden, Grass & Field Seeds,

ALSO, FARM AND GARDEN IMPLEMENTS.

Correspondence solicited, and quotations promptly given. Catalogue and Price List mailed free to all applicants.

☞Special inducements offered to Market Gardeners.

Address L. G. PRATT & CO.,
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## Ramie! Ramie!

60,000 Roots or cuttings of the above valuable Plant—raised in California—for sale by the undersigned, where all necessary information in regard to its cultivation will be given.

All orders promptly attended to by

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Seed Warehouse, 409 and 411 Davis street, San Francisco, or at the Nursery, by

JOSEPH GRAHAM,
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## 18 Years in Business in California.

A. D. PRYAL,

**Landscape Gardener and Nurseryman,**

Three miles North of OAKLAND on the Temescal Creek.

5,000 Orange and Lemon Trees for sale this season! Fine Japanese Tea Plant; Eucolyptus, or Australian Gum Trees of all the best varieties. Native Evergreen trees and shrubs, superior collection. A large assortment of choice varieties of

English Goosberries!

—ALSO—

CURRANTS OF ALL GOOD SORTS.

ROSES AND CLIMBING PLANTS.

Gardens and Grounds laid out, and planting superintended. Address, A. D. PRYAL,
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The new paper is designed to meet a want which is much felt by all intelligent agriculturists of this Coast, where the conditions of climate and soil are so unlike those of the Eastern States and the old world, that but limited application of experience gained there is of value here; and we very much need a medium such as a reliable and judiciously conducted agricultural journal may afford for exchanging and imparting information of observations and experiences which pertain to our own circumstances.

From personal knowledge of the character and resources of the publishers, and of the assistance to be employed, we believe the *Pacific Rural Press*, the first number of which is to be issued on the 7th of January, will prove an interesting and useful paper to those employed in the rural industries.—*Contra Costa Gazette.*

MARIPOSA, DEC. 27th, 1870.—Messrs. Dewey & Co. Patent Agents:—*Gentlemen:*—Allow me herewith to tender you my sincere thanks for the efficient assistance you have tendered me in securing my patent and other papers, as well as the promptness and energy displayed by you in our business transactions.

Very Respectfully Yours, JAY. R. PALMER.


## We wish to Call

THE ESPECIAL ATTENTION of the owners of some of the best Patent Gang Plows in California, to the

"BUTLER PLOW,"

now on exhibition at the SCIENTIFIC PRESS office.

As no arrangements have yet been made for their Manufacture or sale of territory effected.

For description of the PLOW, see article in the second number of the RURAL PRESS,

"A Singular Looking Plow."

Please Address, E. P. HICKS, S. F., Cal.
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THE

## SCIENTIFIC PRESS.

U. S. & FOREIGN

## PATENT AGENCY,

ESTABLISHED IN 1860,

Is now the principal office West of the Mississippi River. By long and faithful attention

Messrs. Dewey & Co.,

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PACIFIC RURAL PRESS

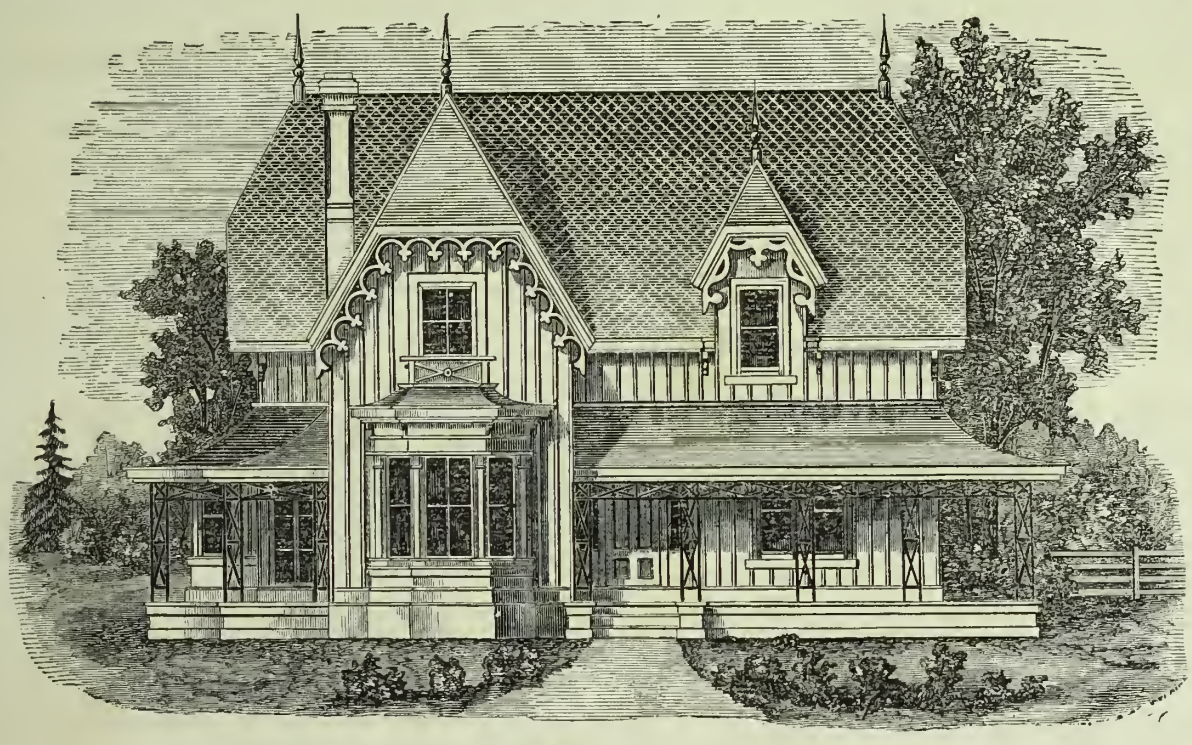
Number 4.] SAN FRANCISCO, SATURDAY, JAN. 28, 1871. [Volume I.

## A CHEAP COUNTRY HOUSE.

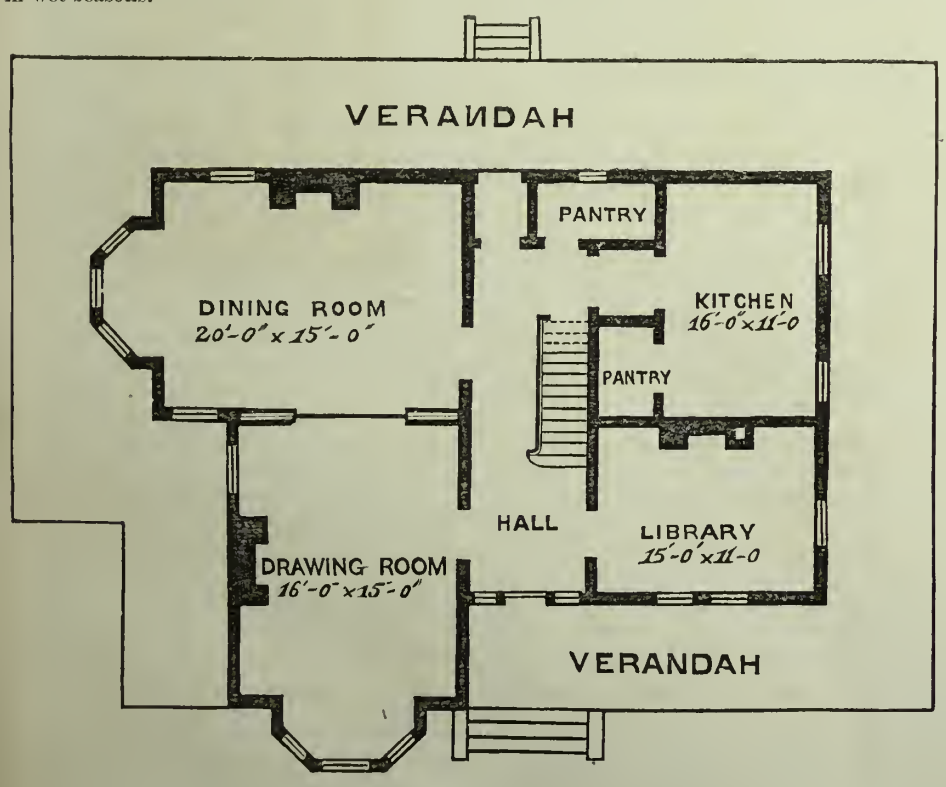
We present our readers to-day with the plans of a neat country house, adapted for a dwelling of rather moderate cost, and well suited for a village or suburban residence, or even for a farm house, although it lacks a wood-house, which, however, can easily be added.

In the interior, too little attention has been given to architecture. Our farmers' houses are too often very homely, ungainly structures, not at all inviting to the eye. Now we believe in making one's home as attractive as possible, without going to great expense. That one can have a pretty residence, which he can well be proud of, and still without necessarily expending large sums of money, is shown by the present illustration. We propose giving a number of such designs from time to time.

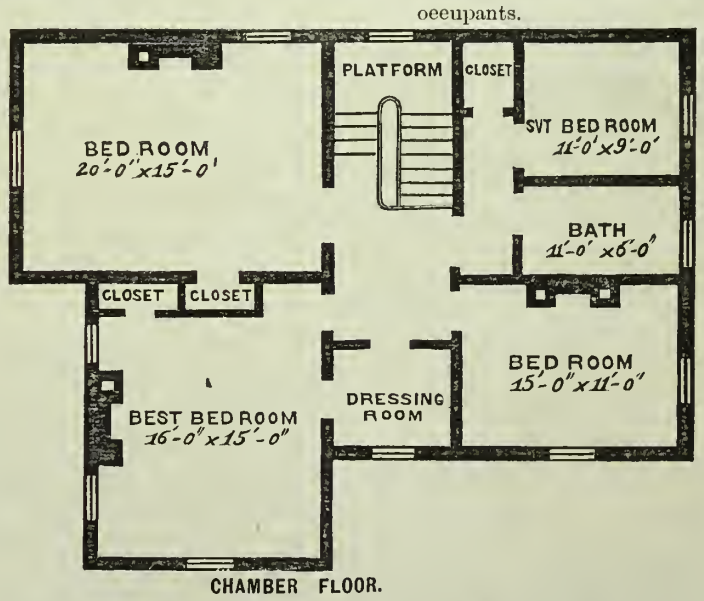
It is very important to secure, in connection with a dwelling house, plenty of verandah room and large and airy apartments capable of easy and complete ventilation. These appendages, besides being ornamental and giving relief to plain walls, are pleasant as an out-door retreat in hot weather, serve to keep the interior cool, and will be found very convenient also in wet seasons.



PLANS OF A CHEAP COUNTRY HOUSE.




GROUND PLAN.




CHAMBER FLOOR.

As the accompanying design was prepared for a country house, all these convenient arrangements have received particular attention, at the same time that economy in construction has been kept in view. By referring to the drawings, it will be seen that the house is entirely surrounded by a wide and airy verandah, the roof of which is supported by light lattice posts. The dining room projects from the main wall and is furnished with a bay window, where views can be had to the south, east and west. The drawing room, which connects with the dining room by sliding doors, also projects, and is furnished with a bay window similar to that in the dining room, looking north, south and west. These rooms are each 16 feet wide and 18 feet long, and furnished with fire-places. To the right of these rooms is a spacious hall, nine feet wide, running right through the house from back to front, in which are placed stairs leading to the upper rooms. Opposite the drawing room is the library furnished with a fireplace. In the rear of the stairs and opposite the dining room is the kitchen, connecting with main hall by a short passage, and on each side of this a pantry—one opening out of the kitchen and one off the main hall. On the first floor—the chamber floor—there are five bed rooms, and a dressing room connecting with the best bed room, and three wardrobes. The three principal bed rooms are provided with fire places. Although the upper story is termed a half one, the bed room ceilings are ten feet high, and only a small part of the slope appears in the rooms.

The exterior will have a very pretty appearance, broken up as it is with projections, bay windows, verandah and steep-pitched roof. Such a house, though commodious and ornamental, need not be an expensive one. If properly built with timber and placed on a brick foundation, it would last for many years, and if due regard were paid to the selection of seasoned lumber and the walls properly plastered down to the floor, a warm and durable house would be the result.

It will be seen by referring to the elevation, that it is the intention to build this house of timber, and frame in the usual manner, the sills of the frame resting on brick or stone foundations, whichever may be most conveniently procured in the locality. The outside will be sheeted with one and a quarter tongued and grooved and upright boards and the joints covered with inch by three-inch batten. The interior can be finished to suit the tastes of those who may build.

There is no reason why our farmers should not have as nice and comfortable dwellings as anybody else. Of course we mean within reasonable bounds. Nor is there any reason why they should not develop a taste for the beautiful. These little attentions to ornamentation do not necessarily require large expenditures, as we have shown in the present article, and propose to show to a still further extent.

There is much room for improvement in the matter. A farmer's house now is apt to be a very unwelcome looking edifice, a sort of a box in which to stow himself and family away, without much regard to the looks of the box or the comfort of the occupants.

MIRAGE AT SACRAMENTO.—This morning, on the 17th inst., the entire bay of Suisun was portrayed with the utmost distinctness against the heavens, and persons who came down by the Valley train from Folsom were regaled with the beautiful sight. The shores of the bay were as visible as the objects at their feet, and a steamer and several sailing craft were depicted with a distinctness almost startling, the color of the soil and the indications along the shores of the bay being quite as distinguishable as though the beholder stood on the hills of Montezuma overlooking the whole scene. Mount Diablo, seemingly more grand than usual, formed a beautiful back-ground for the picture, and towered upward until its summit was lost from sight among the clouds. All speak of it as one of the grandest of sights.—*Sac. Bee.*

## MECHANICAL PROGRESS.

BORING MACHINES AT MOUNT CENIS.—Prof. Ansted says it is a curious sight to see a workman connect an elastic tube of half an inch diameter with one of these machines, and watch the result when a tap is turned. A piston-rod, in a short cylinder, immediately flies backwards and forwards with wonderful rapidity, regulated by a small but rather heavy fly-wheel. Immediately a ponderous chisel, 6 or 7 feet long and more than an inch in diameter, is set in motion, and strikes a succession of heavy blows against the stone. Each time that the chisel strikes it is withdrawn a little way, slightly turned, and immediately strikes again in the same hole. The stone experimented upon being of the hardest and toughest kind, the effect is not seen for several strokes; but within two minutes, a steel chisel was completely blunted, and there was a hole two inches deep in the mass of quartzite. Holes are bored in this way in an hour that would formerly have taken a day. The machines occupy very little space, and can easily be moved where needed. As many as seventeen are at work together in the end of the tunnel. As the power is compressed air, they not only add no heat to the interior, but render it cooler by the absorption of heat during expansion. The air, when it escapes, is available for ventilation. It would be quite impossible to carry steam at a high pressure through pipes four miles long, but little diminution of force is experienced in working with the air, although all the engines and condensers, as well as the cylinders for storing the air, are outside the mouth of the tunnel. The length of pipe at present on the Piedmont side is four and and one fourth miles. The pressure of air commonly employed is six and a half atmospheres, or nearly 100 lbs. on the square inch.—*Sci. American.*

LOCOMOTIVES FOR CANADA.—The Rhode Island Locomotive Works have a contract with the Great Western Railway of Canada to supply that company with thirty-two locomotives. Sixteen have been already shipped, this week seven more were sent, and the remaining nine will follow this month. The engines have cylinders sixteen by twenty-four inches. The driving wheels are five and one-half feet in diameter. The fire boxes are built of steel, and everything about them is composed of the very best material. They have a railing a few inches high around the top of the tender, and the bell, which is on the forward platform, is kept incessantly ringing when the engine is in motion by its being connected with the eccentrics.—*Chicago R. R. Gazette.*

WOOD-SAWING MACHINE.—A machine recently designed in Minnesota, more particularly for railroad work, is thus described by a local paper: "It consists of two saws so placed that two cuts can be made at once. The wood is fed to these as grain is fed into a threshing machine, and after being sawed is carried away by an elevator, like the threshed straw. The machinery is propelled by an eight-horse power engine. The whole apparatus, engine, boiler, saws and elevator, is built upon a platform, and enclosed like a box-car, in convenient compass to be loaded upon a flat-car, and shipped from station to station. With a little change, trucks can be placed underneath like a pile-driving car, and then it can be moved upon the track as a separate car. In ten hours it can prepare from 90 to 100 cords easily. It requires nine men to work it, feed and take care of the wood."

"FRET" MACHINES, FOR CUTTING PATTERNS.—The London *Mechanics' Magazine* describes specimens shown at the Workmen's Exhibition. "They are very simple in construction; they consist of a table upon four legs, with a cross-bar to carry the treadle or foot-rest, and which has a strip of vulcanized rubber attached to it for connecting the lower end of the saw. This saw then passes through a hole in the table, and is fastened at its upper end to another elastic strip, which is suspended from an arm springing over to the front from the back of the table. The motion is obtained from the movements of the treadle by the foot, with a small amount of labor, the upper elastic strip being strained to a pressure of about 30 pounds in first setting the saw; the rebound of the saw is easy, so that the fatigue of the foot is reduced to a minimum."

GAS PURIFICATION—ST. JOHN & CARTWRIGHT.—The above named parties prepare a composition for gas purification from the Staten Island iron ore, a natural product which is found to combine the essential conditions of a gas purifier in a remarkable degree. It is a *nearly pure limonite*, highly porous and granular. Prof. H. Wurtz sets forth the importance of the improvement in the *Gas Light Journal*, and adds:—"The patented device of these gentlemen, also, for increasing the permeability of the mass, *without introducing any inert matter*, by using waste borings and turnings of iron for this purpose, (instead of sawdust, straw, etc., as in European practice,) is highly ingenious and valuable. The metallic iron thus introduced is useful from the start, and is gradually converted into a highly active hydrated oxide, so that the improvement of the new composition by use, is of the most marked character. Every time it is used, after revivification, until too heavily charged with sulphur, it *improves in power* and *endurance*. (We shall very shortly lay before the public some marvelous facts under this head.) A more striking example of the "killing of two birds with one stone," has rarely occurred in the history of human invention; and it is one of those applications which, from their simplicity, excite wonder that they "never were thought of before."

CONNECTICUT MANUFACTURES.—We select the following from the January "Notes" of the *Manufacturer and Builder*: The shops of the Colt Firearms Co. at Hartford are now running on the Gatling gun, upon which Mr. George Kinne has made important improvements. One of these is the mounting it upon a turn table which gives it command of a range of 15°; and he has moreover added an automatic arrangement which gives it at will a continual change of range by the simple turning of the crank used to discharge it. The Weed Sewing-Machine Works, adjacent to the above, employ 200 hands and turn out 170 finished machines daily. The buildings are soon to be enlarged. The various parts of this machine are made by special machinery. The Cheney Silk Works in Hartford, and in Manchester, eight miles distant, cover two and a half acres, and employ 1,000 persons, mostly women. They consume 200 pounds daily of raw material, and produce silks of such excellence that A. T. Stewart, "the shrewdest merchant in America," contracts for their entire product.

AMERICAN RUSSIA IRON.—We clip the following from the Philadelphia Cor. of the *Iron Age* Jan. 5th: "As is well known to the trade, the secret of manufacturing an article of sheet iron possessing the qualities and finish of Russia iron has never been successfully attained here or in England. We have, it is true, imitations which, while to the eye nearly as good, do not possess the durability for which the Russia iron has been so celebrated. A firm in this city claims to have discovered the method of manufacturing an article fully equal to the best Russia iron without the use of acids, and at a cost not exceeding that of our ordinary sheet. We are promised full information in regard to the process."

RUBBER TIRES FOR RAILWAY WHEELS. An English patent has been taken out "for the adaptation and application of vulcanized india-rubber bands to the tyres of locomotive and railway wheels generally. For this purpose is employed a strong endless band of rubber, of the width of the tyre of the wheel from the inner side of the flange to the outer face, and of such a thickness as will be regulated by the weight of the carriage, but in no case less than two inches thick when in position. The diameter of the band should be so much less than the diameter of the wheel as to require considerable force to stretch it to the circumference. The inner side of the band is previously coated over with cement, by which it is secured in its place. Segmental pieces of tough wood or metal are secured to the outer face of the tyre so as to confine the band laterally."

NEW MAIL LOCK.—They are now making at Colt's factory a new patent lock for the United States mail bags. When fastened, a numbered plate of glass covers the keyhole, and this glass has to be broken before the bag can be unlocked or the lock tampered with. It is said to be the most complete lock ever invented. Five thousand of them have been ordered by the Post Office Department.—*Iron Age.*

## SCIENTIFIC PROGRESS.

CAUSE OF THE MOTION OF GLACIERS.—J. Croll, of the Geological Survey of Scotland, contributes an article upon this subject in the Philosophical Magazine, in which, after noting the fact that the ice of a glacier, though solid, nevertheless behaves in some respects like a plastic substance, he shows that it *shears* as it descends, in such a manner as to prove that some other force in addition to gravitation must be in action, that alone being insufficient to account for the phenomena. What, then, is that force? It is found that the rate of descent depends upon the amount of heat which the glacier receives. But in what way does the heat aid gravitation? We quote: "There seems to be but one explanation (and it is a very obvious one), viz: that the motion of the glacier is *molecular*. The ice descends molecule by molecule. The ice of a glacier is in the hard crystalline state, but it does not descend in this state. Gravitation is a constantly acting force; if a particle of the ice lose its shearing-force, though but for the moment, it will descend by its weight alone. But a particle of the ice will lose its shearing-force for a moment if the particle loses its crystalline state for the moment. The passage of heat through ice, whether by conduction or by radiation, in all probability is a molecular process; that is, the form of energy termed heat is transmitted from molecule to molecule of the ice. A particle takes the energy from its neighbor, A, on the one side, and hands it over to its neighbor, B, on the opposite side. But the particle must be in a different state at the moment it is in possession of the energy from what it was before it received it from A, and from what it will be after it has handed it over to B. Before it became possessed of the energy, it was in the crystalline state—it was ice; and after it loses possession of the energy it will be ice; but at the moment that it is in possession of the passing energy is it in the crystalline or icy state? If we assume that it is not, but that in becoming possessed of the energy it loses its crystalline form and for the moment becomes water, all our difficulties regarding the cause of the motion of glaciers are removed."

PLATINUM FUSIBLE WITH THE COMMON BLOWPIPE.—W. Skey, of the New Zealand Geological Survey, finds that if the loss of heat by conduction be guarded against, platinum can be fused with an ordinary blowpipe blast through a candle flame. He substitutes, for the metallic nozzle, a tube of clay or glass. We quote him from the *Chemical News*:—"By this means, fine platinum points were fused in an unmistakable manner to beads. The blast was that ordinarily used in the laboratory by the use of the hydrostatic blowpipe, the flame being that of a stearine candle. As it might be urged that, perhaps, the platinum I treated might contain an admixture of more fusible metal, and that its melting-point might thus be reduced, I prepared some of the platinum for special trial, which was absolutely free from such fusible metals. As the fusing point of platinum has been ascertained to be 4593° F., we must, from the above experiment, conclude, that if proper precautions are taken to prevent loss of heat by conduction, this high temperature can be produced by the ordinary blowpipe operating upon flames of this description."

DIFFERENT ALCOHOLS.—In an article on the alcohol of wine by Dr. Rabateau, in the *Union Medicale*, we find the following:—"Two important alcohols are to be considered in relation to the fortification of wine (vinage)—the amylic, which is very toxic, and forms the major part of the residuum of brandy made from fecula and beet-root, and is found in that of brandy made from grapes, apples, etc. (*eau de vie de marc*), but not at all, or in imponderable traces, in that made from wine; and the *butylic*, less toxic than the former, but still slightly so, which was discovered by Wurtz in the residuum of the distillation of brandy from fruits (*eau de vie de marc*), and produced in considerable quantity in the fermentation of the molasses of beet root. The partizans of alcoholization of wine pretend that that of potatoes and beet-root, which are now articles of commerce, are as pure as that of wine, and contain neither butylic nor amylic alcohol. This is a mistake; for it is extremely difficult to purify the spirits of fecula and beet-root from these butylic and amylic alcohols."

THE GEOGRAPHY OF THE SEA BED.—This was the title of a paper read by Capt. S. Osborn, R. N., at a late meeting of the Royal Geographical Society. We quote from a notice in *Nature*: "It has been definitely ascertained that the greatest depth of the ocean does not reach 3,000 fathoms in any part where telegraphic lines have been laid. The bed of the North Atlantic consists of two valleys, the eastern extending from 10° to 30°, the Western from 30° to 50° West longitude. The extreme depth of the eastern valley is under 13,000 feet, which is less than the altitude of Monte Rosa. This valley has been traced southward to the equator. It is separated from the western valley by a ridge in 30° West long., in which the average depth is only 1,600 fathoms. This ridge terminates to the north in Iceland, and southward at the Azores, so that it is volcanic in its character at both extremities. Its extreme breadth appears to be under 500 miles, and the Atlantic deepens from it on both sides. Explorations carried on in the Mediterranean, the Red Sea, and the Indian Ocean, showed similar uniformity in the level of the sea-bottom; and the general conclusions arrived at by Capt. Osborn were that in the deep sea there is an absence of bare rock, and that there are no rough ridges, canons, or abrupt chasms. Moreover, that the bed of the deep sea is not affected by currents or streams, even by those of such magnitude as the Gulf Stream; but that it rather resembles the prairies or the pampas of the American continent, and is everywhere covered with a sort of ooze or mud, the *debris* of the lower forms of organic life."

GLACIERS, NOT ICEBERGS.—Prof. J. D. Dana has an article in *Silliman's Journal* on the question whether the glacial era in Central New England was an era of *glaciers* or of *icebergs*. American geologists are divided in opinion. We give the conclusion: "The facts show, beyond question, that in the Glacial era the transported blocks came from the comparatively low regions, in the very bottom of the supposed Iceberg sea, not far to the north of New Haven, instead of from distant and elevated heights to the northeast and northwest; and this was true of all the drift material. The observations of others over New England, as well as those I have made over Connecticut, sustain the conclusion that the sand and gravel of the unstratified drift has not come from remote points, but has been shoved southward by some agent that could gather it up over the breadth of the land and bear it onward to drop it after a few miles, or scores of miles of transportation. All this is evidently entirely impossible work for icebergs. Since, then, icebergs cannot pick up masses tons in weight from the bottom of a sea, or give a general movement southward to the loose material of the surface; neither can produce the abrasion observed over the rocks under its various conditions; and inasmuch as all direct evidence of the submergence of the land required for an iceberg sea over New England fails, the conclusion appears inevitable that icebergs had nothing to do with the drift of the New Haven region, in the Connecticut valley; and, therefore, that the Glacial era in Central New England was a *Glacier* era."

GEOLOGICAL SURVEY OF CALIFORNIA.—The first volume of the Ornithology, soon to be issued, is a royal octavo of 592 pages, containing 662 cuts. The *American Journal of Science and Arts* speaks thus of it: "This admirable report is far in advance of any similar work on Ornithology hitherto published in this country, if not in Europe, and does great honor both to the State of California and the officers of the Geological Survey. The first volume contains descriptions of all the land birds hitherto found in the region north of Mexico and west of the Rocky Mountains. Each genus is illustrated by a reduced full length cut of one of the species, and by natural size cuts of the wing, tail, bill, and foot, which will render it very easy for any one to recognize each genus, while nearly all the species are illustrated by full size cuts of the heads, often of both male and female. The cuts are nearly all original and have been drawn and engraved with great care and skill. The cuts are, in our estimation, superior both in accuracy and beauty to any hitherto published in any work on ornithology, and are far more satisfactory than the highly colored, but often coarse and inaccurate, lithographs, so often employed to illustrate ornithological works."

# CORRESPONDENCE.

## Bound East.

### Omaha to Chicago.

Written for the PRESS.

The traveler who intends going from Omaha to Chicago may find himself involved in a puzzling predicament, rather similar to that in which a famous English wit was once placed. No doubt you are all familiar with the story, but yet I'll risk repeating it. The gentlemen referred to, while musing in a grave-yard, found the following inscription on a tomb-stone:

Stranger, reflect, while you pass by;
As you are now, so once was I;
As I am now, so you must be;
Therefore prepare to follow me.

After reflecting, the wit added these lines:

To follow you, I'm not content,
Unless I know *which way* you went.

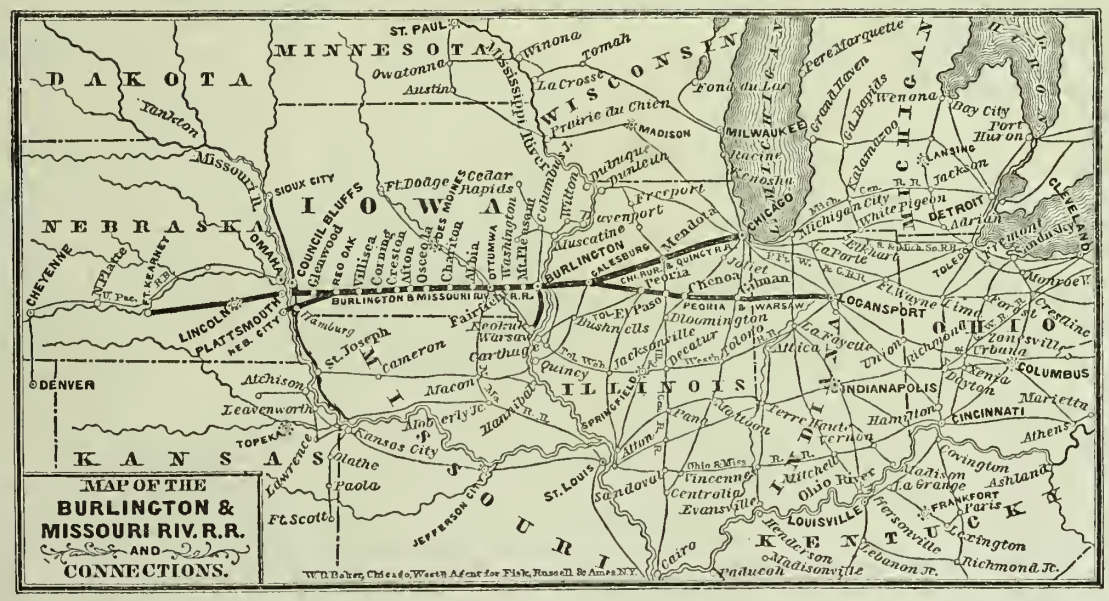
In a similar manner, I was rather troubled *how* to get to Chicago, for there are three roads, making the connection, to chose from, viz: the Chicago and Northwestern, the Chicago, Rock Island and Pacific, and the Burlington and Missouri River. I pondered over the matter, questioned every one who had tried either route, and finally made up my mind. My experience then and since has confirmed me in the belief that I went the best way.

### The Burlington Route

Is the one I selected. I found that the road was well built and passed through fine scenery and by points which one wishes to see, that the cars were of the most comfortable description, the employees attentive and polite, and the time reduced to a minimum with due regard to safety. The road runs in quite a direct line, the road bed is excellent, the iron, the heaviest in use in America, weighing 65 lbs. to the yard, and there being a double track part of the way. The passenger cars are sumptuous, — Pullman Palace Drawing Room, Sleeping and Hotel Cars, Saloon Smoking and Passenger Coaches, and Pullman baggage cars,—yet the prices are not higher than else where. The passenger cars are furnished with Miller's patent couple and buffer, are lighted with gas and heated with *hot air*. The sleeping cars have Baker's patent car warmer and other improvements. Even the second-class cars have cushioned seats and run through on express trains.

The country passed through is delightful. We first ride for 20 miles on the Missouri Bottom, formed by river deposits. Then we rise up, riding over rolling prairies and crossing numerous streams skirted with trees. Herds of cattle, from Texas, graze alongside of the track. At Glenwood we see the Soldiers' Orphan Asylum, and in this vicinity hedges of *Osage Orange* are frequent. At Red Oak we connect with the train from Nebraska City, from Kansas City and Denver, Colorado, even. Our road ascends gradually up to Creston, about 80 miles from the Missouri River, and thence we have a descending grade to the Mississippi, at Burlington. As we continue on, better country is found, better villages are seen. Near Ottumwa we cross the Des Moines River, and near Mount Pleasant, the Skunk,—euphonious stream. As we approach the Mississippi we view fine vineyards, and finally, after having crossed the whole width of fertile Iowa, we reach the Father of Waters at Burlington.

Here we roll into Illinois over the great iron bridge, which spans the Mississippi. This splendid structure rests on nine piers, is 2,200 feet long, and has a draw 360 feet long opened and shut by steam power. In two hours we come to Galesburg, a great railroad center and manufacturing site. We now come into the garden spot of Illinois, which extends along for a width of 150 miles, is dotted with fine villages and handsome country seats, is covered in summer with waving oceans of grains. Over the flat prairie, with the richest of soil and the best of cultivation, we rush along, seeing new beauties appearing and disappearing every moment. At Aurora we find a new town which is old in wisdom. Here is a schoolhouse which cost $80,000. Near Chicago we pass through the charming suburban town of Riverside, and finally, with a splendid view of lake and city, we arrive at our destination. W. H. M.




## Notes of Travel in San Joaquin County.

### Fine Ranches.

[Continued from page 35.]

Mr. Dodge is also the proprietor of 550 acres of fine land at the same place, all of which is under cultivation. He has a vineyard of 50 acres, and proposes to set 50 acres more of vines this year. He harvested 250 acres of wheat and 40 acres of barley last year.

Mr. Shippee, of the firm of Shippee, McKee & Co., has one of the finest ranches in the country. It is situated five miles north from the city, on the Calaveras river, and comprises 600 acres. The river is on the east or upper side, and the Cherokee Lane Gravel Road runs through its center. The ranch consists entirely of bottom land and can be irrigated at any and all seasons. At the season of the drought, it was irrigated and produced 40 bushels of wheat per acre, and two tons per acre of the best of oat hay. Last year it was again irrigated and the grain sown in January and February, produced 35 to 40 bushels of wheat, 40 to 50 bushels of barley, 50 to 75 bushels of oats and two and a half tons of hay per acre. He has this season about 350 acres in wheat, oats and barley, and about 150 acres in meadow for hay and the balance in pastures, orchards, etc.

His stock consists of fine horn stock and Essex and Suffolk hogs, while his horses are among the best of trotters. Among them may be mentioned the brood mares "Lady Fine" and "Lady Mc," and several of the Belmont and Blackhawk stock. He claims to have 20 of the best trotting colts in the county. He also owns the young horse "Tidal Wave," and the "American Boy." For one of his colts he has been offered $1,000; this colt has trotted in the forties. His motto is the best or none. He says it costs no more to raise a good horse than it does a poor one.

FINE POULTRY.—I had the pleasure of seeing the finest lot of poultry, a few days since, that I think there is in the State. They are of the "Light Brahma" breed, imported from Massachusetts, and New York, by John Sedgwick, Esq., of Stockton.

### Stockton Manufactures.

The Pacific Tannery, Kullman, Wagner & Co., makes a specialty of sole, harness and upper leather. Here twenty-five men are regularly employed, and when working to their full capacity they turn out 2,000 sides per month; now, however, only about 1,200. The annual production is from 20,000 to 24,000 sides.

Wagner & Harrison's tannery, situated in the rear of the insane asylum, is doing a fair business in a small way, working at present five men. Of Mr. J. C. Wagner, one of the proprietors, especial mention is merited, he being the pioneer on the coast in this business. He started here first in the year 1852, and has been several times burned out, starting again without a cent. Nearly all of the principal tanneries in this State are now owned and run by many who first learned the trade of Mr. W.

Lane's grist-mill cost about $50,000, and is owned by R. B. Lane. It contains six run of burrs, is run by a steam engine with 18-in. cylinder and 36-in. stroke, has two boilers, 52 inches in diameter and 16 feet long, containing 46 4-in. tubes. Its capacity is 240 barells per day. They run only 190 days on the average per annum, and made last year 14,000 barells of flour. They consume about 600 tons of coal per annum.

The State Insane Asylum, (G. A. Shurtleff, M. D., Supt., A. Clark, M. D., and J. Titus, M. D., Assistant Physicians,) on the first of January, 1871, contained 1,060 patients—766 males and 294 females.

### Grapes and Wine.

Among the best varieties grown here for market are the Black Hamburg, Black Malvania, Black Prince, Black Ferara, Reine de Nice, White Muscat of Alexa-n dria, Black Morocco, Madeline, and Chasselas-Fontainbleau. For wine, the White Tokay, Chasselaa-Fontainbleau, White Fontignan, Moselle, Chasselas-Musque, Red Fontignan, Black Burgundy, Zinfindel and Black Malvason.

For port and sherry, for which this county is peculiarly adapted, the California grape is used. All the premiums given by the Horticultural, Agricultural and Pomological Society, of San Francisco, and by the State Agricultural Society, were for sherry made near Stockton. The climate is so warm that all the varieties ripen to perfection. The California, Black Prince and Zinfindel, will produce from eight to twelve tons to the acre, on vines eight and ten years old, and in some seasons even more have been raised. As high as $500 for California, $1,500 for Black Prince, per acre, has been realized here; the grapes being shipped to San Francisco.

For raisins, the White Malaga and White Muscat of Alexandria, are used, and make raisins as good as the imported. The Fiher Zagos is too soft, and rots in many localities.

### Ranches—Stock.

William L. Overhiser's ranch, of 800 acres, is situated four miles northeast from Stockton, on the Waterloo gravel road. It lies on both sides of the road, and its soil is in as fine condition at this writing as many I have visited in better seasons, *i. e.* for rain, less than three inches having fallen yet. He will farm about 400 acres in barley this year—his principal product in cereals.

His fine stock consists of about 100 head of horses and mules, about 30 head of fine cattle, and about 2,500 head of thoroughbred sheep, and will have 600 head of Spanish Merino bucks for sale this season. This band of sheep is the largest on this coast, if not in the United States, of thoroughbreds. C. C. Smith, however, is interested in this portion of his stock. His milch cows are as fine a lot of Durhams as I have ever seen, for size, build, and milk-giving qualities; all of the short horn and short-legged breed. His bull, Grand Turk, of Oak Home, is a monster, measuring eight feet in length from his pate to his haunches, and stands five feet high. His breastcut hangs within eighteen inches of the ground. He weighs 2,000 pounds, and his pedigree is recorded in the American Herd Book, on page 195, article 8,258; he will be five years old next May and is valued by Mr. O. to the extent that he would not swap him for any other of his kind in the State. He is not for sale. The roadsters are from the Chieftain and Black Hawk stocks. At the State Fair in 1869, Mr. O. took the first premium on two-year old bull; first premium for best thoroughbred Durham milk cow; first premium on best calf; first premium for best three-year old heifer; also for best two-year old, and first for best yearling; also first premium for the best herd, which is a much better endorsement than I could possibly give you in an article of this length.

### Farm Implements.

Mr. O. was the inventor of a *Hay and Grain Elevator*, the fame of which in this County is sufficient without a word from me. He also is interested in and has practical use the *Self Adjustable Harrow* of Mr. David Gills. This harrow is 7x9 ft, and made to be coupled together side-wise in gangs of three or less. With a gang of three, with ten mules, it will harrow a strip 21 ft wide and accomplish 30 acres per day. Each section has eight adjustable cross pieces, with eight steel teeth in each, and when in motion, no two teeth follow each other. Although the teeth are nine inches apart, four of them are so arranged as to throughly harrow under the side piece, which is needed when used as gangs. This harrow never clogs, the cross-pieces each being connected by a lever in the rear so arranged as to throw the teeth at any angle from a simple movement of the lever, any ordinary obstacle is over come. Two small ten-inch wheels are used, one on either side, in front, which prevent its miring in soft ground, or clogging in rough ground. I consider it the best harrow in the State. Each section works independently, and can be used separately, like any others.

An arrangement of the Header-Bed has been conceived by Mr. O. which I think will come into general use. Its peculiarity is that it can turn a square corner, al-though the bed is 20 ft long. The hind wheels of an ordinary wagon are placed upon spindles arranged on the hind part, and the forward wheels so arranged as to come under to the center. Upon the whole this farm is as complete in working trim as any in the County.

### Sargent Brothers Ranch.

Is situated about five and a half miles from Woodbridge and fifteen miles N. W. from Stockton. It consists of Tule, Over-flow, and Upland. The entire Tract conains about 10,000 acres, about 6,500 acres of which is Tule, about 1,500 of Overflow, and 2,000 Upland. The former is boundedon the west partly by the Mokelumne River, on the south by Treadway Slough, on the east by the Overflow and Upland, and on the north by Island Mouth and Sycamore Slough, a large portion of which is so far reclaimed as to prevent any overflow except during an extreme flood, which would cover the entire tract of tule and overflow, The Sargent Bros. have been constantly engaged in ditching and building levees since 1864. For the six months just past from 10 to 40 men have been employed. Some 10 miles of levee and ditch have been constructed, costing from $15,000 to 20,000 thus far. Now, in the driest season, the grass is from eighteen inches to three feet high, and the cattle are in as fine order here as any on the uplands in the best season. They have a large number of horned stock, and eventually will have one of the best stock ranches in the State. The Sargent Brothers, four in number, each equally interested, own and run three extensive stock ranches, Dr. J. L. and Ross Sargent attend to the affairs of the one above mentioned; J. P. Sargent attends to the one near Gilroy, consisting of one league of land; and B. B. Sargent attends to about three leagues of land at Monterey, all of which are well stocked with cattle, etc. They will farm on the uplands of the (San Jouquin Co.) ranch, this year about 700 acres of grain, wheat and barley. I had the pleasure of a ride over this entire ranch this week, and points passed over by us in a buggy, I was informed three or four years ago were only accessible by a boat. L. P. MC.

WHITE PINE BULLION.—From January 1st, 1870, till December 31st, Wells, Fargo & Co. shipped from their office in this city, says the White Pine *News*, the following amount of bullion, which was produced only by mills in this district: Shipped West 647 bars—value, $738,802 78; shipped East, 642 bars—value, $851,852 88. Total, 1,289 bars; value, $1,590,665,56.

# HOME AND FARM.

## HISTORY AND PROGRESS OF AGRICULTURE.

[Written for the PRESS.]

It cannot be said with truth that husbandry is the oldest of human industries, much less, that it was the first means of human subsistence; but it is safe to assume that it was practiced during the primitive ages of the world, and it was, really, the first effort to stimulate the powers of Nature to a higher degree of productiveness, by artificial means and agencies.

At first, men had recourse to the natural productions of the earth for the supply of their material wants. At this period there was no systematic industry, no labor beyond that of gathering the wild fruits and of capturing the wild animals which grew spontaneously in the forests and streams.

Next, follows pasturage, or the care of flocks and herds. This is, properly considered, one of the branches of agriculture, whose two-fold object is to draw from the soil the largest amount of products, vegetable directly and animal remotely. Pasturage was the first attempt to augment the means of living by regular, systematic industry, not by field culture, but by caring for the flocks and herds which subsisted upon the spontaneous grasses of the earth.

By-and-by the growth of population in those districts at first peopled by the human family suggested the necessity of tillage as an expedient for stimulating the soil to a more generous munificence, in order to meet the increasing demand for material supplies. These statements are correct in their application to the standard means of subsistence that were resorted to by the human family. There were, however, examples of field culture long before necessity drove the masses of society to adopt farming as a livelihood.

Sacred history carries farming, or field tillage, back to the first ancestral family of the race. According to this record, Cain was the first tiller of the soil as well as the first murderer—after that memorable exodus from Eden. Cain had a sad history—not because he was a farmer, however; but for reasons which belong rather to theology than to a treatise on agriculture.

### Civilization Promoted by Agriculture.

The transition from a precarious reliance on the spontaneous fruits of the earth to the more regular supplies of pastoral pursuits, and afterwards, that from pasturage to the still more reliable products of tillage, mark distinct epochs in the progress of human civilization. Indeed it is safe to assume that the degree of a nation's progress in civilization is nearly indicated by the status of agriculture among its people. Their civilization may not be modelled after the highest type; but a highly perfected state of agriculture among them will indicate for their civilization, a high point on the scale, according to the standard to which it is to be referred.

Chaldea, Egypt and China were the first to be distinguished for their skill in the art of agriculture in both of its branches, including tillage and stock-raising.

During the early postdiluvian ages, the cultivation of the soil received considerable attention. The sacred record informs us, that "Noah loved husbandry, and planted a vineyard." That vineyard, however, was to be a snare to the good old man. Its fiery vintage brought him to be the victim of a most unnatural intrigue, and was the cause of odium to his family. Historians agree in the opinion that, after the flood, Noah went eastward, and founded the empire of China; carrying with him his love of field culture, and inculcating upon his people the importance of this branch of industry. This probably may furnish a solution of the problem—why it is, that the Chinese should have been, at an early day, such experts in the art of cultivating the soil. Down to the present time this heathen nation has continued to take precedence of most others in bringing out of the soil its utmost resources by skillful tillage.

The fertile, alluvial vallies of the Euphrates, the Tigris and the Nile would very naturally, at the time of their earliest settlement, invite the seed of the husbandman. We know, indeed, that far back in the historic period, Chaldea or Babylonia, and Egypt were famous for their abundant supplies of breadstuffs. About 1900 years before the Christian Era, these ample supplies of corn tempted the patriarch Jacob to send his sons down into Egypt for bread, which finally led to his emigration and settlement among the fat pastures of Goshen.

### Early Modes of Tillage.

Modes of tillage, in these early ages, were generally rude in comparison with the improvements of modern times. There was not, indeed, so great a demand for skillful culture along the rich vallies of the great rivers where agriculture first flourished. Periodical inundations of these rivers kept the valley lands up to the maximum of fertility, and promoted a high degree of fineness and mellowness in the soil, all of which are very important conditions in preparing a soil for the reception of seed, in view of an abundant harvest.

After one of these periodical overflows it was the custom, especially along the valley of the Nile, to scatter the wheat over the clean surface, and then to turn on large herds of swine, which, by treading and rooting, covered the seed, thereby rendering the labor of the plow unnecessary. The harvests, from these sowings, were incredibly large, and they were realised at a minimum outlay of time and labor. These alluvial lands, and others like them, are the only lands in the world that will hold up to a large yield for many years without some process of fertilization. In a future section we propose to expand and elaborate this proposition.

In the course of time, these vallies, rich as they were, and well sustained as they were, by the annual recurrence of alluvial deposits, were inadequate to supply the wants of their growing populations.

When, by degrees, the area of habitation was extended to the foothills, and the population compacted to the last point of comfortable endurance, colonies began to radiate from these primitive centers in various directions—some locating in mountain districts far away, as vine-growers and stock-raisers; others going into distant plains and vallies, less fertile than those that were first peopled, lived for awhile by hunting and by pasturage, and, finally, as the population thickened, had recourse to agriculture, but under many disadvantages. After a few annual crops gathered from a soil, not the best naturally, there must have been such decline in its productiveness as either to necessitate more careful tillage, with artificial modes of improving the soil, or else to drive them to the expedient of repeated emigration.

Under a continual increase of population, a point would eventually be reached in all these colonies at which the utmost resources of the soil, even under improved culture, could not supply the growing demand for bread. In this crisis the only alternative would be the emigration of a part of the population, and the foundation of new settlements in some vacant or more sparsely peopled regions. These in their turn again would, after a while, begin to feel the pressure of a necessity to make the earth respond more liberally to the toil bestowed in its cultivation.

### Progress in the Art of Tillage.

In this way, as the wants of the race demanded, from age to age, progress was made in the art of agriculture. Thus we perceive, that by an established law of the economy under which we are placed, increase of population, and progress in the arts of civilized life sustain to each other, mutually and reciprocally, the relation of cause and effect. Increase of population on the one hand stimulates progress in the industrial arts, by creating increased demand for material supplies. On the other hand, these improvements, which render labor more remunerative, multiply the means of subsistence; making it easier to live, and to live in a greater degree of comfort, and in this way encourage marital ideas, tempt to the formation of new families, and thus promote the increase of population.

We cannot help admiring the wisdom and benifisence of this law of action and reaction in the economy of nature.

In European districts, which were settled and occupied by another branch of the Noachic family, one would suppose that before many generations had passed away, there would arise a necessity for bestowing some care upon their methods of cultivating the soil. In central and southern Europe, which alone, of this grand division of the globe, have a genial climate, the comparatively small area of plow land could not long support a large population by farming, unless it were conducted upon improved and careful methods.

We have not much data for an opinion as to the state of agriculture in Europe, previously to the rise of the Greek power, beginning with the capital centers—Athens and Sparta.

According to Hesiod, the earliest of Greek poets, who was about 40 years older than Homer, and who lived about 1,000 years before the Christian era, agriculture had attained some perfection and was in a flourishing condition among the Greeks, even as early as his time.

It is true that the early Greek philosophers, Aristotle and Plato, thought all industrial pursuits vulgar, in so far as they looked only to physical supplies. They held that the pursuit of truth and the acquisition of knowledge were valuable only for their reflex action and influence upon the soul itself. They entirely overlooked all considerations of usefulness to man in his physical relations, and, with them, every argument was mean and groveling that lay on the material side of the question. We suppose these ethereal individuals would have turned up their sublimated noses, if the fumes of savory soups had saluted their sensibilities while they were indulging in a dish of abstract truth, or discussing the merits of a delicious mess of metaphysical subtleties.

We propose to show, in a future paper, that there were many noble Greeks as well as Romans who were more like the world, now-a-days, especially the California side of it—a little more utilitarian—fully aware that there is a flesh and blood side to the question of humanity, that material wealth has a value, and that all of that which is indispensible is the product of the earth.

J. R. THOMAS.

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HOW TO MAKE A FARM POOR.—Cultivate wheat and oats largely. Sell all you raise. Have your grain thrashed in the field, and burn the straw when it is in your way. That is the way to make the farm poor! This is the way to make it rich; cultivate wheat, oats, and other crops, and feed to the stock. Take all care good manure; manure your grain fields and your fruit trees. Change crops by rotation—not forgetting the great value to land of clover. We are quite sure that more stock should be raised on farms than is now done. There is greater profit in raising horses, cattle, hogs and sheep, than in growing wheat.—*Western Farmer.*

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DISTINCTION BETWEEN ANIMALS AND VEGETABLES. — Professor Rollestone, of Oxford, in his late book on "Forms of Animal life," gives a new criterion by which to distinguish animals from vegetables. He says that in the case of all animals the embryo absorbs its yolk from the inside, while in vegetables the germ of the seed is surrounded by its albumen. This is a foreshadowing of the way in which the adult animal or plant absorbs its food; the former places it within itself for digestion and assimilation, while the latter takes it from outside.

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THE CHANGE OF COLOR IN LEAVES.—The Athenæum says: "Experiment has confirmed the conclusion that leaves turn red, at the end of the season, through the action of an acid, since one of the elements producing the green color must be a vegetable blue. Autumnal leaves, placed under a receiver, with the vapor of ammonia, in nearly every instance lost the red color, and renewed their green. In some, such as blackberry and maple, the change was rapid, and could be watched by the eye; while others, particularly certain oaks, turned gradually brown, without showing any appearance of green."

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THE AMERICAN PRESS IN EUROPE.—Dr. Löckler, in a lecture recently delivered in Berlin on the "Influence of the Press," gives an interesting sketch of the history of the newspaper, and pays a special compliment to the progress of the American newspaper press. He regards the weekly edition of the New York *Tribune* as the very climax of the newspaper enterprise of the age, and tells his public that this edition of the *Tribune* weighs fifteen tons, and that if the numbers were placed one upon the other they would make an immense pillar, having a base of six German feet broad, and a shaft of one hundred and forty German feet high!

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OPPOSED TO RAILROADS.—Nathan Hall, of Durham, Conn., in 1833, thanked God that he lived "in a hilly country, where it was impossible to build railroads." To-day the cars of the Air Line Railroad run through the door-yard of his place, between his house and barn, and within four feet of his side door.

## SILK AND FISH CULTURE IN NAPA.

EDITORS PRESS:—Two or three miles from Napa, a little to the left of the Sonoma road, and snugly nestling among the hills, is the country residence of Mr. W. H. Baxter. Mr. B. has quite a plantation of mulberry trees. He commenced with 15,000 moretti and 20,000 multicaulis; since which time they have increased 20,000, making in all 55,000 trees.

The cocoonery is 45x85 feet, two stories high, giving room to feed over 3,000,000 silk worms. The time for feeding here begins about the first of May. Last year a late frost cut down the tender trees, leaving thousands of worms to perish for lack of proper food. This materially lessened the profits for the season. Profiting by all experiences of the past, Mr. B. is still hopeful of complete success in this business.

It occurs to me that there are many other localities in this beautiful valley where silk culture would meet with better returns than in the place chosen by Mr. Baxter. A locality a little farther from the bay, and better sheltered from the coast winds, would be more likely to furnish that even temperature so necessary to the health of this tender worm. Other persons have a few trees, and it is demonstrated that the mulberry tree will flourish in this soil and climate.

I hear many speak of trying silk on a small scale, and I should not be surprised on my next visit to find this valley as full of mulberry trees and cocooneries as it is now of vineyards and wine cellars.

### Fish Culture.

Four miles southeast from Napa City, hidden by low foothills, and at the mouth of the romantic cañon of a small mountain stream, is the "fish ranch" of Mr. N. Coombs. On the banks of this stream, close under the northern side of a precipitous hill, there are three tanks constructed of concrete. In midwinter no sun falls upon these tanks, and in summer they are much shaded by the platform and roof of the hatching house and the luxuriant growth of shrubbery natural to the place.

The water is brought in a flume, and can be led through the hatching boxes and thence to the tanks. At the time of our visit it was led directly to the tanks, falling in several small streams, so as to completely aerate the water. These tanks are not on so large a scale as the ponds made by the brothers Comer, on the Truckee.

Mr. Coombs does not feel exactly satisfied with his success. So far, he has spent more dollars than he has fishes to show for them. I understand that he did not superintend his arrangements in person, but trusted to another. He feeds livers or fresh meat, finely cut. The trout never eats what lies on the bottom. The tanks are cleansed every week. During the summer some fish were kept in pools, in the bed of the stream, and removed after the first rains to tanks, for fear of their being washed away by freshets. J. R.

NAPA, Jan. 16th, 1871.

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INTOXICATING CROWS.—The destruction which these wary birds do to the outstanding corn crop is too well known to need comment. We give a receipt which we are told will enable you to clear your farm of the pest entirely, and it is simple and cheap. Take May-apple root and grind it fine, pour water on it and then add shelled corn. Let it set forty-eight hours and it is ready for use. Then sprinkle it about. This intoxicates them so that they are unable to fly, and you can dispatch them at leisure. Our informant says that he has seen squirrels under the effect of it, which rendered them unable to climb, and at an early day they were dosed in this manner to prevent them from destroying the young corn.

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FARM CAPITAL.—A little land is much safer for a poor farmer, or, in other words, for a farmer who has but little capital, twenty acres is better than eighty or even twice eighty. Forty acres is to much land for a farmer of a small capital; and by this we mean two thousand dollars or under of real money or money's worth. It may take less capital to own and work a forty acre farm in the West than it does in many parts of the East; but the same principles are involved in both cases, and farm machinery is just about as cheap at one point as at any other.—*Eastern Ex.*

# THE APIARY.

## NEW AND CHEAP FOOD FOR BEES.

It is stated in the London *Gardener's Chronicle*, that a correspondent of that paper has long been in the habit of supplying the London shops with fresh honey in the comb all the year round. In the hardest winter his supply was equal to the finest summer. How he succeeded in this was a mystery. It finally came to light that he fed his bees, in the absence of flowers, on a solution of the oil cake made from the seeds of the Bene Plant (*Sesamum Orientale*). Indeed he would boast that he wanted no flowers for his bees.

The Sesamum Orientale, or Bene, is cultivated in various parts of the world, both as food and for oil. The oil remains sweet for a long time, and is sometimes used as a substitute for sweet oil. In China and Cochin China it is used as a substitute for butter in preparing various dishes. It is cultivated to a considerable extent in several of the Southern States. It is sown in drills about four feet apart, in the month of April, and the seeds are gathered in September; it yields a large proportion of oil, which is expressed in the same way as linseed oil. It grows much like cotton, from three to six feet high, and bears numerous pea pods, about an inch and a half long. The leaves of the plant have long been used as a remedy for the dysentery, and cholera infantum or summer complaint of children. For this purpose the freshly gathered leaves are placed in a tumbler of cold water, which immediately becomes ropy without losing its transparency, or acquiring any unpleasant taste, and is readily and even gratefully taken by the little sufferers, and in such cases is used as a substitute for other drinks.

The Sesamum is indeed a valuable plant if cultivated alone for its medicinal and domestic uses, if not for its oil; which last, however, under proper management, would prove a profitable product where the climate favors its perfect maturity, which perhaps would not be north of the 38th or 39th degrees of latitude.

The editor of the Western *Rural*, in response to an inquiry says: "There is a manufactory of Bene oil in Providence, N. J. Most of the oil, used in this country, however, is imported from England and France; but we can get no clue to imported cake. Our experience with the plant and seed leads us to think it will succeed well here. We raised the plant for two years for other purposes, and think the crushed or ground seed would be valuable bee feed even with the oil not pressed out. But, may the rape cake not answer the purpose quite as well? and it is easily obtained."

If the Sesamum is as valuable as represented, and it seems to be, might it not be to the advantage of California keepers, to obtain and feed it during the dry season here, when bee feed is always scarce? Perhaps some of them have already tried it; if so we should be pleased to hear with what result.

## BUCKWHEAT—ITS POISONOUS EFFECTS—THE HONEY BEE.

There is in buckwheat an essence or medicinal principle upon which its irritating qualities depend, and is called *apis venenum* or "bee poison." This is one of the sources from whence the common honey bee obtains its poison; hence, the same disagreeable effects follow the immediate use of honey when obtained from the buckwheat.

The bee takes from the flower a portion of its medicinal virtues with the saccharine matter of the plant, which, by passing through the internal laboratory of the insect, becomes separated into its primary constituents of *apis venenum* and honey; the one being deposited in cells for the sustenance of the insect, and the other laid by within itself as a means of defence.

Now, in making this separation in the chemical laboratory of the insect (or by accident where dead bees are in the honey while being rendered), it often occurs that portions of this poison are mixed with the honey, producing all the disagreeable effects which would result from the use of buckwheat itself.

There is, perhaps, no article containing as great a per centage of the poisonous principle used for food as buckwheat in its various forms; and the sameness of its aroma with that given off by the common honey bee is a proof of its identity.

All poisonous insects and reptiles are healthy, active and virulent in proportion to the plentiful supply of the poison they are enabled to derive from their food; and while feeding on such articles as yield them this supply, their stings or bites are more virulent than at other times. This I saw fully demonstrated last winter, in transporting the honey bee over the Isthmus to California from the cold regions of the North. The sting from those bees, in the most unhealthy state, produced but little sensation or effect upon the human flesh.

The nervous, warlike habits of the honey bee during the period of the flowering of buckwheat fully corroborate the doctrine that this plant contains considerable quantities of poison, and it is on this principle that its irritating qualities depend.

The best remedy to prevent the disagreeable burning and itching sensation of the skin caused by a free use of buckwheat cakes, is carbonate of soda (or an alkali of a similar nature), used in their raising, or taken internally when the itching has taken place in consequence of having eaten too freely of the cakes. And here let me state that an alkali of the above chemical nature, immediately taken and applied to the skin after a bite or sting of the most poisonous insect or reptile, is a good antidote, and will, in most cases, save the unfortunate victim from any serious harm.—*Scientific American.*

## THE OUACHITA GRAPE.

Some few weeks since we made some reference to the Ouachita grape, which was being cultivated in Arkansas, and which was said to possess a perfect immunity from the attacks of blight and mildew. Since making that mention we have received a copy of the *Southern Standard*, published at Arkadelphia, Ark., from which we learn that many years ago, while the French were still in possession of that territory, they were greatly troubled to make any of the ordinary varieties of the grape grow there, on account of the blight and rot. Their attention was finally called to a native wild grape, a prolific bearer, and free from the attacks above mentioned.

On transplanting it to their gardens, it was found to improve greatly in size and quality, even rivalling the most approved imported varieties in cultivation there. A few years since cuttings of this vine were sent to France, where it immediately become very popular, yielding wine of finer quality and better flavor than almost any other variety.

Besides being prolific and free from disease it is very hardy, and is as certain of a crop as corn or cotton. The paper from which we condense adds:—"We have had many applications for layers of this grape from all parts of the United States, within the past six months, but until recently we could not inform applicants where they could procure them. We are now authorized to state that L. B. Clark, Esq., of this place, has turned his attention to this grape, and is prepared to furnish layers to all who may desire them, at $10 per hundred."

If this grape possesses the qualities above ascribed to it, we do not see why it would not be a very valuable variety to plant in those portions of this State where the blight and mildew has hitherto almost or quite precluded the cultivation of that fruit. Who will introduce it here?

GRAPE GROWING AT THE EAST.—Grapes in the New England States, wherever they can be grown, are a profitable crop. An ordinary profit for a good year is about $100 per acre; while $200 and $300 is not unfrequently obtained. The rapid multiplication of the vine, especially the Concord, during the last two or three years has depressed the price nearly 50 per cent. The average annual profit of the vineyards of this State is not far from $60 per acre.

MORE SILK PLANTATIONS.—H. Mills of Contra Costa has a plantation of 1,000 Morus Alba trees, and is now preparing to plant 500 more of the Alba and Moretti, and 2,500 of the Multicaulis, and to go into the silk culture extensively.

## BEET SUGAR PROFITS.

A correspondent of Wednesdays *Bulletin* who has been figuring against the Commercial *Herald* correspondent on the subject of Beet Sugar manufacture, makes a most gratifying as well as reasonable showing. He sets down the total expense of a 50-ton sugar mill, for one year, engaged seven months in working the beets and the other five in preparing the crude sugars produced—including interest on capital and commissions on sales, at $147,102. The value of sugar produced, at present market rates, and allowing only 5 per cent. for the yield of the beets, is set down at $195,300; leaving a profit of $48,198. This, it will be observed, is over and above a reasonable interest on the investment. Moreover no account is made of the "waste" or syrup, which two items should not be set down at less than fifteen or eighteen thousand dollars.

It is possible that the figures of the *Bulletin's* correspondent may be somewhat exagerated, as it is quite evident was the case with the writer in the *Herald*. Probably the truth lies not far below the estimate of the former. At all events such is evidently the general verdict pronounced, if we are to judge from the alacrity with which capitalists are coming forward to invest in the business in San Jose and Sacramento.

### Incidental Benefits.

The incidental benefits derivable from this manufacture are also quite important. It employs a large amount of land and labor; increases landed values; leads to improvement in live stock; stimulates manufacturing, mechanical and other agricultural labor generally. In reference to the "waste" on "pulp," of which we have as yet only a very crude idea, James Howard, M. P. of England communicates the following interesting particulars to the *Country Gentleman*:—

The refuse of the beet root after the sugar has been extracted forms an important article of cattle feed and is held in high estimation. About 18 or 20 per cent. is the proportion of pulp left; the worse the quality of roots, the smaller the quantity of pulp. It is preserved in deep pits, generally bricked. Very often the expense of bricking is avoided, a covering of earth being merely laid upon the top. The pulp is generally consumed within the year, but, if well covered up, it can be kept sweet and good for two years, or, as I am assured, even for three years. Much controversy has taken place both as to the relative value of pulp as feeding stuff, and as to its real money worth. Many practical men maintain that a ton of pulp is equal in value to a ton of roots. I think the money worth is best settled by the price it fetches. The average price at the factories I visited will amount to about $3 25 per ton. Although horses do not like pulp, bullocks, which cannot be fattened on the roots alone, can be and are sometimes fattened for the English and foreign markets without any other food than the pulp. Pigs do well upon it when cooked. Sheep will eat about twelve pounds per day of the raw pulp; it is unquestionably more easily digested than the root itself, but cows kept upon it are said not to produce much milk. * * * At Cologue beets are bought of the surrounding farmers at $5 per ton, the pulp being given back free. * * * At an agricultural Fair held a few years ago at Valenciennes, France, a triumphal arch was erected, on which appeared the following inscription: "The growth of wheat in this district before the production of beet sugar was only 961,173 bushels; the number of oxen 700; since the introduction of this manufacture the growth of wheat has increased to 1,158,256 bushels, and the number of oxen to 110,500.

Similar facts are noted in connection with the beet-sugar factories of Germany, and will most assuredly follow here. During late years this new product has nearly driven cane sugar from Continental Europe, notwithstanding the former has been hampered with heavy taxes in the shape of internal revenue dues, and in despite of the fact that the yield of beets to the acre there, is only about one-half of what it is in California. Our refineries may as well make up their minds to meet the new order of things, which is inevitable. By devising some plan by which our farmers may be enabled to manufacture crude sugars, in cheap mills, as suggested by our San Diego correspondent, in another column, refiners will be able to continue their business as now established, and greatly benefit the agricultural interest at the same time.

THE STATE UNIVERSITY.—The affairs of our State University are beginning to be commented upon and criticised by writers. This is of itself a matter of congratulation, for it shows that the public are becoming more alive to the interest of the institution, and promises that our University, the first *free* University, will in time take the position it ought to hold; for proper criticism will keep the managers ever on the alert to improve, and without criticism there is great danger of stultification. We therefore are pleased with the reception, from the author, of a pamphlet on this matter, which we cordially recommend to the consideration of the public. It is entitled "a glance, from a German stand-point, at the State University of California, particularly, and the Educational Systems of America and Germany, comparatively." The author, Gustavus Schulte, of the Female College of the Pacific, criticises in a kind manner some points of our University, and treats afterwards of German and American Educational matters. The pamphlet contains much food for thought, and its perusal must have a beneficial effect. For sale at the principal book stores.

THE RAINS have now placed the crop beyond doubt, and are sufficient to give the miners a fair prospect. The cold weather, although it has greatly injured, and put back the early grass, has materially retarded evaporation, so that there has been a much larger proportion of the rainfall absorbed by the earth than usual, and thus stored up for the use of the farmer.

The amount of rain-fall, previous to this week, as reported in various localities, is as follows: Sacramento, 2.74 inches; Stockton, 3.23; San José, 6.77; Pacheco, 3.17; San Francisco, 5½, and Nevada 18.69. An unusual quantity has fallen in Los Angelos and San Diego. The rain of the past week, though not very copious, has been unusually general, moderate and warm; and falling upon soil previously moist has been of incalculable service. The grass and cereals have been greatly benefitted thereby, and fair crops rendered almost or quite certain.

CENTRAL PACIFIC EARNINGS.—The annual earnings of the Central Pacific railroad, for five years, are set down as follows, commencing with 1865:—$401,941; $864,917; $1,421,525; $2,300,767; $5,670,882, and closing with the earnings of 1870, at the enormous sum of $7,920,708. This is certainly a most favorable showing. If the business continues to increase in the same ratio, the earnings for 1871 will be not less than $10,000,000. One of the most important features connected with this exhibit is the fact that of the earnings for 1870, about 65 per cent. was for local traffic.

THE PRICE OF COTTON.—The average price per bale of cotton in 1869 was $99; the price for 1870 was only $60. The gross proceeds of the crop of 1869 was about $310,000,000; the proceeds of the crop of 1870 is estimated at $210,000,000. The fall in price has been mainly due to the disturbed condition of Europe.

COLORADO GOLD SHIPMENTS.—The gold shipments from three banking houses in Central City, Colorado, during 1870, amounted to $1,210,625. The estimated product of Gilpin county for the same period was $1,800,000.

# INDUSTRIAL MISCELLANY.

## Colonization Movements.

The idea of a rapid settling up of the large territorial area bordering upon and within the great Rocky Mountain range, by a system of colonization, is being quite actively discussed by writers and political economists on both sides of the Atlantic. The wonderful success which has attended the "Greeley Colony," where a large town, with substantial blocks of buildings, beautiful avenues, ornamented with trees, and fountains, public edifices, etc., has grown up, as by magic, in a single season, is operating as a wonderful stimulus in this direction.

The "lust for gold" which, for the last 20 years, has been the stimulating medium for attracting settlers to the Rocky Mountain and Pacific Slopes, enters but very little, if at all, into this new movement. The aim is to build up permanent settlements upon an agricultural and manufacturing basis. Farmers, who more than any other class of population, form the bone and sinew of a country, are ever slow to change the advantages of convenient markets, schools, churches and home surroundings, which they enjoy in old settled localities, for a pioneer life in the midst of desert wastes, however beautiful and productive those wastes may be made by the hand of industry.

But the success of the Greeley Colony has shown them that they can carry all these home advantages with them; if they will only go in large bodies, and settle upon contiguous lands. They can carry their markets with them, by taking along a due proportion of mechanics, who will establish home manufactories for the chief necessaries of a mixed community. Willing and earnest hands can soon hew out the materials for dwellings, churches and school houses; and a town may be built up in a few months which shall have all the essential elements of comfort and success which surround the most flourishing of pioneer towns anywhere. The city of a year which has thus grown up on the Cache la Poudre is a living proof of what we write.

And there are hundreds, indeed we may say thousands of localities, equally eligible within the broad domain extending westward from Kansas, northward to British America, and southward to Mexico—a territory embracing an area more than half as large as Europe, and capable of sustaining a population twice as great as the present total of the entire Union.

The overcrowded centers of Europe are just beginning to realize the opportunities here presented; and, through the agency of properly organized colonization agencies, we may soon expect to witness an influx of population from that quarte, far in excess of anything yet witnessed in the annals of emigration. California should be up and doing in view of this great movement of labor and capital, and so direct a portion of the stream, that the Western Slope of the Sierras shall receive at least a moiety of the benefits so intimately connected with the public weal, and so fraught with material benefit to the people, individually and at large.

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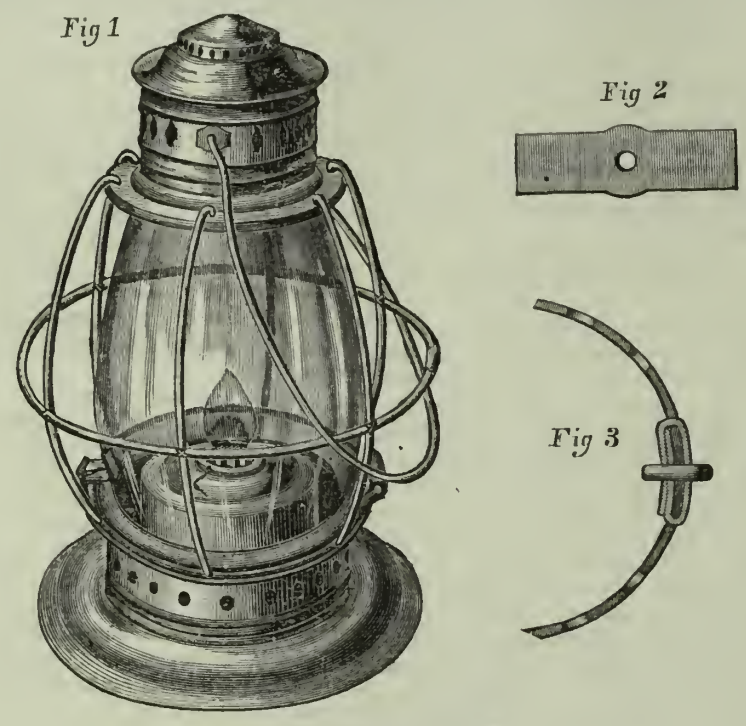
CALIFORNIA FRUITS IN WASHINGTON.—We clip the following from the Washington correspondence of the Sacramento *Union:*

—Senator Casserly has received, in good condition, olives and oranges on the branch, and fresh figs and almonds from California. Bidwell, the son-in-law of Superintendent Kennedy, also supplied his family with luxuries from California. These arrivals of good things established a cordial relation on Christmas between the Pacific coast and the East and made us feel at the seat of government that our future confectioneries will be derived from the American Paris on the slopes of the Pacific.

## Hughes' Patent Lantern.

Had Diogenes been provided with the lantern here illustrated he might possibly have had less difficulty in his search after a wise man; for, in justice to those ancient times, we may be allowed to hope that the chief trouble in the discovery of such a man arose not from the great scarcity of the article, but rather from the want of sufficient length in the part of the searches.

Mr. Hughes could have presented Mr. Diogenes with a good light-producer. We should like to have seen him recommending it to the old philosopher, as "strong, durable, easily kept in perfect order, and much better than that thing in your hand or any other now in use. Will be great economy for you to purchase, for it not only will outwear a dozen of the kind you now have, but will give so strong a light that you'll find ten large men of the sort you're after in less time than it now takes to find one small one.



HUGHES'S PATENT LANTERN.

"You see how the wire frame carries and protects the glass, so that it can't be broken. This wire frame is hinged to the base, in this way (Fig. 4). Now we can easily take out the glass, clean it, and then replace it by reversing the movement of the frame until it rests upright on the base, and is held by the spring on the side of the base opposite the hinge, this spring being so arranged with a pawl, so that it cannot retract by accident.

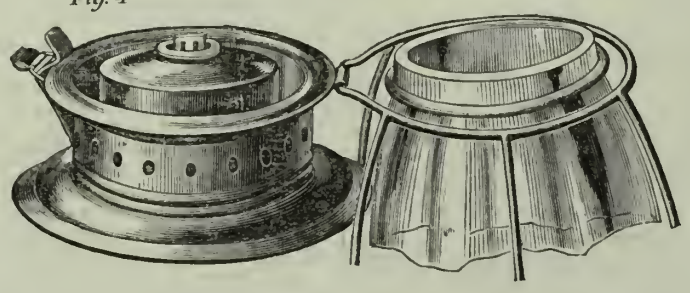


Fig. 4

"The two eyes provided, one on each side of the cylindrical top of the lantern, to receive the hooked ends of the bail, are strengthened by the addition of a strip of metal (Figs. 2 and 3), so that they can't be torn open. The strip is inserted through slits and its ends overlap; and the hole is then drilled through the whole four thickness, so that the durability is very great.

"The whole affair is solidly built, and every precaution has been taken to make it a splendid thing. You can't find another in which the glass can be so easily removed and cleaned, where the upper part is so securely retained on the lower part, the affixing of the bail is so durable and efficient, the—

"What, you can't afford it. Well, take this one on tick, and when you're in funds send me on the money. Recommend the lantern to your friends and, at the earliest moment, address your letter to John Hughes, Box 90, Buchanan Post Office, Pa."

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OPIUM CULTURE.—The San José *Independent* copies our articles on Opium Culture, and calls the special attention of its readers to the value thereof, as one of the many new crops to which our farmers should resort in their endeavors to introduce greater variety into the products of their fields.

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SILK CULTURE AND HOME MANUFACTURE IN NORTH CAROLINA.—A New York gentleman who proposes to go into the silk business extensively in Buncombe County, N. C., writes us for some special information as to labor, etc., and speaking of the industry there says: "I find, some of the people here are, in a small way, producing cocoons (from 40,000 to 100,000 each) successfully, there being no disease among the worms. They reel the silk, spin it, knit it into hose, and weave it in hand looms, into vest patterns, etc., but have no experience in preparing it for market."

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VEGETABLE PRECOCITY.—A gentleman who called at this office, a few days since, to place upon our subscription books the name of a friend, informed us that he planted in a flower pot, early last spring, an orange seed which in due time sprouted and came up. During the summer, he took the young tree, still in the pot, to the ranch of a friend in Sonoma, where it has recently put forth a well developed blossom—in less than one year from the seed!

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DRIED FRUIT.—Mr. Victor Portroon, of the Esperanza Ranch, says the Calaveras *Chronicle*, has shipped to San Francisco, this fall, 1,500 pounds of dried figs of a superior quality, which brought from 15 to 18 cents per pound. Also two tons of dried plums, which sold readily for 20 cents—all raised by himself. This result shows what a little energy may do, in utilizing the surplus products of our orchards and small fruit nurseries.

## California Agricultural Notes.

SHADE TREES.—The Santa Clara Agricultural Society advertises for sealed proposals for furnishing 400 trees for its fair grounds—100 each of locust, Monterey cyprus, South Carolina poplars and Australian blue gums.

BLOODED STOCK.—The Solano *Republican* of Jan. 19th says: Five head of Durham cows came up on the Amelia on Tuesday night. They belong to Lewis Peirce, and were recently imported from England.

SALINAS VALLEY is about eighty miles long, with an average of seven miles in width. The *Standard* estimates the area of agricultural land to be 550,000 acres. Some of it is very rich and wonderfully productive—140 bushels of barley having been produced to the acre in some places. The greater portion of the valley is owned in large grants, but the proprietors are beginning to sell off portions, as the best way to enhance the value of the balance. Probably one-fourth of that valley is under cultivation.

BARLEY IN CHICO.—Farmers near Chico are holding on to their barley, while the merchants of that place are receiving fifty or sixty tons daily from other points.

STRAWBERRIES IN JANUARY.—Fine ripe strawberries are selling in Los Angeles market at 50 cents per pound.

CATTLE AND SHEEP.—It is said that cattle stand the dry season and short feed much better than sheep; that while but very few cattle have died, the sheep suffer and perish in large numbers.

QUAILS IN IDAHO.—The Quail Association of Boise City, Idaho, are importing large quantities of these birds from Missouri and California, and turning them loose in the hills and valleys of that section.

OLIVE TREES IN PLACER COUNTY.—C. E. Carpenter is commencing to plant olive trees at Rattlesnake Bar—probably the first in the county. It is claimed that the climate and soil there is very favorable for the olive. The speculation will undoubtedly be highly remunerative.

FEEDING SHEEP.—The Marysville *Standard* gives the situation of sheep in that vicinity as follows: Sheep herders are compelled to feed their flocks considerable quantities of hay, which, at $20 per ton, is expensive. We have heard it stated that the loss from cold and lack of usual grazing will amount to 20 per cent., or equal the natural increase for the season.

## Eastern Agricultural Notes.

UTILIZING VINE PRUNINGS.—Some of our Eastern grape-growers are utilizing the new wood prunings of the vine for wine and vinegar manufacture. After being cut small they are bruised and put into a vat or mashing tub, and boiling water poured on them, in the same way as done with malt. One of the experimenters says that they produce liquor of a fine vinious quality, which on being fermented, makes a very fine beverage, either mild or strong, as you please, and on being distilled, produces an excellent spirit of the nature of brandy. In the course of his experiments he found that the fermented liquor from the pruning, particularly the tendrils, when allowed to pass the vinious and to run into the acetous fermentation makes uncommonly fine vinegar.

A LOWELL man has built a henery large enough to accommodate 3,000 hens.

THE refuse potato pomace from starch factories is now to be made into paper.

ILLINOIS and Iowa stand at the head of the wheat-growing States.

A PROFITABLE ORCHARD.—The Mendenhall orchard, of 66 acres, in Richland County, Ill., returned as the net proceeds of its last year's crop $8,312.

THE CATTLE SUPPLY.—Of the 355,277 beef cattle sent into the New York market last year, the State of Illinois furnished 204,131. Texas comes next in the list, being credited with 40,557.

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ORDERS FOR BEET SUGAR.—We see it stated that orders for large amounts of beet sugar have been sent to the agent of the Alvarado Company in this city, from Oregon, Nevada, Idaho and other distant localities on this coast. Thus it appears that this new industry will be encouraged by the people, however much merchants and manufacturers may feel inclined to dispose of the foreign grown instead of the home *grown* as well as home made articles.

# POPULAR LECTURES.

## Evaporation and Rain Fall.

[Prof. JOHN LECONTE before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

The subject of rain is of so much importance to the farmers on our coast, that we give a few extracts bearing on the matter from Prof. John Le Conte's last lecture before the Mechanic Arts College, in this city:

I stated, said the professor, that air was not the agent of evaporation, and that these two theories fonnded on the ideas that air was a solvent and that it was an absorbent of vapor, were erroneous. I showed, moreover, that in vacuum evaporation takes place instantaneously; that the vapor has a certain elastic force which we measure by the distance through which it depresses the mercury in our tube; and that an increase of temperature causes an increase of this force, although not in the same ratio.

Now there is a certain density or elastic force beyond which a vapor cannot pass. In a given space, only a certain amount of vapor can be formed, this amount, it may be said, being dependent on the temperature. If we decrease this space, the temperature remaining the same, part of the vapor is condensed back to liquid.

By the compression, then, of vapors, one comes to a limit beyond which their elastic force cannot increase, where any further compression only results in a condensation. Vapors at this limit are said to have their *maximum of elastic force*, or *maximum density*. This gives us a characteristic and important difference between *vapors* and *permanent gases*. Vapors which have reached their maximum density are said to be *saturated*. The maximum density is increased by an increase of temperature.

### Condensation by Cooling—Rain in Hot and Cold Countries.

The amount of vapor condensed by cooling depends not only on the number of degrees the temperature is reduced, but also on what part of the scale, whether high up or low down, this is done. For example, we find from our tables of figures (which the lecturer showed) that if we reduce the temperature from 90 degrees to 50 degrees, Fah., 10.721 grains of vapor of water are condensed; while if we reduce it an equal amount, but from 70 to 30 degrees, only 6.023 grains are condensed.

This fact explains why it is that a fall in temperature is accompanied by more rain in tropical than in colder countries. The higher the degree at which the reduction is made, the more vapor is condensed.

### Atmospheric Vapor—Rate of Evaporation.

All the aqueous phenomena of the atmosphere,—rain, clouds, fog, frost, snow, etc. —depend on the aqueous vapor which is mingled with the air. Now if we had no atmosphere, what would be the result? The vapors would flash up instantly, attaining their maximum density, and then all evaporation would cease. But, as we have seen, air *retards* evaporation; and its movement, the air carrying off the vapor mixed with it, gives chance for more evaporation.

If the ocean were universal, covered all the globe, we would not have *more* rain, but probably *less*; for the land acts as a condensing apparatus, and thus causes the vapor to be constantly removed from the surface of the water, enabling more to form. If water were universal we should probably have only a gentle distillation, and constant fog in the polar regions.

The causes which influence the *rate* of evaporation may be reduced ultimately to five:

1. The extent of surface of the liquid. The rate is proportional to this.
2. The temperature of the liquid.
3. The elastic force of the vapor at the surface of the liquid. If such vapor is at its maximum density, no further evaporation can take place.
4. The wind, which removes the vapor present.
5. The pressure on the surface of the liquid. The rate is inversely proportional to this.

The rate of evaporation depends on *all* these points; and many mistakes have been made in trying to explain phenomena by one alone. Thus the fact that more rain falls in the northern than in the southern hemisphere, while there is more water in the southern than in the northern, has forced those who have supposed evaporation to depend only on the extent of surface, to get up many a wild theory, about the vapor being generated in one hemisphere and then carried far away and deposited in the other. But vapor doesn't wander many hundred miles from the place where it is generated.

### Dew-Point—Humidity of Air.

If the vapor is not at its maximum density, it acts like air or other permanent gas, as stated above. If the aqueous vapor in the atmosphere were at its maximum density, a reduction of temperature would always condense it. But owing to the mechanical impediment of air, it is not generally in this condition. Now the temperature at which the condensation of the vapor begins, that is, the temperature at which the amount of vapor in the atmosphere is sufficient to saturate the air, is called the *dew-point*. [For instance, suppose every cubic centimeter of air held 13.63 grammes of water vapor, while the temperature is 20 degrees Celsius. The air is not saturated with this amount at this temperature, but it is saturated at 16 degrees. Therefore, 16 deg. would be the dew-point for this case.]

When we speak of the humidity of the air, we do not mean to give the actual amount of vapor in the air, but the proportion of this amount, and the amount which it can contain at the given temperature, or the nearness of the actual temperature to the dew-point. [Thus the air is "dry" when it is far from its saturation-point or dew-point, but "moist" when it is near to this. Thus, in a hot day, (as the higher the temperature, the more vapor then can exist), the air can contain much vapor, and yet be "dry," while, on a cold day, it can be "moist," although containing only a fraction of this amount.] Humidity is then the ratio of the elastic force at the dew-point to that at the given temperature. We reckon it according to the formula: Humidity$=100+(e \div E)$ where we multiply by 100 to get the result in per cent., and where e=elastic force at the dew point, and E, the elastic force at the given temperature. For instance, suppose our dew-point to be 50 degrees, and our actual temperature to be 70 degrees, Fah. As the elastic force at 50 deg. is 0.361 (in. mercury), and the elastic force at 70 degrees is 0.733, (these numbers have been found by experiment), the humidity is 49.2 per cent. For, according to the formula,

$$\text{Humidity} = 100 \times \frac{e}{E} = 100 \times \frac{0.361}{0.733} = 49.2$$

As the elastic force increases more rapidly than the temperature, if we mix vapors, which acquire their maximum density at different temperatures, we get a precipitation. We can reckon this amount of precipitation. Thus, we mix a cubic foot of vapor of maximum density at 90°, with a cubic foot of vapor of maximum density at 60°. We have then 2 cubic feet at the mean temperature of 70°. Our tables show the first to weigh 14,810 grs.; the second, 4,089 grs. The two then weigh 14.810 4,089 = 18.889 grs.; or one foot weighs one-half of this, or 9.449 grs. But at the temperature of 70°, the maximum density can be only 7.992 grs.; therefore 9.449-7.992 or 1.457 grs, are condensed.

### Rain Theories.

Hutton evolved two theories of rain from these principles. When the air bearing vapors comes into hot regions, it is heated, carried up into the higher regions of congelation, and the vapors condense and are precipitated in heavy showers of rain. 2. When a mixture of warm air and warm vapor with cold air and little vapor occurs, we have gentle rains. The first occurs in tropical regions; the second in the temperate zones.

In certain places in the tropical region, particularly in the forest of Brazil, for instance, the rains occur at regular times even to the hour, Thus, the nights and mornings are clear, but at noon and during the afternoon it rains. This may be thus explained. At the rainy season the sun is nearly vertical in such places. By noon it has heeded the land so that the winds bearing the vapors are carried directly up to the colder regions of space and the vapors are condensed and fall as heavy rain. By night the heat has decreased, and the winds regain their horizontal direction, carrying away the vapor during the night and morning, (which are therefore clear) until the next noon, when the same phenomenon occurs as before. This takes place for, say 90 days, when the position of the sun has so changed that the necessary conditions are not presented, and the dry season occurs.

The lecturer proceeded in his application of the matter to England and India, giving data, and examples. He then came to the case of San Francisco. Here, as the ocean is not warm, while the land is, we have no rains, except when the wind is from the south, when the vapors brought by it are warmer than the land and condensation, or rain, follows. The next lecture will be on Boiling, and the Spheroidal State will be particularly considered.

## CABINET OF NATURAL HISTORY IN ALAMEDA COUNTY.

[Written for the PRESS.]

EDITORS PRESS—There are a few men in this world who find pleasure in devoting their time and talents to science and natural history. Not always averse to society, they are never leaders in it, and generally move along in a quiet, unobtrusive and modest manner, neither attracting the observations of the common people, nor being attracted by the ordinary or frivolous excitements of the day.

Such men are generally linked together by congeniality of tastes into a sort of social union; but it seems to be a peculiarity with many of them to rather seclude themselves even from each other, so far as social communion is concerned. Their ambition is more to learn than to be seen. We venture the assersion that there is not a better, nobler or more useful class of men and women in this world than such as these, who find food for thought in the forms, ways and mysteries of Nature; who enjoy the book of knowledge that opens leaf by leaf to their searching; who own the riches of the world without caring for its glitter and gloss, and who are happy in a serene faith in Him whose love binds them with goodwill to their fellow-men.

We are unwittingly led to these preliminary remarks, which are, at least, true in themselves, while thinking upon a recent visit it was our good fortune to make to Centerville, Alameda County. It is not generally known—indeed but few people in Alameda County know of the choice cabinet and collections of Dr. L. G. Yates.

The doctor is an indefatigable worker and student in every branch of natural science. His collections of geological, mineral and archeological specimens, etc., are wonderfully complete and interesting. He has a complete set of specimens from all the different formations of the silurian, derouian and carboniferous ages. His collection of reptiles, birds, insects, shells, etc., is most interesting. He aims especially to preserve specimens of all the animate and inanimate things of Alameda County, and is writing the natural history of the county. He is quite an expert taxidermist and preserver as well as collector of natural curiosities.

He has collected many specimens of fossil animals; and also human remains and implements from the old Indian mounds in California, as also several strange samples from the "stone age." Several of these, obtained with difficulty and expense, he has sent to the Smithsonian Institute, with which he is in constant communication, reserving plaster casts of the same for his own cabinet. "No one collection that has been received by us has proved of more interest than yours," wrote the Secretary of the Institute, on the receipt of one collection out of many, sent to that National Museum by Dr. Yates.

The doctor has many books of great value to him which he has received in return for his many favors to the Institute, but like most of those who devote their time to the advancement of science he receives very little assistance or encouragement from those who might and should second their efforts. Still, he has some friends, good and true, who appreciate his commendable labors, and give credit to whom credit is due.

Should it be the good fortune of any of our readers to visit Centerville, they must not forget to call on the doctor, who is always pleased to show his curiosities and explain their meaning. S. H. H.

THE CANAL BILL.—We have information from a reliable source, that the bill about to be presented to Congress asking for a land subsidy to aid in the construction of a canal through this country, will be so guarded as to reserve all mineral lands to the Government, and protect actual settlers to rights already acquired, and all other rights acquired by any one prior to the passage of the Act. It will also provide for the sale of water here and elsewhere along the line of the canal, wherever a demand may be made, to the extent of its capacity. It will also limit the price of water per inch per day, at the usual measurement to miners,—*Placerville Democrat.*

## THE STATE UNIVERSITY.

The Board of Regents met on Monday, principally to settle indebtedness incurred lately. Bills, amounting to $4,616.34, were ordered paid, and others, amounting to $13,185.61, were ordered paid when approved by the proper committees. The Board adopted a resolution offering, in effect, to pay $20,000 cash for the Brayton Estate instead of $22,000 in interest-bearing bonds payable in 10 years. Resolutions were also adopted, giving Mr. George Tait the title of Assistant Professor of Ancient Languages, empowering this gentleman to employ such assistants as have been authorized by the Board for the Fifth Class, during the present term; also providing for permanent instructors in this class.

The construction of the University building is to be stopped, as this has cost more than was estimated. A compromise was effected with the contractor who was to furnish the bricks, and from to-day on all work is to be suspended.

We are to wait, then, an indefinite period of time, before we can have our University building, of which so much has been said. The action of the Board is probably the right one in the present case, but this result does but little justice to the financial ability of the Regents, some of whom are noted as the sharpest business men on the coast. We are informed that $250,000 has been expended on the University during the past year, yet we have but a poor showing at the present time. We once thought that we had a University amply endowed and provided for in every respect, one which should make the name of California noted throughout the educational world. Yet here we are with a few students and a large deficiency of funds in the treasury. Shall we wait for the millennium for our University to acquire a respectable standing, or shall we be obliged to have another grand lottery?

THE AFRICAN DIAMOND FIELDS.—After all the glowing stories of the heaps of diamonds found in the South African fields, we see it stated that the gems prove, on scientific examination, to be merely "lumps of translucent quartz." How far this is true, we cannot say with authority, but it is easy enough to test the matter without room for question. If the assertion prove true, it will be a sorry story for many.

ANOTHER PETRIFIED FOREST.—The Russian River *Flag* of Jan. 12th, announces the discovery of a field of petrified trees:—It is situated near the ranch of Charles Alexander, at the lower end of Alexander Valley, and about 12 miles from Healdsburg. He does not know over what extent of country it exists, as he had not an opportunity of prospecting extensively at the time he was there. He saw a large number of trees and stumps, and a great amount of the limbs in broken fragments, all over the country. Many of those that remain standing are on a hillside and stand perpendicular to the surface of the ground.

WHAT SCOPE OF COUNTRY WILL SUPPORT A RAILROAD.—Col. Hammond, an experienced railroad man, says that a territory ten miles wide, on each side of a railroad, in a county capable of sustaining an ordinarily dense population, is capable of supporting it. Whenever railroads run out from any commercial center, through such a country, they will be sure to bring a sufficient population to support them, within a very few years after their construction, if it is not already there when the road is projected. This is for railroads of the usual construction and equipment. It is but fair to infer that narrow gauge railroads, being cheaper of construction, can be supported by a proportionally less area and population.

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SAN FRANCISCO:

Saturday, January 28, 1871.

## OUR WEEKLY CROP.

We invite our readers to enter and inspect our new Country Residence, which we have just erected as a model of neatness, beauty and cheapness combined. We think they will be pleased with the arrangement. They can here look over our library, ever on the increase, of Mechanical and Scientific Progress, and then read the travels of our correspondent from Omaha to Chicago, and those of him who writes of Agriculture and Manufactures in San Joaquin County. Dr. Thomas, formerly President of the Vacaville College, treats us to a very interesting discourse on the History and Progress of Farming, and we are told of the Silk and Fish Interests in Napa.

Visiting, then, the Apiary, we witness the proceedings of the "busy bee," and see some new food for these little insects. We see a New Grape near by, which has just been imported into our vineyard. We converse on the Profits of Beet Sugar Manufacture, and are given some interesting statistics, and this subject naturally leads to talk concerning the New Silk Project at the Mission San Jose.

Colonization Movements interest us all, and if any are in the dark on such matters, a New Lantern is at hand to throw light on the subject. By its light we can read the latest California and Eastern Agricultural Items. The rain, perchance, driving us under shelter, Prof Le Conte explains many facts connected with Evaporation and Rain Fall, and if we have still time, we visit a Cabinet of Natural History, and gaze at the unfinished foundation of our State University, moralizing thereon.

At the proper time, we visit the grain fields and witness the difference between Spring and Winter Wheat. We talk with the farmers and tell them that What We Want is their kind aid and co-operation, showing that the Prosperity of the Farmer is our object and the greatest good of the community.

The Report of the State Agricultural Society is of the greatest interest and we therefore read the first part of it, just before entering our Home Circle. Here we refresh ourself with light talk and conversation, with stories and poetry suitable for the family, and with much valuable Household Reading.

A San Diego friend tells us of cheap Beginnings in Farming, of Beet Culture and Cheap Sugaries—an interesting matter for farmers. Our coachman shows us a Harnessing Machine, by which he can unharness a horse in 30 seconds. Then we study the habits of the Young of Oysters—and with our Market Reports have finished with the weekly crop.

WANTED.—Copies of No. 2 of the PACIFIC RURAL PRESS, dated Jan. 14, 1871. Persons having that No. to spare will oblige by sending it to this office. We are not able to supply all orders for it. The demand for our new paper has exceeded our most sanguine expectations.

THE MONEY MARKET.—The price of gold opened in New York, on Wednesday, at 110⅝. Legal Tenders 91@91¼c.

Money in San Francisco is in good supply for mercantile purposes at 1@1½ per cent., and on long terms 10@12 per cent. The quantity of money now flowing into the public institutions for employment is increasing, and the prospects for the year in this respect are good.

## SPRING AND WINTER WHEAT—THE DIFFERENCE.

All plants are more or less influenced by climate, habits of growth, and the mode of treatment to which they are subjected.

The intelligent orchardist, in selecting his fruit trees will, as a general rule, choose from such as have been grown as nearly as possible under in the same circumstances of soil and climate as those to which he expects to expose them in their future growth. The only variation from this rule should be—that for trees whose natural habitat is in a warmer latitude, he should seek his supply a little south, or where it is somewhat warmer than at his own location. If he desires trees that are natives of a colder region, he should go a little north, or where it is colder for his stock. The same rule holds good in roots, vegetables, etc.

Our grains are also more or less influenced in the same way, and it is to this peculiarity we owe the difference which exists between Winter and Spring Grain. Any spring wheat, of healthy and vigorous growth, may be made winter wheat by successive sowings in the fall, and subjecting it to the rigors of winter. Much of it may fail the first or second year; but, with proper treatment, it will gradually accommodate itself to exposure, until it becomes good "winter wheat." In the same manner winter wheat may become spring wheat. Spring wheat differs from winter wheat only in the fact that it has been sown in the spring, instead of the fall, for a succession of years. The same remark applies to other grains.

In this State and Oregon—in the valley portions especially—fall sown (winter) wheat is preferable to summer wheat. A late number of the Walla Walla *Union* gives the following item bearing upon this assertion:—

DIFFERENCE BETWEEN WINTER AND COMMON WHEAT.—In a conversation with one of our mill owners, he remarked that he would give from 10 to 15 cents more for a bushel of white Fall wheat than for the spring sown club wheat; the latter, he informed us, too, constitues four-fifths of all the grain raised in this valley. There is fully that much difference in the true value of the kinds named.

### What kind of Wheat Shall we Raise?

We should be pleased to hear from some of our practical wheat growers, and mill men upon the question of the kinds or varieties of wheat which do best in this State. Possibly there are varieties which are preferable in one part of the State, but not well calculated for others. It is hardly to be supposed that any given variety will flourish equally well on the hot, dry plains of the lower San Joaquin and Tulare valleys, and upon the higher, cooler and more moist lands of the extreme northern part of the State. It might also be reasonably supposed that the high, red lands of our mountains might do well with some varieties, that would from inferior in the black adobe soils which cover so large a portion of our great valley areas. These are matters which it might be well for our people to consider. If it is profitable to raise wheat at all, it must pay better to raise the best all the time, or that which will command the highest price in any given locality, or for any given purpose—as for shipping or for home consumption.

UTILIZE THE CARCASS.—When a farmer, loses a horse, or ox or any other animal, instead of leaving the carcass to be devoured by coyotes or crows, he should cover it with six or eight times its bulk of earth, and thus arrest the fertilizing gasses which will be thrown off in the process of decomposition. By so doing he would secure a quantity of manure which would pay him five times over for the trouble it would cost him; for there is very little land in the older portions of the state, which might not be greatly improved by the application of fertilizers.

## WHAT WE WANT.

We want our readers, and especially our practical and progressive farming readers, to put themselves in communication with us, and send us reports of progress, of experiments, etc. We would like to hear of the best crops of grain, of vegetables, of fruit, and learn how they were produced. We want to know how much such and such crops have cost, and how much profit has been realized from them. We want to hear what experiments have been made, and the results which have attended such efforts. Such information spread before the people, through the columns of the RURAL, will do much good, and greatly encourage and improve our agricultural interests generally.

We are especially desirous to hear from experiments in diversified farming—of efforts to turn our wheat lands, at least in part, to a more profitable culture. We would also like to hear of improvements in wheat culture. Who, by a change in his mode of culture, by drilling, perhaps, instead of broadcast sowing; by deeper plowing; by the application of fertilizers; by any particular mode of fallowing; by a better selection of seeds, or who, by any other means, has succeeded in getting an increased yield from his fields, without a proportional increase of expense. Such facts are important and instructive, and take nothing from the giver, save the time of writing and a three cent stamp. We also want facts and experience in sheep and cattle raising; we want to hear from our dairy men, our poultrymen, our fruit growers, etc.

We don't claim to know all about farming—in fact we profess to know very little about it; but we do aspire to, and claim a reputation for industry and perseverence in search of information; and a genuine interest in the welfare and progress of the farming interest on this Coast. To this end we invoke the aid and coöperation of the farmers themselves. We desire and expect to make the PACIFIC RURAL PRESS—not the editors or publishers—but the PRESS itself, the great "Head-Center" of all knowledge, pertaining to agriculture on this Coast. We expect to do this by filling its columns from week to week with the thoughts, the ideas and the experience of those who are practically engaged in this great industry. We wish to make the PRESS the common medium of communication between the farmers of all the diverse and distant sections of the Pacific Slope.

We are compelled to originate here a new school, or rather a new practice of agriculture, as the experiences and teachings of other countries fail in their applications here. To do this we must aid and council one another; and the work of the publishers of this paper is to furnish the medium for such intercommunication, and such exchange of ideas. Our columns will be made more or less valuable according as you use the facilities thus freely offered.

CHEAP FARES.—The Oakland *Transcript* says it is the intention of the Central Pacific Railroad Co. to put down the rate of emigrant fare in the spring to $35 in currency. Arrangements are at the same time being made to reduce the European rates to New York, so that a through ticket from Liverpool to San Francisco (steerage of course) will be only $90 in currency; from Antwerp to this city it will be $94. At this rate of passage California may expect large accessions to her population. When large colonies are transported, under the care and directions of a single agent, a still further deduction will be made.

COTTON OVERLAND.—Two car loads of cotton were loaded in this city, last week, and started on their journey East, overland. This was a sample shipment of some exceedingly fine quality of this textile, raised at Tahiti. It is valued at seventy cents per pound.

## PROSPERITY TO THE FARMER.

Everybody, in town, city and country, is just now rejoicing in the prosperity which the late rains are sure to bring to the farmer and to the miner. Prosperity to these two classes implies and carries with it prosperity to all. Of no other vocations can this remark be made with equal truth and force. On the contrary, in regard to many others the opposite is true. Stock-jobbers and speculators make their wealth mostly out of the losses of others, and not unfrequently by means carefully devised to that end. There are many others, also, who make their fortunes from the misfortunes of their neighbors. But not so with the men who carve out their fortunes and win competence by the culture of the soil, or by delving still deeper into the earth, in search of the precious or useful metals and minerals. Nobody is ever made poorer by their prosperity; on the contrary the great masses are improved, enriched and spurred onward by the example and material results of their industry and success. They are the great creators of value—the great exemplars of industry.

There are in the United States not less than six millions of farmers—more than are to be found in any other class—and among them are recognized some of the highest and noblest types of humanity. Since science has been brought to bear in the field of agricultural industry, the farmer's occupation has been vastly improved, elevated and ennobled. He is no longer regarded as the plodding machine of routine labor—the commonest in which a man could engage.

If the farmer of to-day would thrive he must do something more than "hold the plow,"—he must study and think as well as work. The intelligent farmer of to-day, as has well been said, can round, equally well, a hillock or a phrase; he can plow straight without writing crooked; he can build a picturesque fence, and so arrange words as to make them pictorial; he has fully realized the happy ideal which makes thought healthful with labor, and labor dignified with thought. The representative farmers of to-day are men of influence and position—men of ideas as well as men of work. When we make honorable mention of such, we are but rendering a just tribute to the most numerous, the most respectable and the most worthy class of men in the land; a class whose prosperity may be invoked as productive of good and good only to their neighbors, and to the whole country.

MILLS IN THE STATE.—There are 158 grist mills in the State, with an aggregate of 358 run of stones. Seventy of these mills are driven by steam and 88 by water. Their aggregate cost was about $2,000,000 and their capacity 16,000 barrels of flour.

The number of saw mills is 417; of which 231 are driven by steam, and 196 by water. Their cost was about $3,620,000, and their daily capacity 4,300,000 feet of lumber.

There are seven woolen mills in the state; but the statistics with regard to their capacity or production is very meagre.

There is one knitting mill, one bagging mill, and one rope manufactory, all run by steam.

The quartz mills number 422; of which 207 are operated by steam, 198 by water and 17 both steam and water,—using the former only when the latter fails. The aggregate number of stamps is 4,673. The aggregate cost of the quartz mills has been about $6,500,000. Nevada is the leading county for quartz mills, Tuolumne second and El Dorado next.

DOG RACES.—The residents of the San Joaquin valley are indulging in the new sensation of dog races. At one of these races, which lately came off, 15 canines were entered.

## A NEW SILK PROJECT.

We have been shown a letter wherein a tract of some 3,000 acres of land, at the Mission San Jose, is offered for sale at $400,000; the project being for the establishment there of an extensive silk producing and silk manufacturing establishment. The mover in this matter is Joseph Newman, the pioneer silk manufacturer of this state, who proposes to organize a company to make the purchase, and start the operation, which will be conducted on the co-operative plan.

Mr. Newman assures us that quite a number of capitalists have already expressed their willingness to take hold of the enterprise, and he feels confident that he shall soon be able to secure the additional amount required to place the scheme in a shape to commence operations.

The capital stock proposed is $500,000, in shares of $100 each, giving $100,000 for a working capital. The plan is to purchase the above mentioned tract, to build tenements on the same for the benefit of the operatives employed, and to charge such rents as will be convenient for both capital and labor. Members will be entitled to hold as many shares as they want, but with limited rights of voting, as follows:—The holder of one share, one vote, three shares, two votes, five shares, three votes, and each additional five shares, one vote. The stock will have to be paid in full, in small monthly or quarterly installments.

Each operative at the factory, after found competent by the General Superintendent, must become a shareholder of the company. Operatives who occupy tenements for three or five successive years, and pay rent for the same will be entitled to a free deed.

In order to secure experienced and reliable labor it is proposed to set aside $25,000, for the purpose of helping to this state such emigrants as may be needed, the amount advanced to them to be deducted from their wages in small monthly instalments.

Apprentices, of both sexes will be taken, who, after serving their time, will be entitled, in addition to their regular wages, to two or three shares of the stock, according to the time and nature of service.

It is proposed that the company shall plant, buy, and sell everything connected with the silk interests, and manufacture silk in all its branches in conformity with the demands of the market, solely from California cocoons, or raw silk raised and reeled in California. If it goes into operation, 200,000 mulberry trees will be planted the present season.

No more opportune time than the present, has ever been presented for inaugurating such an enterprise. The recent advance in the price of silks, growing out of the European war, will probably be kept up for many years. Mulberry trees can now be had in this state, at a very low figure. The eggs being no longer in demand. Silk worm raisers in this state must this year turn their attention exclusively to raising cocoons, which will be furnished cheap to any establishment that may have the means of utilizing them. Moreover, the stoppage of the silk looms of France has closed a large market for raw silk, which will now seek purchasers nearer home and at greatly reduced prices.

Such advantages, coupled with the superior economy and efficiency of the co-operative system of labour, and the plan proposed of securing a proper proportion of skilled labor from abroad, ought, with proper management, to make the projected enterprise a paying one. If successful it would prove of immense benefit to the state at large in furnishing a ready, home market for the immense number of cocoons which must hereafter be produced here, and in giving a practical start to an industry which, fairly inaugurated, will furnish full employment, not only to our present population, but to any number of future millions which may hereafter be attracted to the Pacific coast.

# CALIFORNIA AGRICULTURE.

## REPORT OF THE STATE BOARD OF AGRICULTURE FOR 1870.

Through the courtesy of the Secretary, Maj. Beck, we are enabled to commence the publication of the Report of the State Board of Agriculture for 1870, this week. We shall continue its publication next week, and shall also give our readers the full proceedings of the State Agricultural Society at the annual meeting which was held at Sacramento yesterday. We ask the farmers of the State to give the report a careful perusal.

*To the members of the State Agricultural Society—Gentlemen:*—In presenting to you our annual report at this time we feel no little pride and satisfaction in being able to say that the State Agricultural Society, the management of which has been entrusted to our care, was never in a more prosperous condition, financially and otherwise, than at present.

A comprehensive statement of the transactions of the Board for the past year, the present position and wants of the society, together with some recommendations for changes, with a view to rendering the society more efficient in assisting in the development of the State's numerous agricultural and other resources will be found at the close of this report.

In reviewing the progress and results of the industries of the state for the past year the Board find abundant reason for indulging in most sincere thankfulness to Providence for the general prosperity that has been vouchsafed to our entire people. In looking over the industrial prospects of the future we also find abundant reason for entertaining most sanguine hopes for an uninterrupted continuance of a healthy and substantial progress in all the arts, sciences and industries that contribute to the general prosperity and happiness of a people.

The long continued dry weather during the past few months was beginning to cause serious apprehensions among all classes of the community that we were about to experience a repetition of the disastrous consequences of a dry season like that of 1863 and 1864. The late rains, however, and the general change of the weather gives promise that the ensuing year will be one of the most prosperous that the State has ever experienced.

In pursuance of a better and more rational system of agriculture which our grain farmers have been adopting for the last few years, an unusually large breadth of land was *summer fallowed* during the last spring. The weather for farm labor, the fore part of the present sowing season, being so favorable, all the land thus prepared has been put in early, and in a most excellent condition. There has been sufficient rain to keep the work of planting going on continuously in most portions of the state, and it is believed that as a general thing land has been in a better condition for working and planting than in seasons when we have experienced a greater abundance of wet during the planting time. If we have the amount of rain fall between this and spring which we may now reasonably expect we may look forward for one of the most abundant grain harvests we have ever experienced in the state. The prospects of an unusually large foreign demand for our surplus grain were never better than at present. The supply of wheat on hand at the present time at Liverpool, New York, Chicago and Milwaukee, the great centers of concentration of the bread stuffs of the world, is reported to be 4,778,000 bushels less than it was one year ago. The war in France and Germany, if continued until after the time for planting in those countries is past, must cause a very great falling off in the production of bread stuffs there the coming season, while the excess of consumption and distruction by the armies over the ordinary consumption of those countries in time of peace must necessarily be very great. The present indications are that Germany and France will not only fail to produce a surplus the coming season, but that they will themselves be heavy buyers for their own consumption.

### Silk Culture.

As a consequence of the war between France and Germany, this promising industry just in its infancy in our state, has met with a very unexpected and much to be regretted loss. Our silk culturists, encouraged by previous large and apparently constant demand for California silk eggs for European countries, turned their product, for the past season, mostly into that article. Orders were received from Paris early last spring for large quantities of eggs, and the prospect for good profits to producers looked very flattering. When the war commenced however, the orders that had been received were countermanded and no others sent out. Great injury to all the industries of France, and especially to those connected with silk culture and manufacture is the necessary result of the war, carried on as it has been, entirely within the borders of that country. The sale of the California eggs has thus unexpectably been cut off and the product of the past season rendered almost an entire loss. As the eggs will necessarily hatch in the hands of the producers, no consideration can be realized from them except for those necessary for home consumption. Through an anomalous combination of circumstances, the immediate demand for cocoons has also been injured by the war. The silk manufacturing machinery of France, being nearly half that of the world, has heretofore been able to consume nearly all the silk produced in Europe, and has also required large importations from the silk districts of *Asia*. This machinery is in effect now most entirely idle. As a consequence, the cocoons and raw silk produced the last season in many portions of France, in Italy, Spain and other parts of Europe and in China and Japan are seeking a market elsewhere. The capital and machinery employed in silk manufacturing, outside of France, are insufficient to handle and consume the large amount of extra material thus offered. Thus, for the present, the market is overstocked with cocoons and raw silk—a thing unknown in the history of this industry in the past, and not probable to occur again. All such anomalous conditions of commerce and trade, in articles of such universal consumption, are followed by changes which prevent a repetition of of themselves, in the future. Such changes are already taking place in reference to these industries.

Manufactured silk goods are rapidly increasing in value and are likely to go very high. Capitalists in our own country are seeing the promise of certain and large profits, are seeking investment in silk factories. Heavy manufacturing houses in Lyons and other portions of France that have heretofore had only agencies in the United States for the sale of their goods, are preparing to transfer their entire establishments to this country. Thus the war in France has set the eyes of silk manufacturers towards the United States. The fifty per cent. ad-valorum duties, which all manufactured silk goods imported to this country have to pay, gives them a strong invitation and inducement to take advantage of it. The fact that raw silk and cocoons may be imported free of duty, opens the door for the immediate supply of the raw materials, while the favorableness of the climate, in many portions of our country—and especially in California, for the production of silk, guarantees a plenty of that raw material close at hand for all future time.

If peace was to be concluded between Germany and France, immediately, the silk crop of France, for the next year would necessarily be very light if not a total failure. It will require years to repair the injuries already done to this industry, and in the presence of the disease of the worms which has prevailed there in the past, and most likely will in the future, it is not probable that the production will ever reach the maximum raised before the war. Thus the temporary loss to our silk culturists, is accompanied with a promise of almost certain compensation in the immediate future, of an hundred fold—and the industry in which they are engaged has received an impulse as unexpected as it is encouraging. By careful inquiry among our silk growers we learn that the disease among the worms in some localities, the past season, was entirely confined to those of French or European origin. The Japanese worms proved hardy and healthy in all cases, even when fed in the same buildings and close by the side of the French which were badly diseased. Though the first importations of Japanese eggs were of an inferior kind, making small cocoons, of late, varieties have been obtained from the extreme north of Japan, which are in no way inferior to the best French annuals, in the quality or quantity of the silk produced, and are at the same time perfectly healthy and reliable.

There are more mulberry plantations being set out this season than at any planting season heretofore and on the whole the industry is in a most promising condition. If our farmers generally would plant a few mulberry trees about their buildings and on the line of the highways and division fences, they would answer the double purpose of ornamenting and beautifying their places and laying the foundation for the general introduction of a pleasant and valuable industry. Thus also an important step would be taken towards a more diversified and hence more agreeable and profitable agriculture.

### Beet Sugar.

In the report of the Board for the year 1864 and in every annual report since that time, the attention of our people has been most earnestly called to the feasability and importance of the production of the sugar beet in our state and the manufacture of sugar therefrom. So important have we deemed this subject that we have returned to and repeated our recommendations year after year and have from time to time shown by carefully compiled statistics the amount of gold California was annually exporting in return for sugar imported.

Within the last seven years—and since we first called attention to this industry, and demonstrated its practicability in California, we have paid for imported sugars and molasses over $34,000,000. In the light of this fact we are able to place some estimate upon the importance of the successful initiation of this industry in our state during the past year, upon a scale that leaves no doubt as to its entire success in every particular. We may now look forward with a certainty to the time. and that not far distant when we shall be able to produce all the sugar and molasses we shall need for home consumption, and we see no reason why we may not become exporters. Thus by the addition of a single new industry we shall save for distribution among our own people—and mostly among the laboring class $5,000,000 a year.

Other and still greater advantages may be looked for as a consequence of this new industry. It has been demonstrated that the manufacture of sugar from the beet contributes greatly to increase the other products of the soil. The extraction of the saccharine matter deprives the root of only a part of its elements. The pulp and foliage of the beet supplies for animals an abundance of food, and the returns of the sugar works will enable them to produce manures, which will indefinitely increase the fertility of the soil. In a single province of France, where the product of wheat before the introduction of this industry was but 961,173 bushels, and the number of cattle 700, a few years after its introduction the wheat product had increased to 1,158,256 bushels, and the number of cattle to 110,500.

In this connection we would suggest that experience in France, Germany and other beet sugar countries, has proven that the best land for this purpose is that which will produce the best wheat or secretes the greatest amount of saccharine matter in the grape. Many sections of this State, where the land has been for many years subjected to an annual cropping of grain, and is for this crop nearly exhausted, are as well adapted to the production of the sugar beet as the richest alluvial bottoms. The beets on such lands will not grow so large, and the product of the root per acre will be less in tons; but the beets will be sweeter, and the number of pounds of sugar per acre will be greater.

We would also suggest the practicability and propriety of the organization of sugar companies among our farmers, and the manufacture of sugar on a scale suited to the means and facilities of the company. One hundred thousand, or fifty thousand, or twenty-five thousand dollars are not necessary to a successful beginning. On the contrary, small factories conducted on the coöperative plan and located in the immediate vicinity of those interested in them, are generally more economically managed and pay greater dividends on the capital invested. Farmers should not wait for capitalists to monopolize the profits of this industry. Good lands, the coöperation and intelligent direction of labor, with a small amount of ready money with which to put up buildings and purchase machinery are all the elements that are necessary for the successful and profitable manufacture of sugar. The process of making sugar from beets is as easily learned by any farmer and may be as successfully practiced by him as the process of making cheese from milk.

[To be continued.]

A NOVEL WAY TO ALLAY HUNGER.—It is said that the hunters of Siberia, when hard pressed by hunger, take two thin pieces of board, and placing one on the pit of the stomach and the other on the back, gradualy draw together the extremities, and thus allay, in some degree, the cravings of appetite. A similar practice is known among the South Sea Islanders. This is supposed to be a very economical kind of board.

BY OUR LADY EDITORS.

## SAVED BY A SHADOW.

BY NELL VAN.

[Written for the PRESS.]

Twenty years ago San Francisco was occupied by a very different class of people from those who now tread its streets. Among them were adventurers from every clime. Some had left comfortable homes and good business prospects, from a desire to grow suddenly rich; while others craved novelty, tired of the monotonous sound of counting house duties and mercantile pursuits. A goodly sprinkling of gamblers and world's idlers swelled the tide, and even emigrants from Botany Bay—ex-convicts ("Sidney Ducks," as they were then called) elbowed their way among the throng, with consequential air.

As yet but few women were bold enough to venture so far beyond the proscribed limits of civilization, and in consequence many a manly heart smothered its tenderest emotions, and sighed for the companionship so much needed.

Tobacco smoke issuing from hundreds of living chimneys rendered the atmosphere both stifling and irritating to even healthy beings, and the general spirit of Yankee enterprise which pervaded the place awakened the astonishment of the drowsy Spanish settlers, who were at a loss to comprehend the situation, and have never satisfactorily settled the question whether this sudden invasion of their rights has been for their ultimate advantage.

The Post office was the chief object of interest in this, then canvas-roofed town, and many were the friendships first formed among those whose habit it was to take position in line upon the arrival of each mail steamer, and there, in turn, receive his allotted portion.

I had often observed a youth with beardless chin and anxious eye hasten to or from the spot, with a tell-tale face, which plainly discovered to the observer whether or not his desire for news had been gratified; and upon one occasion we exchanged glances, which was all the introduction needed between sympathetic hearts. The result was, we walked away arm in arm, and immediately entered into conversation concerning each other, and the contrast between our present and past surroundings.

It had been my custom, on my way either to or from the Post office, to pass a certain dwelling, on Clay street, whose wide windows and a well-swept door-step bespoke the thrift and neatness of its inmates. Sometimes, when the curtains were lifted, a cheerful fire was seen blazing upon the hearth, and once I had observed a woman's hand brightening the window-panes. To those accustomed to the joys of domestic life, as most of us were, this sudden transition from such a life to the one now before us, was like the drifting of a boat at sea, without sail or compass.

We missed the gentle voice of mother or sister who, with earnest solicitude, once followed us to the door with overcoat or scarf, when going out in the evening air; or the wistful look of wife or dear friend who, through the misty window-pane, watched tenderly for our approach. Now how changed! No one to care for our outgoing or in-coming. We were like straws driven about by the wind; and letters from home were the only links uniting us to the true and beautiful in life, amid the corrupting influences by which we were surrounded. Was it a wonder then that the welcome sight of a home stirred a chord in our inmost hearts, and caused us to step out of our way to pass it, and be reminded of what had once been ours?

My new-found friend and myself were slowly passing this dwelling, when, glancing at the window, our gaze was transfixed by a shadow on the curtain. A girlish form, with clasped hands and drooping head, stood in an attitude of despair, while the stalwart figure of a man muffled to the chin, with hat in hand, approached, and laying his hand upon her shoulder, pressed his lips to her brow, and in an instant was gone.

The street door suddenly opened; a tall figure passed out and was lost in the darkness. But there, on the window curtain, still remained the motionless shadow in the same position of utter dejection. We remained riveted to the spot, till at length the shadow slowly vanished; and drawing my companion's arm within mine, we walked on saddened and thoughtful.

I was awakened from a reverie by the youth, who said, lightly, "I say, wasn't that a peep into somebody's love-life? Wouldn't you like to be where you had such a charmer to feel sorry when you left her? Can you make out whether she is sweet-heart, wife or daughter? I'm going down to Parker's to play euchre with some fellows; will you come with me?" Forced to make some reply, I choked my emotions, and stopping abruptly, said with a husky voice: "My young friend, I am going to my room now, and if you will come with me I have something to tell you which may be of some benefit to you." My earnest tone excited his curiosity, and he readily consented to accompany me; so in silence we pursued our way.

Having reached the quiet room I called my home, and struck a light, I hastened to bring forth from my trunk one of my treasures, which I placed in his hands, and he slowly opened and gazed intensely upon the beautiful countenance of the one who above all else in the world I held most dear. Throwing myself upon a lounge, I covered my face and sought to control my emotions; and having succeeded, I thus explained my strange conduct:

"Three times in my life have I been an actor in a scene similar to the one we have just witnessed. The first was when I went to college and parted from my mother, whom I never saw again! She died a month afterwards, and I can never forget her sorrow as she stood before me like a statue, with clasped hands and uplifted eyes, breathing a silent prayer for her boy In less than a year I ran away from college, and went home to bid my sister good-by before going to sea. She plead with me, earnestly, to go to father and acquaint him with my resolve—urging me to release her from the promise of secrecy I had imposed; but my plans were formed and my will inexorable. And so I passed forever from my gentle sister. Before my return, both she and my father had gone to their rest, and I found myself alone in the world, when I most needed a comforter.

Some two years ago I chanced to form the acquaintance of the original of that picture. We were mutually attracted toward each other, and became much attached in a short time. Possessing the frankness of a child, combined with many noble traits of true womanhood, I longed to make her my wife, but would not till I could lay wealth at her feet. So I resolved to come to California, and for the third time in my life it became necessary for me to part from the one I held dearer than life itself. She was filled with grief and foreboding, while I, sanguine of success, and strong in my desire to prove to her my devotion, scarcely realized the self-imposed sacrifice I was making. Standing before me, radiant in her intensity of emotion, she begged me to alter my decision and remain satisfied with a more gradual rise to competence.

Snatching a kiss, I hastened from her presence, fearful of betraying my weakness if remaining longer a witness of such sorrow.

Ten months have passed away since then, and to-night that shadow picture has brought forcibly to mind the three leading events in my life. Do you then wonder at the strange effect produced? and can you expect me to wish to join such companions as one finds at the gaming table at Parker's? Is there no higher enjoyment which should be sought for? Have you mother, sister or friend whose life is saddened by your absence? And may you not fit yourself to become a noble husband and kind father by choosing for friends those whose lives are not passed at the gambling table?" I heard a sob, and found that my words had touched a tender chord; for with tears in his eyes, my young friend clasped my hand and said: "My dear fellow, some time I can tell you the story of *my* life, but not to-night. Often disappointed at getting no letters from home, I promised my room-mate—a gay fellow—that if I had no news to-night I would run down and join them at gambling. But you have diverted my thoughts from myself by your touching story, and I can never find enjoyment in the gambler's life, while, to my dying day, I shall feel that I have been *saved by a shadow*.

## SCATTER SEEDS OF KINDNESS.

Let us gather up the sunbeams
Laying all around our path;
Let us keep the wheat and roses,
Casting out the thorns and chaff;
Let us find our sweetest comfort
In the blessings of to-day,
With a patient hand removing
All the briars from the way.

Strange we never prize the music,
Till the sweet-voiced bird has flown;
Strange that we should slight the violets,
Till the lovely flowers are gone!
Strange that summer skies and sunshine
Never seem one-half so fair,
As when winter's snowy pinions
Shake the white down in the air.

If we knew the baby fingers,
Pressed against the window pane,
Would be cold and stiff to-morrow—
Never trouble us again—
Would the bright eye of our darling
Catch the frown upon our brow?
Would the print of rosy fingers
Vex us then as they do now?

Ah! those little ice-cold fingers,
How they point our memories back
To the hasty words and actions
Strewn along our backward track!
How those little hands remind us,
As in snowy grace they lie,
Not to scatter thorns, but roses,
For our reaping by-and-by.

## UP COUNTRY LETTERS.

[Written for the PRESS.]

DEAR READER.—Did you ever take a long ride in some heavy vehicle, over stony pavements, until the rambling and jolting seemed to have become a part of you? and a sudden stop made you instinctively *feel* yourself, to see if all were with you, or you had indeed lost the top of your head? Just so it seems to me, now, after a three months run of the typhoid fever, in your city, to find myself in this quiet, cosy nest, up country; among cheerful, kindly faces, honest hearts, and willing hands; where the music of barnyard fowls and cattle is teeming with health and beauty to my ears!

And sitting in the warm sunshine, on the porch, I lay back my head, relax every muscle, and dreamingly wonder if this is indeed I—out of the dim sick room, at last! breathing God's pure sunshine and air once more. Lazily I watch the men going and coming from work in the fields; see their stalward forms, broad chests and deep breathing. Yet how unconscious they are of the blessings of health they enjoy. I wonder *why* they grow so impatient and uneasy at this beautiful country life, and long for work and equal pay in a city.

Yet so it is. Willing to give up this pure air, sunshine, good fare, kind treatment, robust health, and honest toil, for what?—Bad air, smoke and fog, poor food, no friends, only *associates*, flabby muscles, and no employment, maybe, simply because of the dullness and tame life of farmers, compared with the excitement of life in the city.

I confess it puzzels me, (but I am an invalid and of course like quiet), but there must be some *cause* for this growing dislike to farming. I will watch, and see for myself why this is so, and whether boys and girls agree in their dislike of country; and if the cause can be removed, so as to make farm life *more* attractive and beautiful than city life. L. P.

IN THE WAY.—A mother who was preparing some flour to bake into bread, left it for a few moments, when little Mary—with childish curiosity to see what it was—took hold of the dish, which fell to the floor, spilling the contents. The mother struck the child a severe blow, saying with anger, that she was always in the way! Two weeks after, little Mary sickened and died. On her death bed, while delirious, she asked her mother if there would be room for her among the angels. "I was always in your way, mother; you had no room for little Mary! And will I be in the angels' way! Will there be no room for me?" The broken-hearted mother then felt that no sacrifice could have been too great, could she have saved her child.

FEATHER TRIMMINGS.—Some of the newest and most uncommon trimmings of the present season are composed of feathers, arranged in a variety of ways, either as ornaments for the hair, in separate shapes, or in continuous rows, forming a border of any desired width. White poultry feathers are particularly useful for this purpose, as, by dyeing, they may be made to assume any tint required to match or contrast with any dress.

## DRESSING BABIES.

[Written for the PRESS.]

Mothers, why *will* you insist on dressing your babies in the most inconvenient, expensive, unhealthy, and unbecoming way you can possibly invent? It is extraordinary to me that they must have shirts like gossamer with no sleeves but loose, no warmth nor comfort, only a band to muss up, get in a wad and hurt the delicate skin of baby. Then two flannel petticoats with double rows of pins, a dress long enough for its mother, whose weight baby is expected to carry about to keep its feet warm! The only really sensible article of clothing is the knit sack which mothers find easier to put on and keep on, than a blanket.

Poor baby! The mother must keep it in the fashion if it *is* cold and uncomfortable. She gets the patterns from Mrs. Lofty—and so they *must* be the thing.

Now let me give you *my* idea of what baby would like to wear if it was consulted. The first two months a nice soft flannel band, without any hem to hurt the delicate skin, *sewed on* every day, quite loose, to give plenty of room to eat and grow in.

Next a high necked, long sleeved, knit shirt, coming down well over the hips; then a long flannel petticoat, made like a slip without sleeves,—of thick, warm flannel—a white one made in the same style, fastening on each shoulder instead of behind, which is such a bother to "baby" in dressing. And then a little slip made high in the neck and long sleeves, with all the trimming, laces and frills you wish, so long as "baby's" comfort is not interfered with; a little sack, if you wish, and "baby is dressed with comfort, wamth, economy and dispatch! L. P. J.

## WHERE IS YOUR BOY AT NIGHT.

The practice of allowing your boys to spend their evenings in the streets, is one of the most ruinous, dangerous and mischievous things possible. Nothing more speedily marks their course downward. They acquire, under the cover of night, an unhealthy state of mind, vulgar and profane language, obscene practices, criminal sentiments, and a lawless, riotous bearing. Indeed, it is in the streets, after nightfall, that boys generally acquire the education and capacity of becoming rowdy, dissolute men.—*Watchman.*

And in all probability, nine-tenths of the criminals in our state prisons are caused by the loose manner in which parents, and mothers in particular, bring up their boys. Their home duties occupy their time and thoughts, or society claims their entire life, and boys are troublesome and in the way. Home is not made attractive to the boys, so they run the streets all day, and as they grow older, far into the nights too, without restraint from either parent.

Oh, mothers! can you forget your duties to your boys? They should be cared for as sacredly and tenderly as your girls; should be reared as purely; and if their paths in after life lead them through sin and temptation, so much more do they need your holy and wise counsel and teachings, that their natures may revolt against profanity and crime, their principles be founded upon rocks of purity and truth, and the name of "mother" be a talisman unto them for ever, "home," a beacon light beckoning them onward and upward.

L. P. J.

POPPED WHITE.—A little four-year old had been intently watching the process of corn-popping, on a stormy day in the beginning of Winter. Happening to turn to the window, she observed, for the first time, the falling of snow. Amazed and delighted, she ran to her father, and exclaimed, "Oh, do look at the funny rain, it's all popped white!"

THERE have been many definitions of a gentleman, but the prettiest and most pathetic is that given by a young lady:—"A gentleman," says she, "is a human being combining a woman's tenderness with a man's courage."

ONE-SIXTH of the female population of England work out of doors. It would improve the health of the other five-sixths if they had a little more out-of-door work to perform.

# HOUSEHOLD READING.

## Health.

Dr. Trall, a writer of note upon medical subjects, describes health as "the natural play of all the functions;" and as none of the medical profession have given us any thing better, I shall accept it as a correct definition, and endeavor to show my readers how inevitably we are bringing premature death upon ourselves and ruin to the nation through ignorance of the laws of health.

We are a nation of invalids; not an individual in *perfect health* can be found; scarce any in the moderate enjoyment of that greatest of God's blessings! The rule is sickness, and health is the exception, among our women and children in particular.

Can this condition continue and not grow worse? And if worse, does not annihilation of the race follow sooner or later? Yet we are intelligent and liberal, spending annualy millions of dollars in schools and reading matter; endowing scores of medical colleges for the education of our young men (and women too now) and not a town or village but can boast of its two or twenty doctors, who hold the same position in society as the minister—one caring for and curing the souls of men, and the other their bodies; with this difference:—one aims to prevent crime by a pure life; while the other holds out a palliative, in the shape of drugs, to avert the suffering caused by wrong habits of life, etc,.

No minister believes or teaches his people that they may lie, steal, and slander their neighbor, and by a repentence merely, be saved through their (or the clergyman's) prayers! No, a repentance (recognition of sin) is necessary, and then "cease to do evil and learn to do well" must follow before the "holy man" can cure the soul; proving conclusively that the soul purifies itself, through pure teaching and pure living.

And just so with the body. Through unphysiological habits, in eating, drinking, etc., we defile the body, filling it with impurities (pork, fine flour, whiskey, etc.) until the condition called disease follows. The doctor comes and drugs the patient, adding more impurities, until the victim dies, or recovers, *in spite* of the drugs.

And now compare the two teachers: does the physician tell the patient the cause of his illness; how to avert it, and so keep his body the "pure temple" which the Bible speaks of? Oh, no; for perhaps he honestly believes sickness to be the lot of man, or a visitation of God, intended to purify his soul (not body) and teach patience and godliness.

Think of it,—a sick man capable of studying, God's laws, which the well man rejects or is not deep enough to fathom.

Health is the time for learning God's laws and obeying them. And if our physicians are ignorant of these subjects, they should be instructed; or if they already understand Hygiene and fail to teach it to the people who constitute their "flock," they are certainly to blame. Should not our doctors of medicine, like our doctors of divinity, endeavor to teach the people how to avoid the sin of sickness?

That there is a way so to live, in harmony with our natures, as to keep well, (even with our inherited diseases following us "to the third and fourth generation") accords with our intelligence upon the healthfulness, of domestic animals and all vegetable life, which subjects are considered important studies for our scientific men. Not only do they study the conditions of disease but acquaint themselves with the normal habits of animals and plants, and place them in such relations as will best supply what is requisite for their perfect health, well knowing that it is only in health that they can expect them to be beautiful and perfect of their kind. And why not desire the same for the human race?

Do not "nature's laws" operate alike with them as with the lowest forms of life? Do we not desire only the intelligent, true, social and healthy for our friends and relatives, feeling a just pride in so choosing? And are there not spent annually millions of dollars in our churches, public schools, colleges, alms houses, hospitals, prisons, etc. to improve the people? Yet how few are earnest enough to search for the hidden *causes* underlying the continued *needs* for these institutions, by removing which we avert the *desire* to commit crimes against soul and body. In future articles I may possibly show how, by studying the laws of our natures and obeying them, we may not only be healthier, but happier.

L. P. J.

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A NEW WAY TO COOK MEAT.—A good way to cook meat is to seal it in a vessel hermetically tight. Cooked thus a long time in its own juices, it is rendered very tender, and has a peculiar, appetizing flavor.

Take an earthen jar that will stand heat, with tight fitting cover. If beef is to be the dish for dinner cut in convenient pieces, lay them in the jar, rub each piece with salt and peper and a little lump of sugar, put in a little water; lay on a piece of thick buttered paper and press down the cover. If you think it will allow any steam to escape, mix shorts or rye meal with water to a paste; press strips of this all round the edge of cover. Bake in a moderate oven four or five hours, according to tenderness of meat. Chickens or turkies are excellent cooked in this way. The toughest old hen can be rendered toothsome by this process. A good plan for fowls is to put in the bottom some strips of carrots, a little onion, if liked, with bread crumbs, red pepper, and lumps of butter, with the seasoning as above.—*Western Rural.*

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VEGETABLES.—Vegetables intended for dinner should be gathered early in the morning. A few only can be kept twelve hours without detriment. When fresh-gathered they are plump and firm, and have a fragrant freshness no art can give them again after they have lost it by long keeping, though it will refresh them a little to put them into cold water before cooking. A little soda in the water they are cooked in will help to preserve the color of those that are green. They lose their good appearance and flavor if cooked too long, and are indigestible if not cooked enough; close attention and good judgment are necessary to know the proper time to take them up. Always drain the water from them well before sending to table; have the dishes hot upon which they are placed, and never send them to table until the meats are served; when sent in too soon, and often uncovered, they become chilled and unfit for use. Always put vegetables to boil in hot water.

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FOOD MEDICINES.—Dr. Hall relates the case of a man who was cured of billiousness by going without his supper and drinking freely of lemonade. Every morning this patient rose with a wonderful sense of rest, refreshment, and a feeling as though the blood had been literally washed, cleansed, and cooled by lemonade and the fast. His theory is that food may be used as a remedy for many diseases successfully. For example, he instances cures of spitting blood by the use of salt; epilepsy and yellow fever, watermelons; kidney affections, celery; poison, olive sweet oil; erysipelas, pounded cranberries applied to the parts affected; hydrophobia, onions, etc. So the thing to do in order to keep in good health is to know what to eat, and not what medicine to take.

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DISINFECTING HOUSES.—A ready method of disinfecting houses in which cases of scarlet fever have occured is recommended by the Food Journal. It is this: Dissolve in a certain quantity of water as much saltpetre as it will hold: and in the solution soak several sheets of coarse blotting paper, which must be allowed to absorb as much as possible. Carefully close every door, window and chimney of the affected room, and let the prepared blotting paper be lighted and smoulder itself out. This method is said to be efficacious, and is certainly easy of trial.

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TO STOP BLEEDING.—It is said that bleeding from a wound, on man or beast, may be stopped by a mixture of wheat flour and common salt, in equal parts, bound on with a cloth. If the bleeding be profuse, use a large quantity, say from one to three pints. It may be left on for hours, or even days, if necessary. The person who gave us this recipe says that, in this manner, he saved the life of a horse which was bleeding from a wounded artery. The bleeding ceased in five minutes after the application.

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POTATOES, as usually cooked, are probably the most objectionable article of food which can be presented to a weak digestion. The starch granules are but half ruptured, and are held together by cellular tissue, so that they are reduced by mastication only into small pellets, which require long soaking in gastric juice before they can be broken up sufficiently for solution.—*Chambers on Indigestion.*

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CAKE AND CANDY.—A celebrated physician says that it is cake that ruins the teeth and not candy, as is generally supposed.

## Domestic Receipts.

POOR MAN'S PLUM PUDDING.—One cup chopped suet, one cup molasses, one cup sweet milk, one egg, two cups flour, a pinch of salt, nutmeg and cinnamon. Stir all together; then add one pound raisins and one pound currants; wet the cloth in cold water previous to putting the pudding into it. Boil four hours. To be eaten with wine sauce.

GERMAN CAKE.—One cup butter, two cups sugar, one cup sweet milk, three eggs, two cups flour, one tea-spoonful soda and two tea-spoonsful cream of tartar; mix all together and flavor with lemon. Sprinkle the top thick with ground cinnamon before baking. Ice as soon as baked.

STEAMED BROWN BREAD.—One cup sweet milk, one cup sour milk, half cup molasses, one cup flour, two cups Indian meal, one tea-spoon soda. Pour into a mold and tie down tightly. Put into boiling water and steam from two to three hours.

TO MAKE GRAHAM GEMS.—Stir Graham meal into cold soft water or milk to the consistency of a thick batter. Beat well with the spoon and drop into hot greased gem pans (either tin or cast-iron ones). Bake in a very hot oven.

PLAIN RICE PUDDING.—One teacup of rice, one teacup of sugar, a little salt and two quarts of milk. Flavor with cinnamon or lemon and bake slowly two hours.

SAGO PUDDING.—Pare and core six sour apples; lay in a large dish one cup brown sugar and three-quarters cup sago; fill the dish with cold water and bake two hours. Any other fruit may be used in place of the apples.

HOW TO KEEP A MUSTARD PLASTER MOIST.—By adding a little syrup or molasses in mixing a mustard poultice it will keep soft and flexible, and not dry up and become hard and uncomfortable, as when mixed up with water alone. A thin paper or fine cloth should come between the plaster and skin. The strength of the plaster is varied by the addition of more or less flour.

CRUMPETS.—Take three teacupsful of raised dough and work into half a teacupful of melted butter, three eggs, and milk to make a thick batter. Bake in a hot, buttered pan, in half an hour.

## Mechanical Hints.

HOW TO BORE HOLES IN GLASS.—Any hard steel tool will cut glass with great facility when kept freely wet with camphor dissolved in turpentine. A drill-bow may be used or even the hand alone. A hole bored may be readily enlarged by a round file. The ragged edges of glass vessels may also be thus easily smoothed by a flat file. Flat window glass can readily be sawed by a watch spring saw by aid of this solution. In short, the most brittle glass can be wrought almost as easily as brass by the use of cutting tools kept constantly moist with camphorized oil of turpentine.

PARCHMENT PAPER.—Paper can be readily converted into vegetable parchment by immersing it for a few moments in a mixture of two volumes of sulphuric acid and one of water. The acid should be washed off the paper by immersing and slightly agitating it in a large quantity of cold water. The last trace of acid may be removed by finally immersing the paper in water to which a small quantity of ammonia has been added. To prevent contraction or wrinkling, the paper should be stretched on a frame while yet wet. Paper so prepared is transparent, and can be used for tracing paper; and may also be employed as a very good substitute for sheepskin parchment.

SOMETHING ABOUT ISINGLASS.—J. L. Souberaine, who has recently examined the different varieties of this article, points out these distinctions: Russian isinglass dissolves very rapidly in hot water, seldom leaving over 2 per cent. of insoluble residue; it is pleasant to the taste, and yields a firm and transparent gelatine. Bengal or Indian isinglass dissolves readily, but leaves a much larger proportion of residue—from 7 to 13 per cent.; it often has a fishy taste, and its gelatine is not clear. The gelatine obtained from Brazilian isinglass is opaque and acrid. The isinglass prepared in China is seldom exported.

ARTIFICIAL TABLETS may be made as follows: Equal portions of ivory dust or shavings, and gelatine or albumen, worked into a paste, and afterwards rolled out into sheets, allowed to harden, and afterwards cut to the required size.

VARNISH FOR DRAWINGS AND LITHOGRAPHS.—Take dextrine 4 parts, alcohol 1 part and water 4 parts. The drawings should be prepared previously with two or three coats of thin starch or rice boiled and strained through a cloth.

## Life Thoughts.

IT is far better to suffer than to lose the power of suffering.

EXPERIENCE is the father, and memory the mother of wisdom.

CENSURE is the tax a man pays to the public for being eminent.

IT is easy to look down on others; to look down on ourselves is the difficulty.

WE cannot conquer fate and necessity, yet we can yield to them in such a manner as to be greater than if we could.

HE who pleases himself without injuring his neighbor, is quite as likely to please half the world as he who vainly tries to please the whole world.

WHEN fame is regarded as the end, and merit as only the means, men are apt to dispense with the later, if the former can be had without it.

BASE all your actions upon a principle of right; preserve your integrity of character, and in doing this, never reckon the cost.

IT is with our thoughts as with our flowers—those that are simple in expression carry their seed with them; those that are double, charm the mind but produce nothing.

ALWAYS laugh when you can—it is a cheap medicine. Mirthfulness is a philosophy not well understood. It is the sunny side of existence.

WITHOUT love we are unhappy; with it we are still unsatisfied, and long ever for our ideal which we can only reach in heaven.

THE highest genius never flowers in satire; but culminates with that which is best in human nature.

## Old Age Without Religion.

Alas! for him who grows old without growing wise, and to whom the future world does not set open her gates when he is excluded by the present. The Lord deals so graciously with us in the decline of life that it is a shame to turn a deaf ear to the lessons which He gives. The eye becomes dim, the ear dull, the tongue falters, the feet totter, all the senses refuse to do their office, and from every side resounds the call: "Set thine house in order, for the term of thy pilgrimage is at hand." The playmates of youth, the fellow-laborers of manhood, die away and take the road before us. Old age is like some quiet chamber, in which, disconnected from the world, we can prepare in silence for the world that is unseen.—*Tholuck.*

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HONEST INDEPENDENCE.—A tree must be rooted in the soil before it can bear flowers and fruit. A man must learn to stand upright upon his own feet, to respect himself, to be independent of charity or accident. It is on this basis only that any superstructure of intellectual cultivation worth having can be built.—[*Froude.*

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IT is quite the fashion to drop now and then a lump of piety into personal conduct, but too often there is little care to "work it in." A life properly seasoned with grace has a uniform flavor.—[*W. H. Beecher,*

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A lazy boy makes a lazy man just as a crooked sapling makes a crooked tree. Those who make our great and useful men were trained in their early boyhood to be industrious.

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YOUR STANDING AT HOME.—We often hear the question asked of such and such an one "What is his standing in society?" or "What is his standing in the church, or among business men?" But we never think of asking, before we take him into our confidence, "How does he stand at home?" And yet the man who can make reply to this question with an untroubled heart and clear conscience is a hero not so often met with, but that he is worth looking after, and closely cultivating.

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"O! I FORGOT."—Of all the despisable excuses offered for omission of duty or neglect to fulfil an appointment, the most contemptible is the stereotyped phrase. "I forgot it." Many persons think that a sufficient apology for the neglect or omission of any promise; with us it is the worst. The great French Minister, Talleyrand, once said, "a blunder is worse than a crime, for a crime may be the effect of circumstances, it may be guarded against, or it may never occur again; but a blunder is always likely to occur." We can forgive a crime, but not a blunder. The man who is always forgetting is utterly unfit for any public position.

## LETTER FROM SAN DIEGO.

### How to Commence Farming with Small Means—The Sugar Beet and its Manufacture.

EDITORS PRESS:—Will you please permit one who has had experience in agricultural matters upon this coast, ranging over twenty-three years of time, and in nearly all the distance between Chili and Puget Sound, to offer a few suggestions in answer to the query: "Is there any opening for poor, but willing and intelligent men with little or no money to make a start, and a living at farming?"

There are in these southern counties, and it is presumed elsewhere, localities where land can be had at a nominal price—either buying or renting—where a person who is willing to live simply, can begin life as a farmer; or, as part farmer and part manufacturer; and with a very small amount of money. By living plain,—that is, doing with little or no meat,—(do not get alarmed) for the first year or so, the cost of living can be kept at less than half what is asked for board at the lowest-priced boarding houses, or say at $3 per week. There are hundreds of persons hereabouts who do not consume over $2 worth of provisions per week. It must be borne in mind that at certain altitudes along the coast very little if any carbonaceous food is required; and in fact, such food is very unhealthy, and produces hepatic diseases, oftener than most are willing to believe. It is found by actual experiment that those living upon grains, coarsely ground and unbolted, and upon liguminous plants and tomatoes, can endure more fatigue and last longer than those performing a similar amount of labor upon a more stimulating diet. I have seen the ore-carriers of Peru mount the rough and precipitous inclines, with burdens that would stagger a San Francisco hod-carrier, and do it upon a diet of *frijoles* (Mexican beans). The porters in Turkey habitually carry a load of one hundred to one hundred and fifty pounds; their diet is black bread and tomatoes. Undoubted testimony can be produced that any one can live longer and accomplish more in such a climate as ours, by avoiding such stimulating food, narcotics and condiments, as most people consider indispensable, and which renders the cost of living double or treble what it would be without them.

Now, although it is somewhat doubtful about finding any great number of persons who are willing to forego, even temporarily, the superfluities of the table, for even so great consideration as health and independance, the opening to reach that end exists; and for almost an unlimited number.

I will glance at one or two occupations in which little capital is required; and no one who is acquainted with the demand will doubt, that a profitable market is always at hand for the products.

In many localities in these southern counties, tomatoes, sugar beets and the mulberry, would be three things that could be cultivated to profit. The first two, as the more immediately available,—the tomato especially, as bearing at all seasons, so as to enable the grower to put them into the San Francisco market, fresh from the vines, at a period when there are few or none obtainable in that locality; and at other times, when unprofitable to ship fresh, to can, or make into catsup.

### The Sugar Beet Culture.

The sugar beet can be utilized in several ways:—as forage, (one-fourth of an acre produced ninety dollars worth, sold as forage here within the last month), to be sold to the manufacturers, or to be worked up, on a cheap co-operative plan, into a low grade of sugar or *melado* suitable for common purposes, and quite saleable to the refineries. It is quite practicable for a few to combine and with machinery that will not cost over $500 to $1,000, to reduce seventy tons of beets per day to "melado," sufficiently defecated for refinery purposes. With regard to the mulberry, the eggs and raw or cut cocoons, are always saleable, but of course not realized upon as soon as the other two.

These are only a few of the many articles that the beginner, with little or no capital, can start upon.

There are many localities, this for instance, where there is little or no capital, and very few persons willing, or able to take stock in an incorporation; and if one waited for a complete organization, and sufficient capital to build such a factory as the one at Alvarado, some years would elapse, before anything could be realized; whereas, if every one who would plant a few beets, with their other crops, that is diversify their culture, depending upon the sale or crude manufacture of them, something could be done without delay.

### A Cheap Sugarie.

About the practicability of making the beet sugar a *melado*, of a sufficiently defecated grade to be available for common use, and remunerative to the farmers, if sold to refiners, I think there can be no question. In the first place we will take it for granted that every farmer has water; posibly not high enough above ground to give the required force through the hose, for cleaning the beets; but the elevation by wind power of, say 100 barrels per day into a tank twenty feet high, can be effected, at an outlay of $100. I have put up such a mill here several times, by contract. Then a common crushing mill with slicing machine will cost about $200; the evaporator and defecator $200 more; two men and two horses per day, $7; one-half cord of fuel, $4; chemicals $1; making, in labor and material, exclusive of beets, $12 per day.

Mr. Pardee, an experienced farmer here, is prepared to contract to furnish beets at $4 per ton; making a result, supposing them to yield six per cent. of saccharine matter, a profit upon the outlay of the manufacturer of $28 per day, provided his sugar is worth ten cents per pound. Now I call that a good return upon a capital of $1,000. Possibly $4 more may be required for labor, which will reduce the profit daily to $24.

### Profits of the Beet Culture.

Mr. Pardee estimates that there are 1,000 acres upon the Sweet Water Creek (National Ranch), that will yield at the rate of 40 tons per acre; he bases his estimate upon actual experiment. He has a sugar beet upon his place now that weighs 100 pounds—first growth; and he says that he can plant so as to have them, at their highest saccharine stage, every month in the year. But we will call the average production 25 tons per acre; that gives $100 per acre for a crop that costs no more to cultivate than corn, and leaves quite as much forage for stock. Estimating the residue of the beet to be worth $10 for forage, gives $110 per acre as the gross proceeds, and allowing $50 as the cost of cultivation, leaves $60 per acre as profit to the farmer. F. M. SHAW.

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HORSE HARNESSING MACHINE.—A correspondent of the *Rural New Yorker* says that a gentleman of that city has arranged a device whereby a horse may be unharnessed and the harness be hung up in thirty-two seconds!

The device consists of two small iron pullies, a small cord three yards in length and a hook. One pulley is fastened to a joist directly over the horse's back, the other a yard to the left. The hook is to draw the harness up with, the cord being through the two pullies, with an iron ring through the left hand end of the cord to fasten upon a large nail to hold the harness up. The harness must be made with the collar open at the botom, with the hames attached to the collar, so that the harness will raise up from the horse. The lines are left over the dash, nor are they unbuckled from the head-stall; the tugs are left hitched to the buggy, so are the hold-backs, and the shafts are left in the loops; the head-stall is taken off with the lines attached, and hung upon the back-saddle; the hame-strap is unbuckled, the two girths unbuckled, and all the harness, with the shafts, are drawn up together. Of course the harness must be suspended directly over where the horse stands as he is driven into the carriage house. In harnessing, the animal is placed in the shafts, the harness lowered upon his back, the straps which have been loosened must be again made fast, the hook disconnected and the work is done. The device is applicable to double as well as single harness.

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RAMIE IN SAN JOSE.—The San José *Independent* says that several farmers in that vicinity are intending to cultivate the ramie, on a small scale, this season. The idea is to test the capacity of the soil for such culture, and to prepare for its more extended introduction, should the claims which have been put forth for this textile be realized. This is a move in the right direction. The next thing to be done is to secure a machine for preparing the rough fibre for market.

## THE YOUNG OF OYSTERS.

EDITORS PRESS:—I noticed in one of your late numbers that you assert that by opening an oyster and examining the liquor retained in the shell with a microscope, you can see many small oysters, covered with shells, swimming nimbly about. Well, you please inform your careful readers how they get there, and when they are set free by their mothers to take care of themselves; and if there are male and female oysters; if so, how do they multiply. This is a very interesting subject, and one but little understood. J. B.

San Francisco, Jan., 1871.

The oyster was formerly considered hermaphordite; but it is now known that it is of separate sexes—the females largely predominating in numbers. They are ovovivaparous—they produce a living fœtus, by excluding it from an egg covering. The eggs are expelled in a white, viscid fluid, called "spats" (common to all shell fish). This substance adheres to marine bodies and to the parent shells; by thus accumulating one upon another, immense banks of oyster beds are sometimes formed.

As the fish are all stationary, fecundation is effected through the medium of the water, which conveys the sperm to the ova. The eggs, as already intimated, are to a certain extent developed before being ejected by the female; and sometimes, after being ejected, instead of becoming fixed to the outside of the shell, or to some other neighboring body, they continue to float about until they are accidentally received within the cavity of the shell of the adult oyster, in the process of respiration. Here they often continue until developed, as described in the paragraph to which our correspondent refers.

There is a species of small crab that often finds its way within the shell of the oyster in the same manner. Neither the young oyster nor the crab can form any portion of the food of the adult oyster, as the softness of the month of the latter does not admit of its attacking any resisting substance, alive or dead. When the crab or young oyster becomes large enough to annoy the adult oyster, it is summarily ejected. The young oyster is attached to its bed first by the glutinous nature of the fluid in which its partially developed ova is enveloped; and when once fixed, a calcareous growth from the shell itself, perfects and permanently fixes the union.

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A NEW VARIETY OF STRAWBERRIES—PERHAPS.—Two years ago the Rev. Charles Ritter, of West Chester, N. Y., planted a few strawberry plants, supposed to be of the Russell variety. They bore two crops the first season—a matter of some little surprise. But last season they kept right along, and were yielding plentifully well into November, when the matter was referred to in the Farmers' Club as something quite singular. The novelty of strawberries at that season in the New York market created considerable attention, and the berries sold readily for $3 a quart. They are unusually large and of very superior flavor, and the vines are very prolific. It is thought they may be a new variety. Mr. Ritter has commenced propagating them under that impression.

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SET OUT NURSERIES.—Farmers who have heretofore paid no attention to planting trees or vines on their premises should remedy that neglect at once. No better time can be found for such improvements than the present. A quarter of an acre set out or planted now with seeds for a nursery, will furnish young trees enough next year to cover a very large tract of land. In planting fruit trees, some of the more rare should be included—as the fig, the olive, the orange, the lemon, almond, etc. The cost of such preparation is but trifling, either in time or money; while the chances of profit are large. The comfort and pleasure of such surroundings is of great value. In planting, don't forget the forest and nut trees, nor the mulberry.

FARMING AMONG THE CLOUDS.—Mr. B. W. Barnes, an old friend, of La Porte, Sierra County, sends in his name as a subscriber to the RURAL, and writes as follows:—"I have started a farm on Bald Mountain, and raised 10,000 pounds of potatoes and other vegetables, corn, etc., this last year. You no doubt think that strange; but let me explain, for you may not know that on the south-west side of Bald Mountain, high up, there are four or five springs coming out, and below them a flat of 12 or 15 acres of fine rich land. I, by chance, crossed it several years ago, and the thought occurred to me then that the place would be comparatively free from frost, and, as it faced right, would make a fine ranch. Last spring I started in and I now think I have the best little ranch within 20 miles of here. My potatoes, corn and beans were green a full month after everything had been killed 20 miles below here, and in all the valleys above. Of course everybody thought I was crazy; but when I brought into town the best potatoes, green corn, beans, turnips, etc., that were ever here they began to think different. I am satisfied that the season up there is two months longer than at La Porte, and only about 1¼ miles distant. "How's that for high?"—Pretty high to make a road to; but I am going to do it this summer."

The above shows what can be done by perseverance and industry. There are thousands of just such or better places all through the mountains and mines, which will in time be utilized for agricultural purposes. Bald Mountain, at the locality of this ranch, is about 4,000 feet above the level of the sea.

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NORWAY OATS IN CALIFORNIA.—We have by request been furnished a copy of the following letter:

MARK WEST CREEK, Sonoma Co.,
Jan. 14th 4871.

*Mr. Samuel Miller, Dear Sir:*—In reply to your request for a statement of my success in raising the Ramsdell Norway Oats and how the straw answers for stock, I would state that on the 26th day of March 1870, I sowed on seven acres of ground, 240 lbs. of the Norway Oats. From the time of sowing until harvesting on the 21st day of July, there was no rain fell on them, they grew up strong from five and one half to six feet high, fully covering the ground and a sample of the field was cut, yielding ninety-two (92) bushels to the acre; I saved the straw, and it was run out from the thrashing machine into a shed. This shed was filled one end with this straw and the other with the the best California Oat Hay. The shed was open at both ends, and the cattle and horses had free access to both kinds. They went as readily to the oat straw as the hay and ate it up clean, wasting none of it. And from this experience it appears to me that for stock it was as valuable as hay for feeding purposes. JOHN MCLAUGHLIN.

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THE DOLLAR ENGINE.—Our mechanical department is in receipt of this ingenious toy, which is a reciprocating engine, with cylinder, piston, fly-wheel, boiler and patent safety-valve, yet weighs less than four ounces and can be covered with a tumbler. It is said to make over a thousand revolutions per minute, and to be upwards of 500-flea power. This last is a mistake in part. Its attractive power may be greater, but the repulsive power of 500 fleas, we speak feelingly, can't be equaled by any engine yet invented. Sent by mail (the toy, not the fleas), prepaid, on receipt of $1.30, by Colby Brothers & Co., 508 Broadway, New York.

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THE following anecdote, which we find in the papers, is worth reprinting: Old Dr. Stearns, of New London, in his latter days, kept a drug store. A gentleman one day purchased a cigar of the Doctor, and lighting it, began to smoke. "Please do not smoke in the store," said Dr. S., politely, "it is against our rule." "But you sell cigars," rejoined the gentleman—"sell 'em to smoke, don't you?" "Yes, sir, we sell cigars," replied the Doctor, a little sharply—"and we sell physic; but we don't allow it to operate in the store."

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., P. M., Jan. 26th.

FLOUR—Is still in limited demand for export; while the demand for local trade continues fair, with still further advance in prices from last quotations. Standard Oregon brands are quotable at $6.62½@6.87½; local brands—superfine, $5.50@5.75; extra $6.75@6.87½. Transactions include 4,000 bbls. Cal. extra, 2,000 qr. sacks Cal. superfine, and 1,000 bbls. Oregon extra. The receipts of California flour and grain at this port from July 1st to Jan. 21st is given in the *Bulletin* as follows:—

| | 4869 | 1870 |
|---|---|---|
| Flour, qr sks | 509,700 | 347,600 |
| Wheat, centrals | 4,951,800 | 3,938,900 |
| Barley | 538,900 | 512,500 |
| Oats | 234,500 | 221,000 |

The above comparison shows a general decrease in the deliveries this season. The deficiency in flour and wheat is equal to 1,134,600 centals wheat. In Barley there has been a decrease of 26,400 centals; and in oats, 13,500 centals.

WHEAT—Very little has been done in consequence of the extreme figures demanded, which are slightly in advance of our last review. Sales embrace 15,000 qr. sacks. We quote the range of all kinds at $2.20@2.37; good to choice shipping, $2.25@2.32½, choice milling $2.27@2.37½. Liverpool quotations are reported to-day at 12s., an advance of 5d. since last week. New York rates—$1.70@1.75 per bushel.

BARLEY—Is still in fair demand, and prices remain about the same as last week. We quote $1.35@1.45, from fair to choice. Sales 5,000 sacks.

OATS—We note a limited demand for oats. Fair to good may be quoted at $1.45@1.62. Sales 6,000 sacks.

CORN—600 sacks Los Angeles Yellow, $1.50. The weekly deliveries of late have been large, averaging 3,000 sacks for over a month.

BUCKWHEAT—Nominal at $3@3.50 from the wharf.

RYE—In limited demand. The latest sale is reported at $2.62½.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $28@30; MIDDLINGS, $35 for feed, and $37@40 per ton for fine; OIL CAKE MEAL $30.

HAY—The receipts have been fair since our last, and prices have remained firm. We quote ordinary wild oat to choice wheat at $13@17 50 ₱ ton.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, $12@16, and Potter's, 2 ℔ do, at $4 ₱ dozen.

POTATOES——Market firm, with advanced prices. We quote Carolinas at $1 00; other kinds $1.50@$1.87½, from fair to choice. In one or two cases $2 has been paid for choice Humboldt.

HOPS—This year's crop is still quotable at 10@12½c. [According to Emmett's Hop Circular, the New York market stands—for N. Y. State 9@14c.; Eastern, 8@12c.; Wisconsins, 8@12c.; Michigans, 6@10c.; Ohios, 6@10c. Some very fine California hops were in the market, but were held for better prices on account of their quality and superb condition.]

HIDES—We quote Dry, slaughterer's stock, 16½@18 c; Salted; 8@8½c. Sales during the week 1,930 Cal. dry.

WOOL—We quote good shipping, at 15@17½c; very choice, 18½c; burry, 10@12½c; slightly do, 13@14c. There are being no stock on the market, the above quotations are merely nominal. Sales of 10,000 lbs. of long staple are noted at 22½c.

TALLOW—Quotable at 7@7½c, from ordinary to choice.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c.

BEANS—Quiet at the following rates. Bayo at $2.50@2.62½; butter, $2.25; small white, $1.90; pink, $2; red, $2@2.25; pea, $2@$2.25 per 100 pounds.

FRESH MEAT—The market is firm and quotations little changed. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11c ₱ lb.
Do 2d do 9@10c ₱ lb.
Do 3d do 7@ 8c ₱ lb.

VEAL—From 8@ 13c.

MUTTON—Steady at 9@10c. ₱ lb.

LAMB—None in market.

PORK—Undressed at 6¼@7½c; dressed, 0@11½. An advance of fully one cent per lb.

POULTRY, ETC.—In good supply, and prices remain unchanged. Young Chickens $6@7; Hens $7@8.50; Roosters, $7@8.00: Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame; $2.50@$3 ₱ pair; wild, $1.75@3 ₱ doz; tame Turkeys, 18@20c ₱ lb; Hare, 1.50 per doz; Doves, 50c do; Quail, $1.25@1.50.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 45@50c; Packed rolls, 32@37½c. Oregon firkin, 20@22½c; Eastern do, 25@35c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California, new, 11@15c., Eastern, 16@17c.

EGGS—California fresh, 37½@40c; Oregon, 30c; California Lard, 11-lb tins, 12@13½c; Oregon, 13½@14½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $1.00@$2.00; Oregon, $1@$2.00; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $40@$50; Lemons, per box, $16; Pears, scarce.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this department still contains good; stocks of all kinds are complete, and prices rule low.

BAGS AND BAGGING—Are in moderate request only, and will so be until the approach of the coming season. We quote wool bags at 50@52½c. Oat Sacks 23x40, 12½c; 28x35, 18c; Potato Sacks, 17½e.; imitation Dundees, 18@19 c. Standard burlaps, 22x36, 12½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices are reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5½c; Oregon do, 6½c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ₱ lb; Raisins, layer, $4.25@5.00; Currants, Zante, 11½@12½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 16@16½c; Lard, California, 12½@13¼c; Oregon do, in kegs, 13@14½c ₱ lb.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post'st.]

SAN FRANCISCO, Thursday, Jan. 26.

Shipments to the east still continue large, and several tanners have advanced their price one cent per lb.

| | | |
|---|---|---|
| City Tanned | 26 | @29 |
| Santa Cruz | 26 | @31 |
| Country | 25 | @28 |

CALF AND KIP SKINS.—French stocks continue scarce and high on account of the lack of exportation from French ports which has almost entirely ceased. We quote:

| | | |
|---|---|---|
| Best French Calf Skins, ₱ doz | 75 00 | @100 00 |
| Common French Calf Skins, ₱ doz | 35 00 | @ 75 00 |
| French Kips, ₱ lb | 1 00 | @ 1 30 |
| California Kip, ₱ doz | 60 00 | @ 80 00 |
| California Calf, ₱ lb | 1 00 | @ 1 25 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80 | @ 1 00 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10 | @ 1 25 |
| Eastern Calf for Backs, per lb | 1 15 | @ 1 25 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50 | @ 13 00 |
| Sheep Roans for linings, ₱ doz | 5 50 | @ 10 50 |
| California Russet Sheep Linings | 1 75 | @ 5 50 |
| HARNESS LEATHER, ₱ lb | 30 | @ 37 |
| Fair Bridle, ₱ lb | 33 | @ 40 |
| Skirting, ₱ doz | 4 50 | @ 4 75 |
| Welt Leather, ₱ doz | 30 00 | @ 50 00 |
| Buff Leather, ₱ foot | 22 | @ 26 |

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, Jan. 27, 1871.

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 per ton; Railroad, 60c ₱ 100 lbs.; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb. | | |
| Scotch and Eng. Pig Iron, ₱ ton | $34 | @$35 50 |
| White Pig, ₱ ton | 32 | @ 33 00 |
| Refined Bar, had assortment, ₱ lb | — 03 | @ — — |
| Refined Bar, good assortment, ₱ lb. | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | |
| Sheathing, ₱ lb | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | @ — 22 |
| Composition Bolts | — 21 | @ — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX, ₱ box | 12 00 | @ — — |
| Plates, I C Charcoal | 10 00 | @ 10 50 |
| Roofing Plates | 10 00 | @ 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | @ — 42 |
| STEEL.—English Cast Steel, ₱ lb | — — | @ — 15 |
| QUICKSILVER.—₱ lb | — — | @ — 90 |
| LEAD.—Pig, ₱ lb | — 6 | @ — 7 |
| Sheet | — 9 | @ — — |
| Pipe | — 10 | @ 11 — |
| Bar | — 8 | @ — 9 |
| ZINC.—Sheets, ₱ lb | — 10½ | @ — 11 |
| BORAX | — 35 | @ — 38 |

## San Francisco Market Rates.

### Wholesale Prices.

FRIDAY, January 27, 1871

| | | |
|---|---|---|
| Sugar, crushed, ₱ lb | 14½ | @ 15 |
| Do. Hawaiian | 9 | @ 12 |
| Coffee, Costa Rica, ₱ lb | — | @ 22 |
| Do. Rio | | @ 19½ |
| Tea, Japan, ₱ lb | 65 | @ 1 00 |
| Do. Green | 60 | @ 1 00 |
| Hawaiian Rice, ₱ lb | 8 | @ 9 |
| China Rice, ₱ lb | 8 | @ 9 |
| Coal Oil, ₱ gallon | 45 | @ 60 |
| Candles, ₱ lb | 14 | @ 18 |
| Overland Butter | 30 | @ 35 |
| Ranch Butter, ₱ lb | 40 | @ 50 |
| Isthmus Butter, ₱ lb | 25 | @ 35 |
| Cheese, California, ₱ lb | 9 | @ 15 |
| Eggs, ₱ dozen | 30 | @ 32½ |
| Lard, ₱ lb | 11½ | @ 13½ |
| Ham and Bacon, ₱ lb | 31 | @ 17 |
| Shoulders, ₱ lb | 9 | @ 10 |

### Retail Prices.

| | | |
|---|---|---|
| Butter, California, fresh, ₱ lb | 50 | @ 60 |
| do. pickled, ₱ lb | 40 | @ 50 |
| do. Oregon, ₱ lb | | @ 25 |
| Cheese, ₱ lb | 20 | @ 25 |
| Honey, ₱ lb | 25 | @ 30 |
| Eggs, ₱ dozen | 50 | @ 60 |
| Lard, ₱ lb | 18 | @ 20 |
| Hams and Bacon, ₱ lb | 22 | @ 25 |
| Cranberries, ₱ gallon | 75 | @ 1 00 |
| Potatoes, ₱ lb | 2 | @ 3 |
| Potatoes, Sweet, ₱ lb | — | @ 2 |
| Tomatoes, ₱ lb | 2 | @ 3 |
| Onions, ₱ lb | 2 | @ 3 |
| Apples, No. 1, ₱ lb | 4 | @ 5 |
| Pears, Table, ₱ lb | 5 | @ |
| Plums, dried, ₱ lb | 10 | @ 12 |
| Peaches, dried, ₱ lb | 10 | @ 15 |
| Oranges, ₱ dozen | 50 | @ 75 |
| Lemons, ₱ dozen | 50 | @ 75 |
| Chickens, apiece | 75 | @ 1 00 |
| Turkeys, ₱ lb | — | @ 25 |
| Soap, Pale and C. O | 10 | @ 15 |
| Soap, Castile, ₱ lb | 18 | @ 20 |

[ADVERTISEMENT.]

A NEW PAPER FOR 1871.

—THE—

PACIFIC RURAL

PRESS

A First Class Pacific States Agricultural and Home Journal.

Will be issued weekly on Saturdays, commencing Jan. 7th, 1871, containing sixteen pages devoted to

Agriculture, Horticulture, Stock Raising, Domestic Economy, Home Manufactures Mechanics, Industries, etc.

With an able and ample corps of editors, special contributors and correspondents, we shall publish a liberal variety of articles, entertaining as well as instructive, which will not only make the RURAL PRESS an able assistant to its patrons, but an attractive and welcome visitor to every reader in every intelligent

Home Circle,

in the Pacific States. And more than this, we shall freight its columns with fresh thoughts, and new ideas, which hastened across the continent by rail, shall awaken and quicken the zeal of the more staid and gradual moving culturists of the eastern and European States, to their

Pleasure and Profit.

We shall not only make a good paper for all husbandmen and homestead owners, (who now, more than ever require a knowledge of new discoveries in science and mechanical improvements,) but shall also render the journal a desideratum for those who contemplate becoming freeholders, and a large class of

Mechanics, Teachers, Students, Business, Professional and Trades Men,

whose interests are more or less identical with successful farming, and the active development of our vast and rich resources. Few there are—male or female—who will not find pleasure and ennoblement in the study of progressive farming and gardening.

Honest, intelligent and correct information will be faithfully given, in behalf of, and urging

An improved Cultivation of the Soil;
A greater Diversity of Products;
Better Breeds of Stock;
Better Varieties of Fruits;
The Culture of New Products;
Creation of New Home Industries;
Adoption of Improved Implements;
Higher and Happier Aims in Life, etc.

Valuable and Timely Hints,

will be given weekly to lessen the labors of the farm, the household and the shop, and add to the health, the wealth and the wisdom of every patron of industry.

How to Farm in the Pacific States.

As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxilliary and modifying instructions.

The following are among the specialties upon which the PACIFIC RURAL PRESS will treat:

Silk, Cotton and Sugar Beet Culture; Nurseries, Orchards, Tropical and small Fruits; Steam-plowing, seeding and harvesting for large tracts; Reclamation of swamp and unproductive lands; Hill and mountain farming; Grape growing; Fig, Raisin and Fruit drying; Irrigation; Lessons and Lectures on the chemistry of growing crops and on fertilizing lands; Practical Farming vs. Speculation; Taxation of unimproved lands; Railroads and improved transportation for crops and the better class of immigrants; Farmer's Clubs, lectures and associations; Co-operation in farming, mechanism, manufacturing and other industries; Government lands for settlers whether sold by R. R. operators or the U. S.; Reliable wholesale and retail market reports; Brief notices of Mechanical and Scientific Progress; Instructions for regular and farmer mechanics; Household Reading; Health and domestic receipts; a sprinkling of sprightly reading; Life thoughts; Poetry, condensed stories, items of news, etc., will be given.

A Plain and Simple Style

Of writing will be our endeavor. Necessarily dealing largely in researches for facts we believe it desirable to present them in an inviting shape and in so comprehensive language that our special journalism shall advance in popularity and common relish.

*No editorials or selections of unchaste or doubtful influence; or lottery, quack or other disreputable advertisements, will be admitted into its columns.*

Arrangement of Matter.

Our reports of agricultural, horticultural and other fairs, lectures, farmers' clubs and social literary meetings [the improvement and increase of which we shall especially advocate] will be carefully prepared in a valuable form for preservation; and the matter of our entire columns will be so classified as to be convenient to readers of various minds and individual tastes for ready perusal and future reference.

Interesting Illustrations of Pacific States and Eastern Inventions and Machinery, Fine Arts, Science, Fruits, Rare Stock and Natural Scenery,

Of special or peculiar interest to our readers will be published weekly in liberal variety. No pains or reasonable expense will be spared to furnish a

Large and Richly Filled Journal

Nicely printed on fine paper, which will favorably compare with the long established class journals of more populous fields and older communities. Although the latter have less opportunities than new communities to be benefitted by printed information of discoveries,

And Neighborly Experiences,

the reading of agricultural newspapers and books is lately increasing with a rapidity quite astonishing, and with the most profitable results.

We enter the field after a careful consideration and consultation with many of our leading agriculturists, with the strong conviction that such a journal on this coast is greatly needed and earnestly desired by the most prospectively flourishing and rapidly progressing community in the Union if not in the world. We know the task before us,—two of the proprietors and editors having experienced respectively 18 and 13 years of successful journalism in this state.

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| One copy one year | $4 00 |
| One copy six months | 2.50 |
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CLUB RATES.

Ten copies or more, first year, each ..... $3.00
[A free copy or premium sent to getter up of club.]

A select variety of advertisements only will be inserted. Circulated widely among the most thrifty of our population, the P. R. P. will be the cheapest and most effective medium for a large range of first class advertisements in the Pacific states.

Correspondence is respectfully solicited from every worthy source.

LOCAL CANVASSERS WANTED for every town, city and county. Special inducements offered.

Parties desiring to get up clubs or act as agents, will be furnished sample copies and prospectus free.

DEWEY & Co.,

Publishers Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

[Being also publishers of the SCIENTIFIC PRESS, we would say here that no change will be made in that paper except to improve it in its present character. Each journal will be published entirely distinct from the other.—D. & Co.]

THE PACIFIC RURAL PRESS.—We have received a sample copy of this new publication from the office of the San Francisco *Scientific Press* of Dewey & Co.

We are much pleased with it. It is a first class agricultural paper and is bound to have a good circulation in the state.

It is in quarto form, and printed on good paper and type.

It is filled with good and appropriate matter, and not spoiled with personal puffs, published for personal considerations.

The illustrations are appropriate and in good taste.

We look upon this journal as one which will fairly represent the industrial interests of California.—*Sacramento Union*, Dec. 26.

PACIFIC RURAL PRESS.—Dewey & Co., of the *Scientific Press*, have just issued a sixteen-page paper, quarto form, bearing the foregoing title. It is to be devoted to the interests of agriculture, and will be freely illustrated. The specimen number is creditable. The publishers say, in a circular accompanying the paper:

We herewith present to your notice a copy of the *Pacific Rural Press*, the publication of which we undertake after well testing the wants of the Pacific Coast farmers and ruralists by the publication of a Farming Edition of the *Scientific Press*. We have not only learned that there is a demand for a first-class home agricultural paper, but a disposition to *support* a *good* one. We are not only well situated for the undertaking, but have also the means and disposition to make it a success, and shall employ the best writers in every department, and furnish superior engravings for illustrations and embellishments.

We wish it success.—*S. F. Call*, Dec. 24.

NEW AGRICULTURAL PAPER.—We have received from Dewey & Co., publishers of the San Francisco *Scientific Press*, the prospectus of the *Pacific Rural Press*, a new agricultural paper to be published weekly, commencing January 7th. It will treat of agriculture, horticulture, domestic manufactures and all matters pertaining to the industrial interests of California. We understand that I. N. Hoag, of Yolo County, and formerly Secretary of the State Agricultural Society, will be one of the editors and will do much to make it generally acceptable to the community. There is a great opening for a journal in this state of the character mentioned and for talent and ability in the editorial department.—*Sacramento Daily Union*, Dec. 16.

*The great fiction removed.*

ALL POLICIES IN THE

*New England Mutual Life Ins. Co.*

*are guaranteed against forfeiture by the*

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*NON FORFEITURE LAW.*

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## Crandall Patent Spring Bed,

Received Preminm for best Spring Bed at the State Fair and was on exhibition at all of the District Fairs n this State.

**IT EXCELS**

IN

**Lightness, Cleanliness, Elasticity and Durability,**

**Any other Spring Bed Ever Invented.**

Being without nholstery in can he aired at pleasnre; while the springs being in conplets are self-snpporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

Msnnfactory—123 Front street, near corner of M, Sacramento.

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THOMAS E. FINLEY, Manager.

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**SPECIALTY.**

**Light Brahmas,** the largest and best bred stock in America.

ALSO

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**Pigeons.**—Black Fantail's, Ponter's, Nuns, Priest's.
**Pigs.**—White Chester, White Suffolk.
LOP EARED RABBITS.]

**Nothing sent C O D.**

## CHOICE POULTRY.

**Light Brahmas and White Leghorn's,**

A few trios for sale. Also 3 very choice young HOUDON COCKS.

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for hatching from the following Breeds:

Light Brahmas,
Dark Brahmas,
Houdsn, Bearded,
Buff Cochins,
Bl'k African Bantams,
White Leghorns,
Aylesbnry Ducks.

**NICHOLS & WILLARD,**

Importers and Breeders of Choice Poultry.

25v21-3m-1amins Brooklyn, Alameda Co.

## Chicken Ranch for Sale.

A Chicken Ranch within the city,

**Four Roomed House and Outbildings**

and stock of Poultry, can be obtained for the sum of $600. Ground rent low; extent about two acres; affording an excellent opportunity for commencing a profitable business. For particulars apply on the premises on Potrero Avenue between 15th & 16th st., or by letter addressed "R" at the office of this paper.

## S. N. PUTNAM,

**522 Montgomery Street, San Francisco.**

Dealer in improved and unimproved Farms, Grazing and Timber lands. Particular attention given to procuring small Farms and Homesteads for purchasers, claims for pre-emptors &c., in every part of the State.

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Is now more fully stocked than ever before.

**Fruit Trees, Ornamental Trees, Deciduous**

Shade trees, Evergreens of all kinds; Fruit Plants; to wit: Raspberries, Strawberries, Gooseberries, Currants, Grapes, Rhubarb, Asparagus and all Flowering plants, for inside and outside culture.

**FOREST TREES**

of Australia, Europe, China and Japan, in fact we aim to have and to get all and everything desirable.

Parties planting can find in this establishment whatever may be wanted, for use and beauty in furnishing a place without being obliged to go from one nursery to another. 1v1r W. F. KELSEY, Proprietor.

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Corner of Delger St. and Telegraph Av.

A choice collection of the most beautiful trees, shrubs, plants etc., to be found in California, suitable for general culture. Evergreen Trees, best standard sorts and fancy varieties; Deciduous and Evergreen Shrubery; Golden and Crimson leafed, and double flowering Geraniums.

**Elegant Fuschias,**

splendid assortment of Roses, and many most desirable Green House and out-of-door leaf and flowering plants.

*Orders carefully filled and forwarded.*

The entire stock for sale, including houses and business in a good locality at a bargain. Address, F. A. HERING, Nurseryman,

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GREEN HOUSE PLANT EVERGREEN TREES, SHRUBS, ROSES, ETC

A superior stock of large sized Australian Gum trees, including:— EUCALYPTUS GLOBOLUS, (Blue Gum), extra fine street and shade tree. EUCALYPTUS VIMENALIS, a beautiful droop-shade tree, fine leafed and fragrant; both sorts very popular. ACACIAS in variety. Montery Pines, Montery Cypress, Lawson's Cypress, etc., etc. Orders attended to. Address

1v1-tf **M. KING, Nurseryman, Oakland.**

## Trees for Silk and Trees for Shade.

I am thinning out my MULBERRY PLANTATIONS and will sell my surplus trees

**VERY CHEAP.**

1 year old Multicaulcis $20 per thousand.

2 and 3 yr, old do from $25 to $35 according to size.

2 to 3 yr old Alba and Moretti from $30 to $40.

Liberal discount on large orders or to the trade.

**Shade Trees!**

The large WHITE AND BLACK Mulberry's are the best shade trees in the State. I will sell well grown trees of these kinds from 12 to 20 feet high, at 25 and 50 cents each.

**Silk Worm Eggs and Silk Manual Free**

to customers for trees. Send your orders to

1v1-tfr **I. N. HOAG, Sacramento.**

## NEW SEEDS AND PLANTS.

WE OFFER FOR SALE

**CHOICE SEEDS, BULBS AND PLANTS**

from Australia, Japan and Sandwich Islands. Ramie, the celebrated China Grass, Vegetable, Grass and Flower Seeds; new and rare Plants, Fruit Trees etc., at the OLD STAND. "Send for catalogue."

**E. E. MOORE, 425 Washington St., S. F.**

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## TREES AND PLANTS!

By the 100, 1000, or 100,000, both at

WHOLESALE OR RETAIL,

AT LOWEST MARKET

**RATES.**

Fruits guaranteed true to name. My stock embraces all the leading fruits of the country from the Apple to the Strawberry—including the

**ORANGE, LEMON AND LIME.**

Also all the leading and favorite

*SHADE AND ORNAMENTAL TREES, SHRUBBERY, VINES AND PLANTS, MULBERRY TREES AND CUTTINGS, AND SILK WORM EGGS, ALSO THE*

Osage Orange Hedge Plant for fencing farms. Patent Grafting wax for top grafting, and the common Grafting Wax for top or root grafting.

Send for Circulars, Catalogues, Printed Directions and Price List.

Send 25 cts for Hoag's Treatise on Silk Culture.

**Address ROBERT WILLIAMSON.**

Capital Nurseries, U st., bet. 15th & 16th Sacramento Cal.

I am also a partner in the Tree yard of SAYLES & WILLIAMSON on K st., bet. 8th & 9th streets, Sacramento.

1v1-3mr

## LOS GATOS NURSERY,

On the Los Gatos Creek 2 miles south of San Jose. This new nursery now contains as fine an assortment

—OF—

*FRUIT TREES, ORNAMENTAL TREES, FOREST TREES, NUT TREES, SHRUBS AND PLANTS, AMERICAN, EUROPEAN AND AUSTRALIAN EVERGREENS, AND PALM TREES!*

as any first class nursery in the State of California with this advantage, viz: we have no old scrubby stock to get rid of. Every care has been taken to secure

**Reliable Standard Sorts,**

AND

**BEST VARIETIES;**

**Proper Training, and Vigorous Growth!**

We invite NURSERYMEN, DEALERS AND PLANTERS, to examine our

**STOCK AND PRICES.**

Our large and splendid collection of

**NUT TREES,**

we deem worthy of special mention. These include 2000 Chestnuts, 1, 2 and 3 years old. 5000 Pecan Nut, 1 2 and 3 years old; Wood very valuable for timber. Butternut, 1 and 2 years old. States Black Walnut, 1 and 2 years old. California Black Walnut, 1, 2 and 3 years old. Hickory Nut. English Walnut, 1, and 2 years old. Sweet Almond. Soft Shell Almond. Paper Shell Almond, etc.

Orders promptly attended to. Address

**SYLVESTER NEWHALL,**

**Proprietor Los Gatos Nursery, San Jose.**

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## SHADE AND ORNAMENTAL TREES,

**Grape Vines and Cuttings.**

WE OFFER A LARGE LOT OF THE

**White Mulberry, (Morus Alba)**

Of suitable size for shade trees.

The Mulberry is the most desirable tree to be had for shade or Ornament, and as rapid growers as the Locust. They are long lived and will flourish on any soil where other trees will grow, and will live in overflowed land as well as the Cottonwood or Willow, and can be used for Silk business if desired and are also valuable for timber.

ALSO,

**THE ELM, ASH AND OSAGE ORANGE,**

All very desirable Trees for shade and ornament.

ALSO,

**Grape Roots and Cuttings.**

Of all the choice varieties of Foreign and California, or Mission. Mulberry trees can be supplied by the 100 or 1000 to the trade at low prices.

All orders must be accompanied with the cash.

**Direct to A. P. SMITH,**

1v1-4in3mr Smith's Gardens, Sacramento.

## SAN LORENZO NURSERY!

**Established in 1853.**

We are prepared to furnish a GENERAL ASSORTMENT of Fruit and Shade Trees at as low rates as they can be sold at any reliable Nursery in California.

Orders solicited from all parts of the Pacific States. All trees carefully labeled and packed in the best possible manner for transportation. A liberal discount will be made on large orders. For further particulars send for catalogue and price list.

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## AMERICAN SEED STORE!

**W. R. STRONG,**

**SACRAMENTO, CALIFORNIA.**

A new and complete supply

OF

*FRESH SEEDS OF ALL VARIETIES FOR THE FARM AND GARDEN, ADAPTED TO THE PACIFIC COAST.*

All our seeds are warranted good and true to name, and are sold at lowest rates both at WHOLESALE AND RETAIL. A liberal reduction to the trade and those buying in large quantities. We are determined to

GIVE SATISFACTION TO ALL OUR CUSTOMERS.

Among our stock will be found all valuable kinds of Garden, Field, Flower, Herb and Tree Seed. Also 30,000 lbs. Alfalfa, of California growth. Red and White Clover, Timothy, Red Top, Blue Grass direct from producers in Kentucky, &c., &c.

**The celebrated Ramsdell Norway Oats $5 per Bushel.**

Early Rose and other choice varieties of Potatoes, &c. All orders filled with dispatch and all Seeds carefully packed and sent or shipped as directed. Catalogues or circulars sent on application free of charge. Address

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## PURPLE POPPY,

**[Amberger of Clermont.]**

Just received and for sale by

**C. L. KELLOGG.**

FIVE DOLLARS PER POUND.

**New York Seed Warehouse,**

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## GEO. F. SILVESTER.

**Seedsman,**

Importer and Dealer in all kinds of Vegetable, Flower, Field, Fruit & Tree Seeds, Garden Tools, Plants, Trees, &c.

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## Farmers, Ranchmen and Land Owners,

**TAKE NOTICE!**

Having a large quantity of fine large two year old

**MULBERRY TREES**

on hand more than for my own use, I will sell on satisfactory terms as to price and time of payment. The trees are of a

**Good Thrifty Growth,**

and well adapted for shade or ornamental purposes or for feeding worms.

Address,

**WM. M. HAYNIE,**

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DEALER IN

**Fruit, Shade and Ornamental Evergreen**

**TREES,**

Shrubs and Flowering Plants, Seeds, Bulbs, etc.

Depot cor. 13th and Broadway, Oakland. 1v1-m3

## SILK WORM EGGS.

**2,000** CARTONS JAPANESE ANNUALS, SILK WORM EGGS, just arrived

**For Sale in Bond or Duty Paid.**

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**Patented May 17, 1870.**

Has taken the premium at all the State Fairs East of the Rocky Mountains.

**The Greatest Labor Saving Machine of the Age**

*Warranted to make Butter in from Three to Five Minutes.*

It is self-cleaning, requires no scrubbing.

**100 JUST RECEIVED.**

For sale by **J. L. HUNT,**

1v1-2in6mr Cor. Battery and Washington sts.

## Douthett's Patent Double Motion

# DASH CHURN.

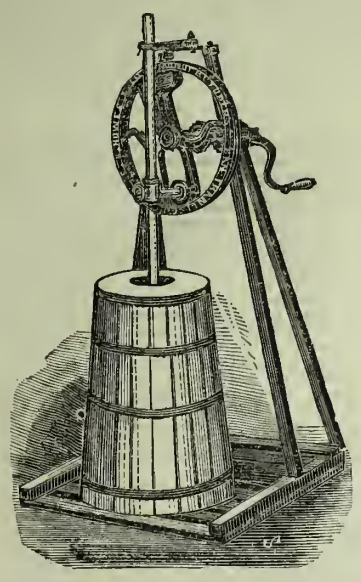
Making Butter in from 6 to 10 Minutes.

The only really useful and practical

**CHURN**

Ever Offered to the Public.

The old style of DASHER CHURN always had the preference over all others, and with this simple and



practical attachment, now stands WITHOUT A RI At the East it is rapidly taking the place of the

Thermometer and Cylinder Churn,

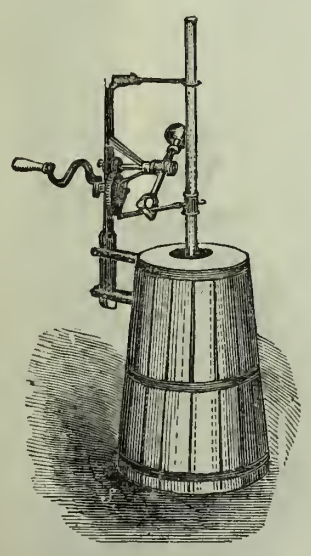
and its sales are enormous. Having bought the

**Right for this Coast,**

we are now prepared to furnish either large or small

CHURNS AND CASTINGS

as may be desired. We manufacture six different sizes of churns and the small casting can be applied to the three smaller sizes, and the large one with the frame and balance wheel to the three larger ones.



## WE CHALLENGE COMPETITION

in this churn and invite any one needing a GOOD churn to examine and try this one before purchasing elsewhere.

The gearing is all simple, leaving nothing to get out of order; the dasher is easily removed by simply opening or removing the guide holding it in its place, leaving the churn

ENTIRELY CLEAR OF ANY OBSTACLE.

In fact, it is the only churn that ever has been offered which IS ENTIRELY

FREE FROM ANY OBJECTION,

and we offer it as the

## Best Churn in Existence.

No.] 1 Churn holds 2 gallons;
2 do do 3 do
3 do do 6 do
4 do do 8 do
5 do do 13 do
6 do do 22 do

E. K. HOWES & CO.

Nos. 118, 120 and 122 Front Street, San Francisco, Cal

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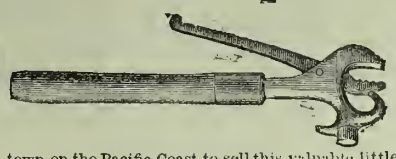
## WIESTER & CO.,

No. 17 New Montgomery Street, San Francisco.

**PATENTS BOUGHT AND SOLD ON COMMISSION.**

**Longshores Combination Tool.**



This device is just what its name indicates. As a KITCHEN TOOL it is indispensible. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

**New Gas Light.**

This Light takes the place of the Candle, the Kerosene Lamp and Coal Gas. Each Lamp is a perfect Gas Factory, making its own gas as fast as it is required. It is a safe, cheap and beautiful light. Circulars and full particulars sent on application.

A few good traveling agents wanted to sell this and other valuable Patents.

**Hay Press.**

The best and cheapest hay press in the United States. Presses furnished at manufactory cost to parties buying County or State Rights. The profits on a few Presses will pay for a county Right.

**New England Spring Bed.**

The cheapest and best in the market. Rights for sale and beds at cost. Send for descriptive circular.

**WIESTER & CO.,**
**17 New Montgomery Street, (Grand Hotel), San Francisco.**

1871. 1871.

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# Overland Monthly

*The only Literary Magazine*

PUBLISHED ON THE PACIFIC COAST.

The Sixth Volume of this popular California Magazine will commence with the January Number for 1871. We promise our readers rich things during the coming year.

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CLUB RATES: — Two copies, $7.00; Five copies, $16.00; Ten copies, $30.00; and each additional copy, $3.00. For every Club of Twenty Subscribers, an extra copy will be furnished GRATIS.

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JOHN H. CARMANY & CO., No. 409 WASHINGTON STREET,
*SAN FRANCISCO, CAL.*

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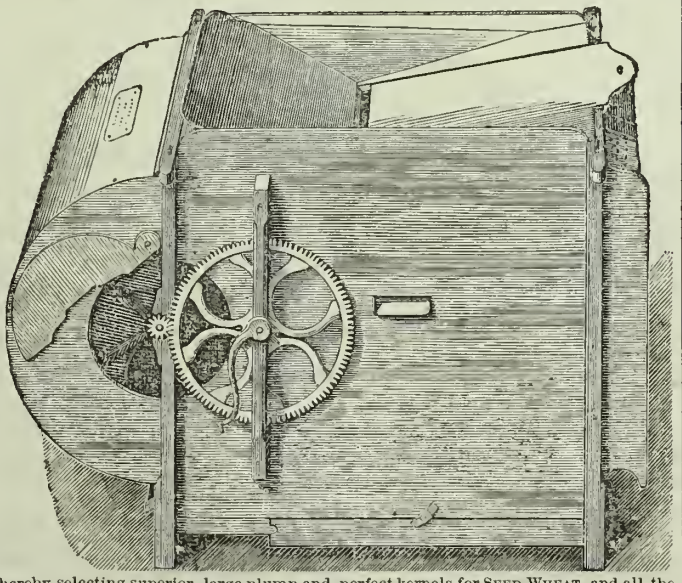
## NOVELTY MILL AND GRAIN SEPARATOR.



THE undersigned having purchased of the Patentees, WIRTS & SWIFT, of Hudson, Michigan, their right to this mill, Patented June 22d, 1869, for California, Oregon, Washington Territory, Montana, Utah, New Mexico and Arizona, wishes to call the attention of FARMERS, MILLERS AND GRAIN DEALERS to one of THE GREATEST IMPROVEMENTS OF THE AGE for cleaning and separating grain. While it combines all the essential qualities of a first-class FANNING MILL, it also far excels anything that has ever been invented for the separation of grain. It has been thoroughly tested on all the different kinds of mixed grain, separating all the different seeds in almost a magical manner, placing them in their different compartments in the mill arranged for their reception, at the same time taking out all the *Mustard, Grass Seed, Barley and Oats*, and making two distinct qualities of wheat if desired, thereby selecting superior, large plump and perfect kernels for SEED WHEAT, and all the small and cut kernals, such as merchantable wheat, is deposited in another compartment. By the use of this Mill a great quantity of wheat usually sown that has been cleaned in the common mills will be saved to the farmer, as the cut or shrunken kernals will never germanate.

The above mentioned Novelty Mill is the only mill known to possess all these superior qualifications, and was exhibited and tested at the last Michigan State Fair held at Jackson, Michigan, September 21, 22, and 23, 1869, and bore away the palm over some thirty other different mills from all parts of the United States, including the famous Dicky Mill of Racine, Wisconsin. All who have witnessed here the operations of the NOVELTY MILL, declare it perfection, and the most beneficial invention to the Farmers, Millers, and Grain Dealers ever introduced on the Pacific Coast. The farmers in Santa Clara County, are loud in its praise, and also in other parts of the State where it is being introduced. No. 1 Mill, complete, is capable of cleaning 25 tons of grain per day; No. 2 Mill, 15 tons; No. 3. Mill, 8 tons. A large number of recommendations and certificates of the practical working of the mill will be furnished, Circulars containing references sent free by mail. N. B. Town, County, or State Rights for sale on favorable terms. For further particulars apply to

11v21-3m **R. STONE, 422 Battery Street, San Francisco.**

## 1000 Farms in Los Angeles Co.

For Cotton, Wheat, Corn, Grapes, Oranges etc. The "Abel Stearns Rancho," 200 square miles in sections, quarter sections, etc., on Government system of survey, forming blocks one mile square, with road on each side, fronting on the ocean; the Railroad to San Francisco to pass through them; the unsold portions subdivided, for sale on long credit, or rent. The famous Anaheim is on this tract. For Maps, Circulars, etc., apply to B. F. NORTHAM, 432 Montgomery st., San Francisco, or TIMO. LYNCH, at Anaheim and Los Angeles. 1v1-3mr

## Willamette Farmer,

**Salem, Oregon.**

**The only Agricultural Paper published in Oregon.**

The Best Advertising Medium.

Terms of Subscription:—One year, $2.50; six months, $1.50. Address

8v21-tf **A. L. STINSON, Publisher.**

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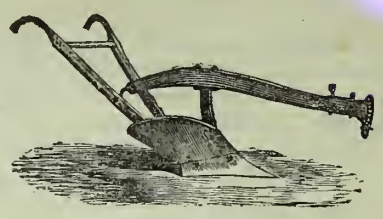
IMPORTERS AND DEALERS IN

ALL KINDS OF



FARMING

**IMPLEMENTS AND MACHINES, PORTABLE STEAM ENGINES, HARDWARE,**

Would call the attention of Farmers and Dealers in Agricultural Implements to their very extensive stock for the trade of 1870-1871,

CONSISTING OF

**Plows, Harrows, Cultivators, Horse Hoes, Gang Plows, Seed Sowers, Buckeye Grain Drills, Hill's Cal. Sowers, Hay Cutters, Seed Cleaners, Grist Mills, Barley Mills, Cider Mills, Fan Mills, Grape Crushers, Mow-**

ers, Reapers, Headers, Header Wagons, Threshers, Wheeled Rakes, Hay Presses, Rubber Belting, Leather Belting, Baling Wire, Baling Rope, Nails, Shovels, Bolts Rivets, etc., etc. Orders by mail or Express will receive prompt attention. BAKER & HAMILTON,
Nos. 9, 11, 13, and 15, J street, Sacramento,
1v1-3mr Nos. 17 & 19 Front st., San Francisco.

THE

## ASPHALTUM PRESSURE PIPE

**COMPANY,**

**HAVING ERECTED A MANUFACTORY** of sufficient capacity to supply their Asphaltum Pipe in large quantities,

Are now Prepared to Take Orders

**AND MAKE CONTRACTS.**

This Company will manufacture Pipe and guarantee it to stand any pressure required; it is lighter than iron pipe and more durable, it is not affected by chemical action, cannot corrode, and being glazed imparts no disagreeable taste to water. To miners and farmers it is invaluable; any body can put it down; it is twenty per cent cheaper than iron pipe and ten times more durable. For further particulars, apply at the office of the Company, Room No. 2, 645 Market street.

☞ Circulars sent on application. 16v21-tf

## Swamp Land Reclamation.

—THE—

California Peat Company,

OWNERS OF THE

Roberts' Steam Ditching Machine,

are now ready to take contracts. They are prepared to construct

**Ditches and Levees.**

of any desired dimensions. Terms easy. Address,
J. B. TOWNSEND, 636 Clay Street.
P. O. Lock Box, 814.
23v21-1m

## TEAM WANTED TO PURCHASE.

A four or six horse team is wanted by the advertiser with or without wagon or gang plow. Required to be delivered at Gilroy, Watsonville, Salinas, or the vicinity of those places. A party wishing to sell a team, etc., can hear of a purchaser by sending a letter addressed B RURAL PRESS, containing price and other particulars.

WM. M. LYON. CHAS. J. BARNES.

## LYON & BARNES,

Successors to LYON & SON, dealers in Produce Vegetables, Butter, Eggs, Green and Dried Fruits, Cheese, Poultry, Honey, Beans, etc., etc.
1v1-3mr No. 21 J Street Sacramento.

GILES H. GRAY. JAMES M. HAVEN.

## GRAY & HAVEN,

**ATTORNEYS AND COUNSELORS AT LAW,**

in Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,
27v16 SAN FRANCISCO.

## GAS.

**The Pacific Pneumatic Gas Company**

Begs to call the attention of the public to its gas works which are suitable alike for domestic, manufacturing, and general uses. Their apparatus is the only one worthy of the confidence of those who desire an economical and brilliant light, with perfect safety from accidents.

These works are in successful use in the following private residences: Gov. Haight, the Encinal, Alameda; H. F. Williams, Esq., South San Francisco; J. R. Arguello, Esq., Santa Clara; A. P. Brayton, Esq., Oakland; O. W. Childs, Esq., Los Angeles; Mrs. Brayton, Oakland; Capt. Wilcox, San Diego; J. P. Jones, Esq., Gold Hill, Nevada; W. B. Isaacs, Esq., Post St., San Francisco; Jos. A. Donohoe, Esq., Menlo Park; M. Schallenberger, Esq., San Jose; Capt Kidd, Stockton; John Parrott, Esq., San Mateo; Col. J. C. Hays, Oakland; A. A. Cohen, Esq., Alameda; A. D. Bell, Taylor street, San Francisco; J. S. Emery Oakland, and Isaac Requa, Esq, Virginia City Nevada.

Also in the following public institutions: the City and County Almshouse, San Francisco; the County Hospital, Sacramento; the Industrial School, San Francisco; the State Institute for the Deef, Dumb and Blind, Berkely.

Also, the following private institutions: The College of Santa Clara, Santa Clara; the Alameda Insane Asylum; Alameda; and the New Hall and Theater, Petaluma.

Also in the following Mining and Manufacturing works, The Pacific Iron Works, San Francisco; the Chollor-Potosi Hoisting Works, Virginia City; the Eureka Gold Mining Company's Hoisting Works and Mill, Grass Valley, California; the Crown Point Mining Co.'s Mill (the Rhode Island), Gold Hill, Nevada.

Also, in the following stores; E. Cohn & Co., Marysville, Gibson and Cross' (saloon), Gold Hill, Nevada; P. Brown & Bro., Marysville; Wm. Klein, Marysville, J. M. Browne, Gilroy; and N. Wagner & Bro., Marysville.

Also, in the following hotels; Horton's New Hotel, South San Diego; the International Hotel, Virginia City, and the St. Charles Hotel, Carson City.

Also, in large works adapted for town purposes: in the Workshops, Streets and Officers' Residences, at the United States Navy Department, Mare Island.

Pacific Pneumatic Gas Company; office 206 Sansome street, San Francisco. Send for Illustrated Pamphlet and Price List. A. D. BELL, Secretary.
J. W. STOW, President. 1v1-3m-r

TRAVIS & WAGNER, 41 First St.—Mill Stones, Belting Cloth and general Mill Furnishings. Portable Mills all sizes from 16 to 36-in. No superior manufactory for farmers & ranchmen.

## TO CLUBS.

Send in your subscriptions as fast as obtained. After the first ten names have been paid for, others can be added within any reasonable time, thereafter on the same terms. Clubs may be composed partly of names for RURAL, and partly for SCIENTIFIC PRESS Blanks and extra copies furnished when desired.

## What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—*San Jose Ind.*

The first No. evinces marked editorial ability.....Fills up a vacancy that has been felt in our agricultural department. ....With its publishers there is no such word as fail.—*Mt. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, $4.—[*Sonora Dem.*

It is a work which no farmer should be without.—[*Vreka Union.*

An admirable specimen both as to execution and contents. ... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—[*Stockton Daily Ind.*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—[*Encinal Alameda.*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life." —[*Encinal.*

They can, if they will, make it a creditable work. [We will that.] It opens well.

Excellent paper and type—and a first-class agricultural journal....Its merite entitle it to a large circulation, which we apprehend it will speedily obtain.—[*Vallejo Recorder.*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—[*Arizona Miner.*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—[*Idaho Statesman.*

Just the kind needed on this coast, and merits an extended circulation.—[*Red Bluff Independent.*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation....

Is running over with entertaining and instructive reading matter, and embellished with numerous engravings.

The heading is beautiful and appropriate.—[*Pajaronian.*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press.*

If the first number is to be taken as an earnest of what will follow, each week, we can advisedly say to all interested in agricultural pursuits..subscribe.—[*Vallejo Chronicle.*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—[*Evangel, S. F.*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the bill.

We notice that I. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—[*Yolo Mail.*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unchastenese in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press"—which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—$4 a year; or to a club of 10 or more, $3. Sample copies sent on receipt of a postage stamp.—["Alpine Miner."

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—[Democrat, Downieville.

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—[Alpine Chronicle.

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—[Christian Advocate, S. F.

It will represent the agricultural interests of California and the Pacific Slope. * * * With so much ability as to command a wide circulation and influence.—[Helena, (M. T.) Gaz.

Will be found worthy the patronage of the people of this State.—[Argus, Snelling.

We heartily welcome the new publication.

The interests of our own county are about equally divided between mining and farming.

Not a farmer in it, however well informed, but may learn something of value pertaining to his business, from an ably conducted paper, specially devoted to the consideration of the peculiar conditions of soil, climate and seasons of the Pacific Coast.

From the well known ability and energy of the publishers, we doubt not that the "Rural Press" will fulfill all these conditions.—[Inyo Independent.

FROM A CORRESPONDENT.—I have seen your "Pacific Rural," and I never tire of looking at and studying its "head and front." It is a *taking* picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

# New Advertisements.

*No quack, indelicate or other disreputable notices will be accepted. All advertisements in this paper appear in our monthly edition and bound volumes of the Pacific Rural Press for Railroad Depots, Steamboats, Hotels, and other free reading rooms.*


## FLOWER SEEDS!

Our New Illustrated Catalogue,

Containing lists of

Stove and
Bedding Plants,
Flower Seeds,
Hardy Herbacious Plants,

**Dahlias, Gladiolus, Lillies,**

and other bulbs, is now ready and will be mailed to all applicants. Address,

MICHEL BROS. & KERN,
107 N. 5th street, St. Louis, Mo.

N. B. Choice bulbs and seeds sent by mail. 4v1-3mr

## GLEN GARDENS,

ONE MILE EAST FROM SACRAMENTO.

Large stock of fruit and shade trees for sale. My stock embraces all the celebrated varieties that are favorably known, including the justly celebrated "Hales Early Peach!" of which variety I have 1,500 bearing trees. ALSO, GRAPE VINES AND CUTTINGS of the leading sorts; 100,000 Blackberry and Raspberry Plants of the most popular kinds, warranted true to name; Mulberry Trees, for feeding Silk-worms, in quantities to suit. All offered at low prices. Orders left with A. H. CUMMINGS & CO., 30 J st., or sent by mail to the proprietor, will be promptly filled. Now is the time to plant! Fall planting will add a year's growth to trees or vines.

4v1 E. F. AIKEN, Proprietor

## YOSEMITE HOUSE,

STOCKTON, CAL.

ALEX McBEAN, Proprietor.

THE LARGEST AND

**Best Furnished House in this city.**

January 28.--4v1-3mr


## Stolen Land Warrant.

Notice is hereby given, that the undersigned will apply to the Commissioner of Pensions, as the law directs, for the re-issue of Military Bounty Land Warrant, No. 90,783, for one hundred and twenty acres of Land, issued April 28, 1857, to Annie Farnsworth, widow of James Farnsworth, private in the New York Militia, war of 1812; and which said warrant was stolen from the undersigned, in the city of San Francisco; on the nineteenth day of November, 1864; and all persons are cautioned against using or purchasing said stolen Warrant, as such purchase or use will be considered void.

T. HART HYATT.

Dated San Francisco, Cal., Jan. 21, 1871. 4v1-6wr


## Homœopathic.

TREATMENT OF

| | |
|---|---|
| Dyspepsia with 8 Remedies | $1 50 |
| Piles " " " | 1 50 |
| Neuralgia " " " | 1 50 |
| Fever and Ague " " | 1 50 |
| Croup with " " | 1 50 |
| Rheumatism with 12 " | 2 00 |
| Diarrhœa " " " | 2 00 |
| Whooping Cough and Cough | 2 00 |

Each of the above little works contain a plain account of the diseases named, and their proper treatment, by Homœpathic remedies.

A neat case containing the remedies, and including the book, will be sent carefully packed, by mail, to any address on receipt of above prices.

Veterinary Medicines and Books. Address

HOMŒOPATHIC PHARMACY,

4v1-1mr 234 Sutton st., San Francisco.

## Ramie! Ramie!

**60,000** Roots or cuttings of the above valuable Plant—raised in California—for sale by the undersigned, where all necessary information in regard to its cultivation will be given.

All orders promptly attended to by

J. P. SWEENEY & CO.,

Seed Warehouse, 409 and 411 Davis street, San Francisco, or at the Nursery, by

JOSEPH GRAHAM,

3v1-3mr Hayward's Alameda County, Cal.

## THE NEW TYPE

ON WHICH

**THE PACIFIC RURAL PRESS**

is printed, is from the

CALIFORNIA TYPE FOUNDRY,

405 and 407 Sansome St.

GEO. L. FAULKNER, Agent.

1v1-3minr

## ITALIAN BEES.

Are steadily gaining in favor with bee-keepers in the Eastern States and in Europe. Their hardiness, greater industry, superior quantity and quality of honey produced by them, as well as their more peaceable disposition while being handled, make them doubly as valuable as the common Black Bee. Many thousands of Italian Queens are reared and sent by express and mail to all parts of the country annually by numerous breeders in the Eastern States, who are taxed to their utmost to supply the demand.

I have as PURE ITALIAN STOCK as any in the United States, and will sell at Eastern prices. Bee Hives and Bee Books for sale. Also, Shade Trees, Mulberry Trees and Silk Worm Eggs, at lowest prices. Send for Circulars, Address J. S. HARBISON,

3v1 Sacramento, Cal.

57 STATE STREET, CHICAGO.

—ALSO—

the special Western Agents for the celebrated

**LANDSCAPE HAND LAWN MOWER.**

The best, most simple and effective mower in use.

**PRICE---$25.**

Send for catalogues of seeds, bulbs. Circulars of Lawn Mower free to all on application.

HOVEY & CO., 57 State Street,

3v1-3mr Chicago, Ill.

## Plant's St. Louis Seed Store,

[ESTABLISHED 1845 BY WM. M. PLANT.]

**L. G. PRATT & CO., Proprietors,**

DEALERS IN

Garden, Grass & Field Seeds,

ALSO, FARM AND GARDEN IMPLEMENTS.

Correspondence solicited, and quotations promptly given. Catalogue and Price List mailed free to all applicants.

☞Special inducements offered to Market Gardeners.

Address L. G. PRATT & CO.,

3v1-3qs3mr St. Louis, Mo.

## We wish to Call

THE ESPECIAL ATTENTION of the owners of some of the best Patent Gang Plows in California, to the

**"BUTLER PLOW,"**

now on exhibition at the SCIENTIFIC PRESS office.

☞As no arrangements have yet been made for their Manufacture or sale of territory effected.

For description of the PLOW, see article in the second number of the RURAL PRESS,

**"A Singular Looking Plow."**

Please Address, E. P. HICKS, S. F., Cal.

2v1-1tr

THE CHEAPEST

**Agricultural and Horticultural Journal In the United States.**

## The Journal of the Farm,

16 Large Octavo Pages.

*HANDSOMELY ILLUSTRATED,*

Price one Dollar a Year.

CLUBS OF 20 - - - - - - - - FIFTY CENTS.

ADVERTISERS

Are informed that its circulation is larger than that of any other paper of its class published in the state of Pennsylvania.

*Address* *JOURNAL OF THE FARM.*

20 S. Delaware Avenue, Philadelphia, or

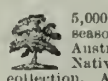
24v21-tf 230 S Water Street, Chicago.

## 18 Years in Business in California.

**A. D. PRYAL,**

Landscape Gardener and Nurseryman,

Three miles North of OAKLAND on the Temascal Creek.



5,000 Orange and Lemon Trees for sale this season! Fine Japanese Tea Plant; Eucolyptus, or Australian Gum Trees of all the best varieties. Native Evergreen trees and shrubs, superior collection. A large assortment of choice varieties of

**English Goosberries!**

—ALSO—

**CURRANTS OF ALL GOOD SORTS.**

ROSES AND CLIMBING PLANTS.

Gardens and Grounds laid out, and planting superintended. Address, A. D. PRYAL,

3v1-2intr Oakland.


## Our Correspondents.

We are authorized to name the following, among the well known writers on this coast, who will write regularly or occasionally for the columns of the PRESS.

Prof. Ezra Carr, of the University of California; Dr. J. R. Thomas, Vacaville; I. N. Hoag, W. Wadsworth, T. M. Logan M. D., Rev. O. C. Wheeler, and J. S. Harbison, Sacramento; E. S. Holden, M. D., Stockton; S. H. Herring; Dr. Anderson, Santa Cruz; G. N. Sweezy, Esq., Marysville; and others whom we may be at liberty to mention hereafter.

OUR ADVERTISERS—A more deserving of patronage list cannot be found in any journal.

A. B. BOWERS, of this paper is making a short trip in the county of Sonoma, and will be glad to receive subscriptions and receipt for dues, to either the SCIENTIFIC or RURAL PRESS.

**Take Your Choice.**—Since its first issue we have sent this paper to the subscribers of the farming edition of the SCIENTIFIC PRESS. If we have thus transferred the names of any who prefer the SCIENTIFIC PRESS, we will return their names to the list for that paper, and send back numbers, if notified in season.

A NEW AGRICULTURAL PAPER.—We were called upon this week by Mr. C. T. Jennings, who is canvassing this county on behalf of the new agricultural paper to be published by Messrs. Dewey & Co., the publishers of the San Francisco *Scientific Press.*

SUCCESS IN BUSINESS.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALD'S BUSINESS COLLEGE, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and HEALD'S COLLEGE JOURNAL, which will be sent free upon application. Address, E. P. HEALD, President, business College, San Francisco, Cal. 1v1-3msnr


[ADVERTISEMENT.]

## Ramsdell's Norway Oats.

### Beware of Spurious Seed.

Nearly or quite all the unfavorable reports which have come to the ear of the public with regard to these oats, have been due directly to spurious seed; the high price that the Norway oat bears, operating as an inducement to swindlers. Buy no seed unless genuine. See below from whom and how to get it in this city.

**PRICES.**

By mail, postage paid, 2 lb. packages, 75 cts. By express (not prepaid), 16 lbs., $3.75 In large quantities at still greater reduction.

CLUBS.—We advise parties desiring to buy small quantities only, to unite with their neighbors in a joint order, making the cost less for cash.

OUR AGENTS will receive orders for these oats on the above terms.

**For these Oats, in large or small quantity, send direct to the Pacific Rural Press office, 414 Clay St., San Francisco, DEWEY & CO., Agents.**

PACIFIC RURAL PRESS

Number 5.] SAN FRANCISCO, SATURDAY, FEBRUARY 4, 1871. [Volume I.

## Sunset on the Coast.

We reproduce this week a fine marine piece by one of our most celebrated American marine painters, Mr. De Haas, of New York. The original painting has been chromo-lithographed by Prang, and the engraving is copied from the chromo.

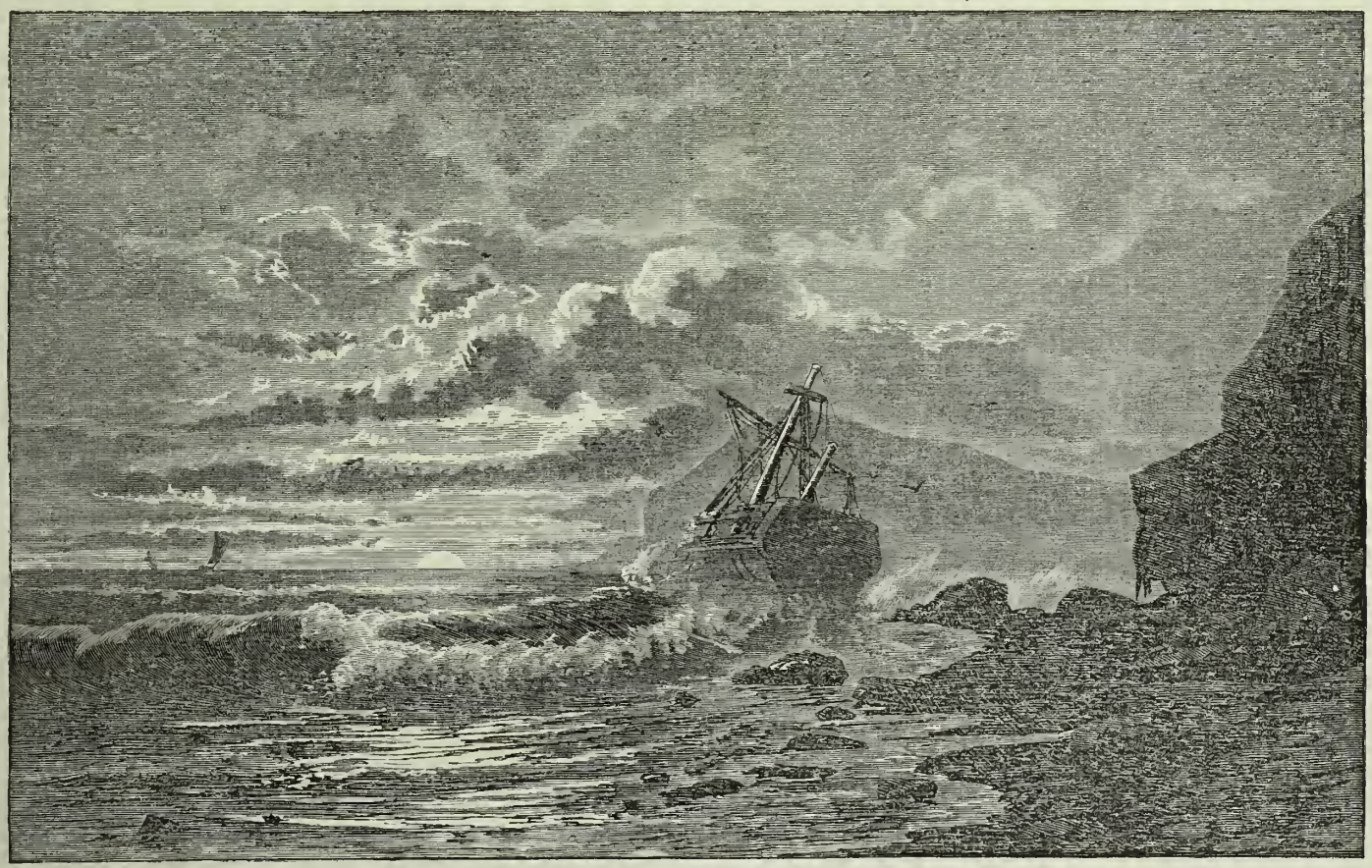
We proposed, in a former article, saying a few words concerning chromos. As we owe the extensive application of this art to Mr. Prang, it may be of interest here to give a few facts in the history of this gentleman. These may be considered correct, as they are taken from his own paper.

Mr. Prang is by birth a German, and received in his native country and other continental States, as well as in England, a thoroughly practical education in everything pertaining to the application of chemistry to the useful arts. Becoming embroiled with the Government of Prussia in consequence of the active part which he felt it his duty to take in the revolutionary movements of 1848, he determined to emigrate to the United States, and, soon after his arrival here, took up his residence in Boston, where he has continued to live ever since. He has employed himself chiefly in wood engraving and lithography.

At the beginning of the war, his local business as a commercial lithographer being entirely ruined, he commenced the publication of military maps, card portraits of the Federal Generals, album pictures and illuminated texts; and his immediate success in these ventures led him to attempt chromo, the monopoly of which hitherto had been enjoyed by Europe. His first chromos were not successful, but the publication of a group of chickens, after Tait, won an instant popularity, not only for the picture itself, but for the new art. Since that date he has issued, in regular and quick succession, a series of chromos after American and foreign artists, but chiefly after native painters, which have been received with almost unvarying favor, and have won for his house a popularity that is seldom attained excepting after long years of honest work, great expense and untiring energy.

His Art Publishing House, the first building ever erected in the world for the sole purpose of issuing art publications for the million, was first occupied in October, 1858, and in it, at present, one hundred men and women are constantly employed. It is situated in what was once Roxbury, a city which has been annexed to Boston and now is called Boston Highlands.

Mr. Prang has been so successful, that he has found it necessary to establish agencies in every large city in the Union. The agents here are Messrs. Snow & Roos, who have a choice collection of chromos as well as of engravings and paintings. They are to be found at No. 21 Kearny street.



SUNSET ON THE COAST. BY DE HASS.

## OUR SECOND MONTH.

With the present number of the Pacific Rural Press we enter upon the second month of its publication. We think we have made a good beginning and fairly fulfilled the promises made at the start, and we feel confident, that with the assistance of our friends we can do better in the future. We believe we have many new friends, and we only ask each to do a little toward filling up our columns and increasing our circulation, and thus aid us in carrying forward the work so much needed. Those who do so will in the future look back with pleasant memories on their efforts to aid us in building up a journal which shall fairly represent the agricultural and rural interests of the Pacific coast. To writers, agents and all assisting friends we return many thanks.

## PROSPECTS OF THE SEASON.

From all parts of the state our exchanges come bearing words of gladness and hope. The breadth of wheat sown has been unusually large, and although the quantity of rain which has fallen has not been great; still, in contrast with past seasons, the manner in which it has come has been much more promising and propitious. While last season the rains were almost unvariably followed by drying and blighting north winds, those which have lately fallen have been attended with most favorable conditions of both the thermometer and barometer. Coming gentle and warm, they have been absorbed by the earth with very little loss from evaporation; while the generally moist atmosphere and heavy dews have also materially assisted their beneficial influences.

So gentle and penetrating have the rains been in the mountains, that the streams are not swollen to anything like the extent usually due to the total fall thus far; while the ditches are nevertheless running quite full, and furnishing an abundant supply to the miners. Should the later rains come as usual, there will be a fair amount of moisture for the crops, and altogether we can but feel confident of a good and prosperous season for all.

To Correspondents.—"The San Jose Beet Sugar Enterprise" will appear next week; also a communication with reference to the ornamentation of the grounds of the Santa Clara County Agricultural Society; some "Notes of Travel" in Monterey county; a few remarks about the "Use of Straw" and on the subject of "Plowing."

## HORTICULTURAL EXHIBITION.

The Bay District Horticultural Society are making arrangements to hold an exhibition, in this city, in September next. At their last regular meeting, on Saturday evening last, rules and regulations were adopted to govern the exhibition. Committees were also appointed for perfecting the arrangements to incorporate; for framing a premium list for the exhibition, and for preparing estimates of the probable cost of the exhibition.

The Society's time has been taken up since its existence in perfecting its inner organization, but already a series of lectures has been inaugurated, two of which have been delivered by Prof. Bolander, on the Coniferas of California. It is the intention of the Society to publish reports of these lectures, and the result of the workings of the Society, for the benefit of the people of California and elsewhere.

The Society is ready to take up matters pertaining to horticulture, for discussion, and give facts and information of its own, as much as can be obtained from the best and most reliable sources.

A resolution was passed at the last meeting by which professional men in particular, and advocates and friends of horticulture generally, are invited and urged to become members of the Association.

Swamp and Overflowed Lands.—We give, on page 76, a review of Swamp Land Titles and Legislation, by a gentleman who for several years occupied a responsible position in the office of the State Surveyor General, and who is also *ex-officio* Register of the State Land office. It covers the whole ground and apparently exhausts the subject, though want of space precludes giving the whole in this issue. So much has been written by those who are not familiar with the subject, that the public has anything but a correct view of the matter. All interested in such matters will do well to give this article, lengthy though it is, a careful perusal.

## MECHANICAL PROGRESS.

PEAT FOR GAS.—T. H. Leavitt of Boston, of whom the *Gas Light Journal* speaks as a recognized authority upon the subject, and from whose articles upon various peat uses we have more than once quoted in the PRESS, contributes an article to the journal aforesaid for Jan. 16th from which we take this extract: "It is well known that large quantities of peat are used for fuel in Paris; some concerns employing several hundred men in its production; and that by one or more of the gas companies outside of the city, it has been used for a considerable time for the manufacture of illuminating gas. A commission charged with the duty of investigating the matter for practical purposes made report, of which the following are, in substance, some of the items: The illuminating power of peat gas exceeds that of coal gas as 342 to 100. The manufacture of gas from peat is more simple than from coal. The peat, if put into an iron retort, and heated to a low red heat affords immediately a mixture of permanent gases and vapors, which condense into an oleaginous liquid, which two products separate on cooling. The oil is collected in a vessel, and the gas passes into a gasometer. This carburetted hydrogen, however, is of very low illuminating power. The oil, which is a viscous, blackish liquid, of strong odor, is subjected to a new distillation, and resolved wholly into a permanent gas, and hydrogen very richly carburetted. This mixture is strongly illuminating, yielding a flame six or eight times brighter than the first, and of remarkable brilliancy. The two are then mixed, and a gas of intermediate character obtained, which is delivered for consumption. A mean of five determinations gave for a burner of peat gas a light equivalent to 23¼ candles, and the same burner with coal gas gave 6 3-10 candles. The illuminating power of the pure oil from peat as compared with gas from coal is as 756 to 100. The purification of peat gas is much more easily accomplished than coal gas. * * * From these data, it would seem that inducement is offered for our gas companies to attempt the utilization of peat. Moreover, it is known that some of our own peats are far superior for gas purposes to any on which are based the reports referred to. Many of our large cities are especially favored in this respect. Our Atlantic coast is abundantly supplied; Cape Cod is full of it; nearly one half of Nantucket is peat of excellent quality, and Martha's Vineyard affords a peat almost without limit, which as adapted for this special purpose, is probably unsurpassed by any deposit in the world, while vessels can come within fifty rods of it, loading at the minimum of cost."

COMPLETION OF THE GREAT GUN.—The London *Mechanics' Magazine* says: "On Tuesday, Dec. 13th, 1870, the final operation in the construction of England's greatest gun was successfully performed at the Royal Gun Factories, and the monster cannon now only requires to be vented and proved. The tube of the gun, which is about 16 feet long, was brought out of the factory in which it has been rifled, and fixed, muzzle downward, in a pit, under the most powerful crane which the Royal Arsenal possesses. The heavy breech-piece—a mass of iron weighing 15 tons, and in shape something like a tailor's thimble—was heated nearly to redness on an adjacent gridiron, in order to expand the metal, and was carefully lifted and dropped like a cap over the breech of the perpendicular tube. When cold, the caliber of the breech-piece was slightly less than the diameter of the tube, but the heat expanded it so as to allow nearly ¼ inch free play between the two, the cooling being afterwards assisted by jets of water. The gun weighs 35 tons 7 cwt.; the diameter at the breech is 4 feet 8 inches, and at the muzzle 1 foot 9 inches. The bore is rather less than 1 foot, and is rifled on the "Woolwich" system. It consists of an inner tube of steel tempered in oil, and incased in massive folds of wrought-iron in accordance with Fraser's double-coil system. With a gun so strongly built it is thought possible to throw a shot or bolt 700 lbs. in weight, and to pierce iron armor 15 inches in thickness, the ordinary charge of powder being calculated at 120 lbs. The shot will probably be three times the length of its diameter. The estimated cost is £2,500."

SEWING MACHINES.—"The number made by twelve principal companies during the past year amounted to 320,669, which, at the average price of a first-class machine, say $75, aggregated $24,050,170. The first-class American sewing machine is to be found in all quarters of the world, and the supply comes principally from this city and Boston. There are many cheap machines which are not counted in these figures; also many cheap imitations manufactured in England and on the Continent which are sold as of American make. Germany, in particular, does a very large business of this kind, Hamburg having no less than six large factories running, and finding a market principally in Russia. Notwithstanding this competition, the machines sent from this country command high prices, on account of excellence in workmanship. The largest number made by any one concern in a year was 86,781. As the cost of manufacturing good machines varies from $12.50 to $60, and the prices at which they are sold range from $60 to $350, the profits of the business are enormous." —*Sci. American, Jan. 7th.*

"COMPOSING" MACHINE.—Under this name the New York *Tribune* describes a new apparatus which is operated as follows: "The letters of the alphabet are arranged in regular order in a type-head two inches square, and are operated upon by keys, as in a piano. When the keys are touched, the type-head moves to its position, and action is had upon whatever letter is touched, the type moving downward a prescribed distance, and making a printed impression on transfer paper. The platen on which the paper is laid is moved by a feed-wheel, and the spaces between the lines are produced by lateral motion by means of a ratchet-wheel. The impressions are finally transferred to a zinc plate, and printed by a lithographic press. In place of transfer paper a mold of clay or wax may be used to receive indentations, from which a stereotype cast can be obtained."

HORSE-SHOE ROLLS.—The following description of Reese & Graff's machine at the Fort Pitt Iron Works, Pittsburg, is credited by the *Iron Age* to "a local paper": "The machine has two horizontal rollers and one vertical. The horizontal are not exactly circular, their form being so proportioned that in every half revolution they gradually tighten down on one part of the iron, thereby giving thinness to the parts intended for the toe and thickness to those for the heels. The upper roll is provided, in a portion of its face, with two tongues which press the creases for nails; the lower with a sloping flange which produces the bevel. The vertical roll is to give the proper width. It is in the shape of an ellipse slightly pointed at either end of its longer axis. At its every half revolution the side of one shoe is compressed. Thus the shoes are at one rolling so complete that naught remains except to cut, punch and bend. We amused ourself in calculating the capacity of these machines. There are two trains. Each makes two shoes at every revolution. Their ordinary speed is 180 revolutions per minute. This would make 720 shoes every minute, or 1,036,800 daily. They are never run to their full capacity, however, owing to the fact that Messrs. Reese, Graff & Co. have not the means of heating more than 20 tons of horse-shoe iron daily."

LARGEST LITHOGRAPHIC PRESS IN AMERICA.—The *Scientific American* describes this machine,—the work of Hughes and Kimber, of London,—and after detailing the steps of the old process of lithographing with the "scraper press", says:—"Now on the cylinder press every detail of this process is in its essential features performed automatically, except that the pressure is obtained by the weight of a heavy roller and powerful compound leverage connected therewith, which roller carries the paper and rolls over the surface of the stone, in lieu of the roller, tympanum, and scraper, above described. The moistning of the stone, and the inking of the plate, are done by ingenious self-acting devices which perform the work in the most thorough manner, the dampening of the stone and the inking being done two or more times for each impression, as may be desired. Any kind of work is performed better than it can be done by the old means, and from twenty to thirty times faster. The press from which our engraving has been made will print blocks 60 by 40 inches, and as good lithographic stones of this size are difficult to obtain and handle, zinc is now much used as a substitute. * * A peculiar advantage of the cylinder over the scraper, is that the cylinder wears the stone much less than the scraper, so that from 20,000 to 30,000 impressions may be taken from a single transfer."

## SCIENTIFIC PROGRESS.

THE ECLIPSE OF DEC. 22d.—Reports are to the effect that the weather was more or less unfavorable for observation at nearly all the stations; and at Oran, Algiers, where were Prof. Tyndall, Dr. Huggins, and several other notables, fully equipped with every possible instrumental aid, it was still more unpropitious than at the European stations. *Nature* for Jan. 5th gives the report from that place as follows: "The morning of the 22d broke very doubtfully, heavy driving clouds obscuring the sun. The party were, however, all at their posts betimes, and arranged their various instruments long before the predicted instant of first contact. The clouds obscured the sun at this particular time; but soon, through a rift in them, the dark limb of the moon was seen encroaching on the sun's disc. Observation after this became very trying, as it was only possible at distant intervals to glimpse the progress of the moon, as she gradually advanced in her path. Spectroscopic observation, or even polariscopic observation, was practically impossible. Finally a glimpse was caught of the sun some eight or nine minutes before totality as a very thin crescent, and then every chink and cranny in the clouds closed up, and one dense and impenetrable pall covered the earth. Nothing remained now but to go out of the tent and observe the effect in the open air. It was certainly very striking. As the moment of totality approached, the western sky turned of an awful livid purple, the clouds over head assuming a black tint. As the shadow swept over the earth, the eastern sky became obscured, while the western horizon lighted up like the grey dawn of a dull autumn morning. At no time, however, during the totality, was it difficult to see the seconds on the face of a watch. The light was that of a cloudy evening, about an hour after sunset. One curious effect was observed, the apparent contraction or closing in of the celestial vault. Speedily, however, the dawn in the western horizon spread over the heavens; but the sun did not reappear again for at least half an hour after totality. M. Janssen, the French astronomer, who escaped, at the risk of his life, with his instruments in a balloon from Paris, was stationed on a mountain some seven miles from Oran. He can have seen nothing whatever of the phenomenon which he had braved so much to observe."

ELECTRO-MOTIVE FORCE OF METALS IN CONTACT.—E. Edlund in *Poggendorff's Annalen*:—"When an electric current traverses the point of junction of two different metals, a quantity of heat is absorbed or produced per unit of time which is proportional to the strength of the current and to the electromotive force acting between the metals. The author refers on this point to a previous paper; in the present communication he endeavors to estimate the comparative electromotive forces acting between different pairs of metals by the heating or cooling effects of a current of measured strength. The junction formed of each pair to be examined was enclosed in the bulb of an air thermometer, and the difference between the expansions produced when the current passed in opposite directions, was measured. The electromotive order of the metals deduced from the results did not agree with the order given by electroscopic observations but it agreed with the thermo-electric order, though the electromotive forces were not found to be proportional in all cases to the thermo-electromotive forces between the same pairs of metals."

ORIGIN OF GRAPHITE.—Prof. Wagner ascribes it to the decomposition of cyanogen and of the cyanides. The black mass which sometimes separates from hydrocyanic acid, on being washed in nitric acid and dried, is found to consist of scales of graphite. Dr. Wagner infers from this that the artificial graphite that is formed on the cooling of many varieties of iron, has its origin in the same source, namely, cyanogen. It is not the carbon which is held in solution in the melted iron, but the cyanogen compounds, that give rise to the graphite. In the manufacture of soda by Le Blanc's process there is always a quantity of graphite formed, which is derived from the decomposed cyanogen compounds, and in some of the large establishments of Bohemia practical application is made of this incidental product in the manufacture of lead pencils.—*Eng. & M. Journal.*

THE OTHER SIDE OF EOZOÖN.—Our issue of Jan. 21st contained a paragraph from the communication of T. M. Reade in *Nature*, in regard to the mineral origin of this fossil. Prof. W. B. Carpenter answers Mr. Reade in *Nature* of Jan. 5th. In reference to the point made in the article alluded to, viz.,—that Eozoön has been obtained from metamorphosed rocks only, Prof. C. says that that peculiar structure "is *most* characteristically displayed in those portions of the serpentine limestone of the Laurentian formation which have undergone the *least* metamorphic change." The fact that metamorphic rocks have been found with apparently similar structure, does not affect the question of the organic nature of Eozoön. Prof. Carpenter shows that even now, at the deep-sea bottom, the sarcodic substance of various organisms is being gradually replaced, as it decomposes, by silicious compounds precipitated from sea-water. We quote: "Dr. Duncan has shown that a like process is taking place at the present time in the case of *corals;* their animal substance being replaced by silicates, whilst their calcareous skeleton remains unchanged. No *mechanical* agency can account for this replacement. It is not effected by the percolation of silicates in solution, under the "*hydrothermal*" action which Mr. Reade (following the lead of Messrs. King and Rowney) invokes as having been concerned in the production of the Canadian Eozoön. And I am justified by the opinion of several of our ablest chemists and mineralogists in the assertion that no agency save a progressive *chemical substitution* can account for the production of these wonderful models; the silicates being precipitated from sea water by the decomposition of the sarcodic substance which they replace and represent. Whether or not this doctrine be accepted, it may be confidently affirmed that whatever be the agency concerned in *their* production, the filling-up of the cavities of the calcareous skeleton of Eozoön may be fairly accounted for in the same manner."

MAYER ON ELECTRO-MAGNETISM.—Dr. A. M. Mayer has an article in *Silliman's Journal* for September, entitled "Researches in Electro-Magnetism." *Nature* gives of it the following abstract: "The author has devised a very accurate method of determining the relative value of electro-magnets to replace the one usually employed, which consists of measuring the deflection of a magnetic needle which is produced by the action of the electro-magnet. The author found that this process was liable to error in consequence of the difficulty of keeping the current absolutely constant, resulting in a continual motion of the needle. These difficulties were obviated in the following manner: A line eight feet long and divided into fractions of inches was drawn on a table, the latter being so placed that the line was at right to the magnetic meridian; a compass, with a needle nearly six inches long, was placed on this line, and a helix was fixed at each extremity of the line. These helices were traversed by the same current, a tangent galvanometer being placed in the circuit. In this way the needle was influenced by two magnets acting in opposite directions and excited by the same current, and if any deflection of the needle was observed, it must have been due to a difference of power of the magnets. If this occurred the needle might be brought to 0 by moving it from the stronger magnet. A series of experiments was made to determine the variation of the intensity of the force with a change of distance, by placing the needle opposite an electro-magnet and noting the deflection produced when the instruments were at different distances from one another; it was found that in the apparatus employed the intensity varied inversely as the 2.7404 power of the distance from the core. Dr. Mayer has determined the power of cores made of insulated and of non-insulated soft iron wires, and finds that the insulated core is slightly the weaker. He has also measured what thickness of tube is equal to a solid core of the same diameter, and has found that a solid cylinder ten inches long and 1.68 in diameter may be replaced by a tube of the same length and of a thickness of 1-6 of the diameter. This relative size does not appear to be constant for cores of all dimensions. A longitudinal slit in the tube does not diminish its power; in fact, Dr. Mayer seems inclined to think that it facilitates its magnetisation. By placing a helix inside a soft iron tube a magnet is produced with poles the reverse of those of the coil, or of a bar placed within the helix; this supports Ampère's theory of magnetic currents."

# CORRESPONDENCE.

## Bound East—At Chicago.

[Written for the PRESS.]

### Steam Dredges for a Ship Canal.

I have wandered all about this great Chicago, and although I have been frozen by the bitter winds from the lake, yet I have been thawed out again always by the warm hospitality of the people. I propose describing a few places which I have visited.

One of my first calls was at the Vulcan Iron Works, the property of Messrs Atkins & Burgess. Here I saw fine steam engines, cranes, pile drivers, wind mills and dredging machines of every size, power and kind. The works employ 75 to 100 men constantly, and have a high reputation, gained partly by the superior practical ability of Mr. Burgess, and partly by the geniality and evident financial ability of Mr. Atkins. I saw much of interest, but would speak chiefly of the steam dredges which they have built for a canal in Louisiana.

It speaks well for the reputation of the gentlemen, that they should be preferred by a New Orleans company to all their Eastern competitors. It seems that much saving of time and future expense will result, in the opinion of New Orleans merchants, from the building of a short cut from the Mississippi River to Lake Borgne, thence communicating with the Gulf of Mexico. So a ship canal, 160 feet wide and six miles long, is to be made through a Louisiana cypress swamp. The materials to be removed are made up of the deposits of the Mississippi River, firmly held together by the never decaying and never ending roots of the famous cypress.

Messrs. A. and B. are building the dredges for this enterprise, which are well worth describing. On a strong frame of oak and iron are secured two 52-horse power engines. These handle a dipper weighing two tons, with a beam or handle long enough and strong enough to operate in water 25 feet deep. There are four of these frames, each with its two engines and its single ponderous dipper. Each of these with its necessary appliances weighs at least 40 tons. These require the use of two strong boats sufficiently large and capacious to sustain two of these machines with the fuel, etc., requisite to keep the machinery in operation.

### How they Operate.

The machinery of these boats is the same with a single exception, and that is in the construction of the dippers. Those of the pioneer boat are armed with cutters, teeth and hooks of steel. This boat is placed where the first work is to be performed. The ponderous dipper is thrust against the bottom by means of one part of the machinery, and then raised by another. The cutters, teeth and hooks cut and tear up roots and timber, and deposit them beyond the banks of the canal. Both dippers are operated at the same time, and thus they excavate, as they advance, the full width of the canal, depositing trees, roots, rocks and earth beyond its banks.

The second boat has plain dippers of the best construction for the removal of earth and mud. It is presumed that the first or pioneer machinery has cleared the canal of all formidable obstacles; the work of the second is to deepen and finish the channel ready for the passage of steamers of every size and kind, or even of national ships of the largest class.

The dredges operate in water from two feet deep to any depth necessary to float a ship. They cut through and remove everything,—roots, earth and boulders weighing tons. Nothing but a solid ledge of rock can stop them.

The cost of the dredges is $44,000. The workmanship displayed and the talent shown in their construction are of the highest order. I should think that the projectors of your Stockton Ship Canal might profit by the examination of these engines and their operations in Louisiana.

### Reaper and Mower Manufactory.

A very large, and a certainly most important, factory, is that of the McCormick Reaper and Mower Manufacturing Co. The works are extensive and most complete in all respects. I was politely shown through the various departments, and naturally found much of great interest. Over 600 hands are employed, and over *fourteen thousand* reapers and mowers will be put in the market this year.

To Mr. McCormick we are indebted for our present reaping machine, for he was the first to make any improvement on the old time implements. His first patent was granted to him while in Virginia. The talent which enabled him to make this, the most important commencement, has enabled him to make continually additional improvements. These works were started in 1845. They first turned out about a thousand machines yearly. But the excellence and importance of the McCormick Reaper and Mower brought them into use everywhere. They are sent all over the United States and to Europe. The demand is ever on the increase, and now the company find that they must enlarge their works, and they are taking measures for having a capacity of 20,000 to 25,000 machines yearly!

These items attest to the excellence of the machines and the superiority of their workmanship. Of course, I knew of the famous article before I came here, but I did not appreciate at all what an enormous amount of work was done by them every year, until I had gone through this factory.

W. H. M.

## An Agricultural Mining District in Montana.

[Written for the PRESS.]

### Flint Creek.

EDITORS PRESS:—I presume few of your readers are aware of the location of the Flint Creek silver mines, and indulge the hope that a brief sketch of the locality may not prove uninteresting. They are located upon the west branch of the above creek, about fifteen miles from its source, which is in an intervening spur of the Rocky and Bitter Root mountains, and near the celebrated "Atlantic Cable" gold ledge. The creek running nearly due north through the upper and lower valley of Flint, empties into Hell Gate, about thirty miles west from Deer Lodge City. Leaving the latter place for these mines, the traveler may take either of two roads and reach here in fifty-five miles travel. From about midway in the upper valley and at its broadest part, in a right angle, due east, one mile up amongst the grass-covered hills, the mines are located.

Flint Creek, carrying usually about three thousand inches at this point, passes through the valley within two miles of all the principal locations. Besides this stream, three small branches, have their sources within the district, pass directly through the different quartz locations and empty into Flint. Wood is in great abundance upon each side of the valley, and may be had in any given quantity at a cost of $3½ per cord. The ores are what are termed sulphurets, or milling ores.

### The Mines.

So far, no systematic mining to speak of has been prosecuted, owing to the fact that no opportunity has been offered miners to get a working test of their rock. The only mill here (a small ten-stamp one) was erected some three years since by a St. Louis company, whose practical knowledge of the business or the wants of the camp is limited to this single experiment.

As might have been expected, they instituted a series of costly experiments with ill-adapted machinery, and after one year's manipulation of mill and mine, they stopped operations. Other adventurous individuals, with as little knowledge practical or theoretical of the business, attempted it and failed. A few weeks since, after a careful examination of the ores, Capt. George Plaisted, formerly of Gold Hill, Storey County, Nev., assumed the management of the company's property (the Hope mine and mill), overhauled the machinery and started up. A lack of quicksilver indeed him to commence on second-class ores. The result of the first run from this class of ore proves highly satisfactory both to the management and company. From one hundred and five tons, they cleaned up three hundred and forty-seven pounds of refined bars. The present run, from the appearance of the pans, will exceed the first.

### Soil and Climate.

Too much can scarcely be said in favor of the soil and climate. Indeed, a rich mining region located in the midst of a rich agricultural district is so seldom met with, that it is worthy of remark. The hills and valleys are covered with a thick growth of rich bunch grass, upon which horses and cattle continue to fatten the year round. The soil produces all vegetables raised in a temperate climate in great abundance, and no finer cereals are grown upon the American Continent. The climate, characteristic of the valleys near the Rocky Mountain range and so little understood, is most healthful and free from moisture and miasmatic influences. The temperature compares favorably with northern Missouri, Indiana, Illinois and Ohio. Observations taken during the month of December, and the unusually cold spell, show conclusively that we are less liable to extreme changes in temperature than any of the above mentioned States. While the temperature was down in most localities below 20 degrees, ours at the lowest point barely reached thirteen degrees.

INDEX.

Philipsburg, M. T., Jan. 20, 1871.

## City and Country.

[Written for the PRESS.]

EDITORS PRESS—A man recently from the East, possessing good business qualifications and some means, inquired of an eminent lawyer in San Francisco what he considered the best business for him to engage in. "Agriculture," replied the lawyer; "it is the safest and most profitable as well as the most healthful vocation, both mentally and physically, in which you can embark." "Yes," he continued, "get a farm and live upon it; get out of the hurry and excitement of the city. Better for yourself, better for your wife, and a thousand times better for your children."

The man remembered the early years of his life upon a farm in Indiana, contrasted them with the later years of anxiety and speculation in New York City, and at once took the advice. He is to-day the owner of a fine farm in one of the most beautiful valleys in the State. It is useless to add that he and his family are prosperous and happy.

How much better it would be for many men and their families who now crowd in the cities, eking out a scanty living upon small salaries, or those who have some petty little business in some basement or narrow cellar, if they would obtain lands while they may be had at government prices, and build homes where they could live as they should. No greater contrast can be drawn than that between a tenement house in a city, reeking with filth and disease, and that of a neat farm cottage in the valleys or foothills of California.

CINCINNATUS.

St. Helena, Jan. 24th.

"NOTES of Travel in San Joaquin County, by L. P. Me., will be found on another page. It came too late for insertion in its regular place."

THE FIRST RAILROAD.—We have seen about a dozen different accounts of the "first" railroad ever built in the United States, and the first locomotive. We used to think that we knew which these were, but there have been so many of the kind, if the eastern papers are all to be believed, that now we feel obliged to "give it up." Here is the latest "first road," from the Harrisburg *State Journal:*—It is generally supposed that the Tramway railroad from Quincy granite quarries to Boston, was the first railway in America; Delaware county antedates this effort by twenty years. The tramway at Leiper's stone quarry, in in that county, was constructed in 1806, and that in the Quincy quarries in 1826. The first railroad, however, that approximated in mode of construction to those now in use, was that laid down from Mauch Chunk to the mines of the Lehigh coal and navigation company in 1827. In 1837, the Legislature passed a bill authorizing the Lehigh company to connect the navigation on the Lehigh with the canal on the Susquehanna at Wilkesbarre by a railroad. Under this act the Lehigh and Susquehanna railroad was completed in 1843, and in 1867 it was extended down the Lehigh to Easton. In this same wonderful and marvelously rich valley, and historically, one of the most interesting parts of the State, is the Lehigh Valley railroad, begun in 1850 and completed in 1856, mainly through the effort of Asa Packer. By the consolidation of several interior lines, this company now affords a continuous route through the Lehigh coal region to N. Y. state line. As early, therefore, as 1840, Pennsylvania had a total length of 1,280 miles of canal, of which 433 miles were owned by private corporations, and 795 miles of rail, 118 miles were owned by the commonwealth.

THAT FIRST LOCOMOTIVE.—Here is another first locomotive, according to the Allentine (Pa.) *Chronicle*: The first locomotive that ever did service in the United States, is now lying outside of a foundry at Carbondale, Luzerne County. It ought to be preserved somewhere as an interesting relic of the early days of railroading. The first locomotive engine introduced and worked in America, was run upon the Delaware and Hudson Railroad, in the year 1828, and Hone's Dale offered its friendly glen for the purpose of conducting the experiment. This locomotive, called the "Stourbridge Lion," was built in England, of the best workmanship and material, and most approved patern of that date. The road passed out of Honesdale by a sharp northwesterly curve, with a moderate grade, and was carried over the Lackawaxen by a long hemlock trestling, considered too frail by many to support the great weight of the mysterious looking engine all ready for the hazardous journey.

As the crowd gathered from far and near, expecting that bridge, locomotive and all, would plunge into the stream the moment the passage was attempted, no one dared to run the locomotive across the chasm but Major Horatio Allen, who, amid exultation and praise, passed over the bridge and a portion of the road in safety. The engine, however, was abandoned, as the slender trestling forming much of the body of the road, sufficiently strong for ordinary cars, was found too feeble for the "weight and wear." Major Allen, in the account of this first trip of a locomotive on this continent, says: "As I placed my hand on the throttle, I was undecided whether I would move slowly or with a fair degree of speed; but, believing that the road would prove safe, and preferring, if we did go down, to go down handsomely and without any evidence of timidity, I started with considerable velocity, passed the curve over the creek safely, and was soon out of hearing of the vast assemblage. At the end of two or three miles I reversed the valve and returned without accident, having thus made the first railroad trip by locomotive ever made on the western hemisphere."

RETURN OF THE SHIP PROSPECTORS.—On Tuesday evening last, says the San Bernardino *Guardian* of the 14th, Charley Clusker and party returned to town, we are sorry to say, unsuccessful. Their animals were completely worn out—scarcely being able to bring the wagon home. The indomitable Charley is not discouraged, and will make another effort to find the ship, this time *via* Dos Palmas. He deserves success, and if the ship is there, of which he entertains no doubt, he will eventually find it. We wish him success.

THE Princess of Prussia makes her own dresses and bonnets.

# HOME AND FARM.

## THE NEEDS OF AGRICULTURAL COMMUNITIES.

[By Dr. E. S. CARR, Prof. of Chemistry and Agriculture in the University of California.]

Having shown in previous papers that agriculture must be elevated in the scale of human occupation, chiefly through the agency of education, and what recognition European states have made of this truth, let us see what is being done in our own country in the same direction.

In 1855, Michigan founded the first agricultural College, giving the necessary lands, buildings, $42,000 per annum for the first two years, and such after appropriations as were necessary to carry out its objects. Manual labor, with reasonable compensation therefor was made obligatory; but all *instruction* was free. The farm consists of 676 acres. The college building 50x100 feet, three stories with a boarding hall 43x82 ft., three stories in hight; also a farm house and out-buildings, and four professors' houses, are plain, suitable and convenient. The lands, in excellent tillage, furnish full employment for the allotted three hours per diem which each student spends in practical farming. This institution has been in all respects the most successful of those established by the various states before the congressional grant was made.

The agricultural college of Pennsylvania has a farm of 400 acres, a building two hundred and forty feet in length, eighty in width, and five stories high, which is heated with furnaces, and admirably supplied with laboratories, apparatus and collections illustrative of agriculture and geology. It requires labor of all the students, in the laboratories, orchard, farm or garden.

The Maryland agricultural college has 283 acres of land and suitable buildings. No labor is required. Each of the above mentioned institutions received the grant to their several states. All the others are founded upon the grant itself.

Maine, established in strict conformity with the spirit of the Act of Congress, a state college of agriculture and the mechanic arts, giving 375 acres of valuable land for farm and gardens. Tuition is free, labor remunerated; one year of the four years course is devoted specially to botany and practical horticulture.

New Hampshire gave the proceeds of her grant, $80,000, to Dartmouth College, on condition that it would furnish farm and buildings for the agricultural and mechanical departments. Vermont made a similar disposition of her lands to the State University at Burlington, Connecticut to the Sheffield Scientific school at Yale College. In the latter place agriculture occupies a subordinate position.

Massachusetts, by legislative enactment, added $120,000 to the $168,000 received from Congress. Amherst gave $75,000, to secure the location and generous friends of agriculture added $25,000; this for agricultural education alone,—the Massachusetts Institute of Technology at Boston, to which the income of one third of the grant is given, covering the ground of education in the mechanics arts.

They first secured a model and experimental farm of 384 acres. The buildings consist of the "College Hall," 100x60 ft. the first story of which is used as a chapel and analytical laboratory. Under this, the basement contains repair shops, furnace room, &c. The second story is devoted to chemistry, physics and engineering; the upper story is the armory and drill room for the military department. Two brick dormitories and seven professors' houses, accommodate the faculty and students. There is a model barn which will accommodate fifty head of cattle and fifty sheep, and holds over a hundred tons of hay. It is provided with water, a horse power, hoisting machines, root cellars, platform scale, &c., &c.

The Durfee plant house is a private gift, already filled with a rare and beautiful collection of exotics. When finished it will cover 10,000 feet of surface. In the Botanic museum may be found 15,000 species of plants, scientifically arranged, models of fruits from all parts of the world, specimens of woods, wools, &c. One of the best features of this institution is the provision for winter classes, by which farmers themselves can be benefitted in common with regular students.

The Illinois Industrial University has a model and experimental farm of 1,000 acres, forty of which are devoted to ornamental gardening. Accommodations on the most liberal scale have already been made for the faculty and 400 students. The manual labor system is to be faithfully tried, students working about two hours daily, five days in the week.

Kentucky, Kansas, Iowa and Wisconsin, have each made a noble use of the income derived from the grant, and are each teaching agriculture in a thorough and practical manner. In New Jersey the law organizing the institution requires that "at least one lecture annually be delivered by a professor of the college in each county of the state." This duty has been thus far discharged by Prof. Cook, whose efforts have led to the formation of farmers' clubs, and many practical benefits in the renovation of worn out soils, utilizing of waste materials, &c., &c.

The state of Missouri made her University the recipient of the agricultural grant, to which the citizens of Boone county added a well improved farm of 640 acres, with valuable building and a donation of $30,000 in cash. This state, and Minnesota, also, are rapidly fulfilling the object of the grant, in laying broad foundations and holding their expenditures closely to the purposes therein indicated.

The proceeds from the sale of the lands donated by Congress have not yet been sufficient to put any of the institutions thus founded in full working order. The Empire state, having the largest representation, got the lion's share, and had a citizen rich and public spirited enough to add to the endowment $550,000, cash; thus relieving the necessity for an immediate sale of the lands, which, carefully selected and located under his supervision at the present time exceed in value two and a half million of dollars. More recent donations from Mr. Cornell, and citizens of Ithaca, have still farther enriched this nobly planned college of the people, who show their readiness to appropriate its benefits. It is a part of the educational system of the state; but is not like the University of California, *absolutely free*. Each of the 128 assembly districts of the state have the privilege of sending a student whose fees for instruction are remitted, others pay for tuition at the rate of $30 a year.

Many prizes are offered to encourage industry among the students, in the departments of Agriculture and the Mechanic Arts. "To the student of the voluntary labor corps in agriculture, who without neglecting his other university duties shall show himself most efficient practically and scientifically, upon the university farm $50; second in merit, $20; third do, $10." The same is offered the mechanical students; $30 is offered for "the most satisfactory progress during the first year in the scientific course; $20 for the second in merit; $100, for the most meritorious original investigation in chemistry, with numerous smaller prizes, well calculated to distinguish excellence in the several departments.

Not only is the instruction in Agriculture and the Mechanic Arts of the most thorough and practical kind—but no student can receive any degree who has not passed a satisfactory examination in the course of lectures on general agriculture, thus compelling an enlightened estimate of the value of the leading industry in the mind of every graduate.

Manual labor is not required, but is encouraged and paid for at the rate of fifteen cents per hour. Student's earnings on the roads and farm in 1869, amounted to $8,000. As the farm work requires more skilled labor and the workshops are developed, this amount will be doubled and trebled; while the practical benefits in health and experience are not to be calculated.

I have perhaps indulged too freely in details, yet this is a bald and meagre statement of what has been done mainly through the instrumentality of one large hearted man, for Industrial Education in the State of New York. The success of Cornell University, which numbers 800 students, is a refutation of the argument constantly urged that "the people do not want the same thorough education for agriculture as for other pursuits." So prominent has the *agricultural* interest been made at Cornell that out of 563 students in the year 1869, only forty-five were pursuing the classical course.

The furnishing of Cornell University for its appointed work, including the farm of 206 acres, and the superb stock contributed by the founder, leaves little to be desired in the means of instruction. Besides the best collections in each department of Natural History, it includes a display of cereals, wools, the Auzoux models of veterinary science and practice, one hundred and eighty-seven models of plows, made at the Royal Agricultural College at Würtemburg, a complete cabinet of tools and implements, with innumerable charts and photographs for illustrating mechanical operations of every kind.

# CALIFORNIA AGRICULTURE.

## REPORT OF THE STATE BOARD OF AGRICULTURE FOR 1870.

[Continued from page 57.

### Dairy Farming.

Dairy farming, carefully and properly conducted, has always been one of the most profitable of the agricultural industries of the United States, and in no State has it paid better than in California. Among our most prosperous and wealthy farmers are those who, in one way or another, have made a specialty of dairy farming. The people of no other State have paid so dearly for their milk, butter and cheese as those of California. As prices have rated heretofore, it costs an ordinary family more to pay their milk, butter and cheese bills than to pay for all the flour, potatoes, beans, onions, and other strictly home-produced agricultural necessaries they consume; and yet we are safe in the assertion that there is not over one farmer in the State that makes a practice of producing butter or cheese for sale to one hundred almost exclusively engaged in raising wheat and barley for the markets. While we are large exporters of wheat and barley, we still import annually over $1,000,000 worth of butter and cheese. Such are the inconsistencies of the California system of agriculture. We would most earnestly recommend our farmers to keep more cows, hogs and sheep on their farms and cultivate less acres to grain. We are satisfied that such a change in the practices of the agriculturists generally would result in greater pecuniary gains and at the same time increase rather than decrease the fertility and productiveness of the soil.

A few acres well seeded to alfalfa or Chili clover will, in this country, afford a good living to almost an incredible number of stock. We have noticed almost universally increased evidences of thrift and prosperity seconding those farmers who have already adopted this system over those who still adhere to the old plan of producing exclusively wheat and barley and buying everything else consumed on their place or in their families.

### California Wines and Grapes.

There has for a number of years past been a sensible change for the better in our native wines. This has been evident in the improvement from year to year of the samples exhibited at our county, district and State Fairs. Another evidence of such improvement is found in the increased demand for our wines for general consumption and a corresponding decrease in the demand for those of foreign brands. This improved quality of our wines is the result not so much from any great improvement in the kind or quality of our grapes as in the system of making and handling the wines themselves. Our grape growers have learned by experience that some skill is required to make a good and uniform quality of wine, and that in the absence of this skill and the necessary means and facilities for keeping and handling the juice of the grape until such quality of wine is secured, it is less trouble and more profitable for them to sell their grapes to those who possess that skill and the required means and facilities. Wine making companies have been formed in many localities, and wine factories and cellars established, at which the grapes of the surrounding country are purchased, carefully assorted and classed, and each class made into such wine as in the judgment of the operators they are best adapted. This system of wine-making is one that we have been recommending in our reports and otherwise for years past, and we rejoice that it is being so generally adopted. It is the only system that can secure good and uniform brands of wine and give them character, and command for them a market at home or abroad. The evidences of prosperity manifested by such wine making companies are conclusive as to the satisfactory profits made on the capital invested in this manner. The prices paid for grapes—from $20 to $25 per ton—are very satisfactory to the growers. Well cultivated vineyards of the California grape are made to yield in this way a net annual income of from $50 to $100 per acre. Good vineyards of choice table grapes yield much larger incomes. The Muscat of Alexandria have averaged for years as high as $270 net per acre; while the Black Hamburg, Black Malvoile and Golden Chasselas have netted $450, and the Alexandria Muscat has paid a profit of $775 per acre.

We present these figures to our grain farmers, and ask them if it will not be better to plant vineyards on some portions of their lands that have been cropped with grain until the annual product scarcely pays the expense necessary to secure it. Such lands are still good for the vine, and in this way may be made in a few years to yield a handsome income to their owners.

While annual crops of grain exhaust and impoverish the soil, the vine recuperates and improves it. While grain requires planting yearly grape vines once planted and in bearing will yield annual crops for a life time. There has never yet been in the State a failure of the grape crop from drouth or any other cause. While we would encourage the grain farmers on the plains to plant vines, and thus diversify their crops, we do not forget that we have thousands of acres of most excellent vine land bordering the foothills, generally known as "red land," and a vast area in the foot hills themselves, that for wine making and raisin culture cannot be excelled in the world. France and Germany have heretofore been our strongest opponents in the introduction of our wines into the markets of the world. While we regret the present devastating war between them as a great calamity, not only to themselves but to mankind generally, we are not insensible of the advantages accruing to many of our industries as a result of that war. Among those industries already most favorably affected thereby, are grape growing and wine making, and we hope our people will not be slow to make the most of the advantages thus accruing, nor in taking the necessary steps to render those advantages permanent and profitable. A late ruling of the Commissioner of Internal Revenue to the effect that sparkling wines, made from the native grapes or from wines produced from such, are not subject to taxation, while all such wines made from foreign grown grapes or foreign wines is subject to taxation, under the internal revenue laws, is most favorable to the wine interests of our State.

#### FRUIT CULTURE.

Fruit culture in California is becoming one of our most promising industries. For some years before the completion of the overland railroad and the consequent opening of the Eastern markets for our surplus fruits, those engaged extensively in raising fruit for sale, found it difficult to make the business satisfactorily remunerative. The fact that fruits in many portions of our State mature from three to four weeks earlier than the same kinds do in the Atlantic States, the acknowledged superiority of the California fruits over those of the East, and the improved facilities lately introduced for shipping fruits a great distance by rail, are affecting most favorably this industry in our State.

Again, our growers are learning by experience the varieties best adapted to the different localities and climates of our State, and to the markets upon which they depend for sales, and are grafting and budding and improving their orchards and fruit accordingly. They are also learning and adopting a better system of economy in management. Less fruit is now allowed to go to waste in the orchards than formerly. It is either dried or fed to stock or made into vinegar and thus, in one way or an other, made to swell the profits of the year's operations.

### Fruits in the Mountains.

The display of fruits at the last State Fair from our mountain counties made one of the most valuable and interesting features of the exhibition. A comparison of the same varieties with those raised in the valleys, illustrated very strikingly the superiority of the former in many respects over the latter. The mountain fruit is more highly flavored, more compact and finer grained, and more tart and juicy. The mountain fruit ripens much later, and is also much superior to that of the valley in keeping qualities. The same varieties of apples, for instance, that ripen in the valleys in September, when raised in the mountains as high up as Placerville, will keep well until February or March, and even later, before becoming mellow, and good for eating purposes. This latter fact is one of immense value to our State as a fruit-growing country, and will in time drive the Oregon winter apples entirely out of our markets. It will enable us to enjoy a plentiful supply of green apples through the entire year. The imperfect means at the command of the Board for

collecting reliable statistics of many of our products, render it impossible for us to report even approximately as to the quantity or value of the fruit raised in the State. As an illustration of the adaptability of the foothills and mountains to this industry, and the proportions it is assuming in these districts, we are assured that during the months of August, September and October last, from the orchards and vineyards within a radius of six miles about the city of Placerville, there was picked and marketed over $100,000 worth of fruits. The value of the dried and winter fruits produced within the same districts, it is said, will probably equal this amount. Add to this the value of the wines and brandy made within this same radius, and from grapes sold and shipped to Sacramento for manufacture, estimated at $50,000 more, and we have the sum of $250,000 as the value of the product of fruit culture in a small section of one of our mountain counties, which but a few years ago contained not a fruit tree or a vine, and was considered worthless except for the gold that could be mined from its soil. When we state that a very large proportion of the land embraced within this same section is still unoccupied and subject to be purchased at government rates, and that not one out of twenty of the occupied places contains bearing orchards or vineyards, some idea of the vast agricultural and horticultural resources of the mountain districts of our State may be formed. It is a remarkable fact that the owners of nearly every one of the most valuable orchards and vineyards that have produced these astonishing results made their beginning in a small way, as doubtful experiments. With no other capital but good health and a will to work, they have, by patient economy, frugality and persevering industry, accumulated valuable fortunes for themselves, and at the same time become benefactors to their fellow-men. Let those of our fellow citizens who are without labor, if they would enjoy like thrift and prosperity, imitate their example.

Profits of Orange Culture.—The immense profit to be reaped from the production of oranges, when once the trees get to bearing, even in the central portions of the State, are well illustrated in the following from the Vallejo *Chronicle* of the 25th inst.: General Vallejo is shipping considerable quantities of oranges to San Francisco from Sonoma County, which are said to be superior to those from Los Angeles. The first lot came in at Christmas, bringing $50 per thousand; second lot brought $40, and another lot of 3,000, superior to those from Los Angeles, arrived yesterday. The General has raised 15,000 oranges from thirty trees.

Ermine in California.—The Nevada City *Transcript* of the 21st says: Mr. Sanders, an agent of the South Yuba Canal Company, in Bear Valley, yesterday sent down an ermine, or white weasel, which was killed in that locality a day or two since. The color of this animal is brown in summer, and changes to pure white in winter. The skin is highly prized for trimmings of robes, and also for collars, muffs and cuffs. The lady who gets a genuine ermine set considers herself fortunate. If Sanders can find many such he will make a fortune. This specimen is probably the first found in California.

A Foot Hill Production.—Mr. W. M. Crutcher has left at the office of the Placer *Herald* a blood-red beet 27 inches long, 19 inches in circumference and weighing 18 pounds. It grew in a patch of beets most of which was nearly of the same size, and under some disadvantages, to wit:—The subsoil seems to have been hard, as it had raised itself about a foot above the ground, not being able to penetrate deeper in the earth. Had the earth been loosened and mellow for three feet down, we have no doubt but his beetship would have made fully that length, and weighed, God only knows how much. Beat this beet in the mountains and we will chronicle the fact with pleasure.

Goat Stealing.—Ten cashmere bucks belonging to Sherland & Oakley, and also 200 goats belonging to a man named O'Keiff, were stolen and driven off in the night about a week ago from a ranch near Prairie city.

Cactus for Manure.—Passing through the lower portion of the city, says the Los Angeles *News*, one is apt to view curiously the huge piles of cactus hauled from a distance and stacked along the borders of various orange orchards. Enquiries elicit the information that the cactus thus piled is left to rot and then used as manure. It is said to be one of the best fertilizers known.

## Notes of Travel in San Joaquin County.

[Written for the Press.]

### Stockton Manufactures.

They have just completed one of the most perfect pieces of machinery at the Globe Iron Works, Stockton, that I have had the pleasure of looking at for some time. It consists of a perfect outfit of the machinery for the Oakland Cotton Manufacturing company, situated at Brooklyn, Alameda County. The engine is 250-horse power; the weight of the bed-plate is 11,974 pounds; weight of cylinder, 4,540 pounds; of fly-wheel, 30,000 pounds. The whole weight complete is forty-seven tons. It cost the company $12,000. Keep & Bargion are the manufacturers, and William Burnett, of San Francisco, was the Superintendent.

George West, Esq., 195 Hunter street, Stockton, is the largest manufacturer of wines and brandies, has more different varieties of each, and makes the best article of sherry in this section, if not in the State.

Evans & O'Brien are the largest wholesale dealers in all kinds of liquors, but do not manufacture themselves.

### What Stockton Eats—Freighters.

J. Sutherland, butcher, served up, for the year 1870, 1,680 beeves, 800 calves, 5,000 sheep and 1,000 hogs, and he is only one of a dozen in the same business.

Messrs. Ladd & Stoddard, Hunter street, are among the principal common carriers in their line, shipping thousands of tons annually to your city, and a corresponding amount to the interior by teams; but as the railroads advance, both team and stages give way for the iron horse, which does it cheaper and so much quicker. But a short time, and the merry jingle of the teamster's bells, and the crack of the stage driver's whip will be heard no more in these parts.

### Agricultural Implements.

Charles Mowrey's ranch, situated four miles from Stockton, on the Stocktou and Linden Gravel road, is a fine tract of 510 acres, 450 of which will be in grain this year, stocked with thirty head of good draught horses. His agricultural implements are well worthy of mention, nearly all being of his own invention and manufacture. He has made, and has in use, (when in its season) a header, which, from its looks and the account of its work, is destined to come into general use. He claims for it that it will run for four years without breakage, and that it will not clog, as the grain runs back from the reel, and the elevator is horizontal at any position of the machine. Further, that it can turn a corner in a circumference of five feet. There are no belts, but bevel gearing is used throughout. It will pick up grain that lies flat upon the ground, runs in either direction, and twenty-five acres can be cut and disposed of per day. The guiding and steering apparatus is also very complete, and the easiest managed I have ever seen. His gang plow is certainly the most perfect working affair. It consists of three wheels, of equal diameters; the one running in the furrow is arranged upon an eccentric, and can be set to any depth, from one inch to one foot. The third wheel is in the rear and is one-third larger in circumference. The raising and lowering apparatus is at the command of the driver, almost without stopping. The nose of the gangs (two in number) start out of, and re-enter, the ground four inches sooner than the rear of the same. It will start a furrow without need of previous work, and will cut a land entirely up. It runs as straight as an arrow, and turns a square corner with perfect ease. The seat is so arranged that it rides like a sulky.

### Fine Ranches.

John W. Hill's ranch, consisting of 400 acres, is situated eight miles from Stockton, on the Linden road. He will have 320 acres in grain this season; he has also twelve acres in grape vines, which are doing well. He is the owner of two very fine, fast horses, in addition to numerous heavy roadsters. One of his fine horses was sired by "Morgan Rattler," is five years old, and has made a 3-minute gait with ease; the other was sired by "Washtanaw," and has made good time.

J. H. Cole's ranch, near Waterloo, is a splendid tract of land, consisting of 1,200 acres. He farms 900 himself, and lets the remainder, which lies beyond the Calaveras river.

H. H. Thurston's ranch, next adjoining, consists of about 1,120 acres, 600 of which he will have in grain this year. He is the owner of one of Marvin's patent separators, a very ingenious, fast-working, excellent thresher, the cost of which, I believe, is $1,500.

H. E. Wright's ranch, on the Farmington road, some seven or eight miles from Stockton, consists of 900 acres, 440 of which will be in grain this year. Mr. W. also does a little milling business in the way of crushing barley. His burrs are run by a 12-horse power Wooden-man engine, and he claims that it does excellent work.

### Farmington—Mokelumne.

D. Young's ranch, situated within four or five miles of Farmington, is among the large successful ranches in this section. The tract contains 1,280 acres, 1,100 of which will be in grain this season.

Farmington, sixteen miles from Stockton, is quite a pert little town. This precinct casts 125 votes. They have just completed a fine schoolhouse. N. S. Harrold, its wealthiest citizen, has one of the finest two-story brick farm-houses in this section. His home tract here consists only of 320 acres, but he is the possessor of about 4,000 acres elsewhere in the county. It will all be in grain this year. He is just now beautifying his home ranch with 500 locust trees for shade.

Mokelumne station, situated on the C. P. R. R., twelve miles from Stockton, although only about 1¼ years old, is a very flourishing village of 300 inhabitants. Some very fine buildings are in course of erection. The Mokelumne hotel is just being started by Edward A. Aull. The house contains thirty rooms, and is receiving a complete outfit. L. P. MC.

# Tree Culture.

## THE ALDER.

A correspondent "G. H." furnishes us with the following notice of the alder, extracted from Michaux, which will be interesting to owners of lands along the Sacramento and San Joaquin, and in fact to all marsh land owners, everywhere on this coast:

"The common European alder (alnus glutinosa) is a fine tree of more than 50 feet in hight; its trunk is generally straight, tapering gradually from the base to the summit, and garnished with numerous branches, tending rather too close round the stock, than to diffuse themselves widely; hence great numbers will grow in a small space, without impediment from the proximity of the stocks.

The wood of this tree is fine grained, compact, susceptible of a fine polish and not destitute of strength. When perfectly dry it is in request with manufacturers of wooden ware.

In France immense quantities of wooden shoes are made of it, which are seasoned by fire before they are sold. The alder takes a better black than any other wood and when polished and varnished affords a good imitation of ebony. With sulphate of iron, the bark forms a black dye for coloring wool and it is procured at a very low price, it is extensively substituted for gall nuts by hatters and dyers. The wood of the alder when deeply buried in earth that is constantly humid, is found to endure a great length of time; it is used for pipes of conduits, and in Flanders and Holland for piles upon which buildings are erected in marshy places.

In France, England and Germany, the alder is considered as a valuable tree on account of its rapid growth in wet grounds. It is frequently observed on the sides of streams flowing through meadows, and as its roots penetrate to a great distance, it contributes more effectually than most other trees to support the banks at the season of the overflowing of the waters.

The European alder shoots with such vigor that copses formed of it may be cut every seven years and at the end of eighteen years, they furnish trees exceeding 35 feet in hight, whose wood is far superior to that of the Lombardy poplar. [Their growth would no doubt be increased fully 25 per cent in the long growing season of our California valleys.—Eds. Press.]

It is obtained from the seed, or from cuttings of proper length, buried in very moist ground, except a few inches that appear above the surface.

The young plants should be cut the second year to invigorate their roots. The seeds of the alder are very small, and are in danger of perishing if they are not very lightly covered with earth."

This tree to which so much importance is attached in Europe will doubtless prove of great advantage to this country.

The Box Elder for Sugar.—The sugar producing qualities of the ash-leaved maple or box elder—*Negundo aceroides*—are well known in some portions of the Mississippi States, where it is highly recommended for planting on the prairies. The Freeport (Ill.) *Journal* says: "We lately saw a sample of Negundo sugar, made by Dr. Ennis, from the common box elder, which grows luxuriantly in our climate. From five gallons of sap, one quart of nice granulated white sugar was obtained, or about five per cent. At Chatsworth the sugar beet yields about six per cent., with very expensive machinery. It will thus be seen that it will pay to plant and grow the box elder for its sugar producing qualities."

This tree was, some years since, recommended highly by Illinois arboriculturists, on account of its beauty as a shade tree, and more especially because of its sugar-producing qualities. It was claimed to excel the sugar maple in the latter respect. This tree would undoubtedly do well in California, and we trust some of our experimental tree culturists will give it a trial and report thereon.

Forests on the Plains.—One great effect to follow the building of railroads across the desert, will be the growth of forests. The difficulties heretofore in the way of rearing trees on the plains have been the expense and uncertainty of transportation of roots and seeds, and the utter absence of protection while they were growing. The surface of land between Mississippi and the Pacific, now without trees, is over one and a half millions square miles, and there can be no doubt that, by well directed effort and at comparatively small expense, forests may gradually be extended over all this vast area. Experiments, so far as tried, have proved successful. The black walnut, chestnut, ash, hickory, and other valuable varieties of timber, have all grown rapidly when properly cared for. In some parts of Nebraska, millions of trees have been produced from the seeds of almost every forest species, through the efforts of a single association.

Evergreens.—In California, where the green-hills, or green plains, as the case may be, last but from February to June, and where all the remainder of the year we have the red earth, brown dry grass, or white stubble, those who plant shrubbery and ornamental trees around their dwellings, should endeavor to select such varieties as may tend to counteract this desolate aspect. The pine family, which at one time we supposed could not be grown in the valleys, flourishes well here—and the variety thereof is so great, that nearly all can be suited. The farmers round about are now about adorning their homes, and there is nothing more beautiful near a house than a few evergreen trees and shrubs. They can be purchased cheap, and when a portion of soil is lifted with the roots—and all our nurseymen so lift them—they do not cease to grow. There is, in fact, no trouble in raising them after being transplanted.—*Sac. Bee.*

Arboriculture as a whole, and particularly in special departments, will at no distant day be deemed in California as equally important and even more profitable than viniculture. In no way can a man of small means so easily transmit certain wealth to his grandchildren as by planting suitable trees in such portions of his property as are not adapted to general cultivation. On this subject the old Scotch laird's advice to his children when on his death-bed may be advantageously reflected on: "Lads, be aye sticking a tree in, for it will be growing while ye are sleeping."

Tall Oats.—Mr. Daniel Culp, of Eden Township, recently left at the office of the Haywood *Advocate* a bunch of wild oats, of this years growth, the tallest stalk of which was five and a half feet high. The branch consisted of ten stalks all from one seed.

Beet Sugar in Salinas.—The Salinas *Standard* says that some of the solid men of that neighborhood are talking of establishing a mill there for the manufacture of beet sugar.—They have sent about 1200 pounds of Sugar beets raised there to the Alvarado sugar works for a test.

# INDUSTRIAL MISCELLANY.

## COTTON CULTURE IN CALIFORNIA. No. 2.

[Written for the PRESS.]

BY JOHN L. STRONG.

When the work of planting is concluded, there comes an interval of five to ten days during which the germination of the plant takes place. This interval will be devoted by the farmer to the satisfaction of the numerous demands which a well regulated system of cultivation will make upon his attention. As soon as the young cotton is up to a good stand, and the third and fourth leaves begin to appear, the working may commence.

The ground must be kept loose and mellow for two reasons. 1st. That the moisture may rise to the surface. 2nd. That the tap-root, now making its way downward, may not be obstructed. For this purpose, a light cultivator should be run through the rows, each way, throwing a little light earth to the plant. By this operation, also, all weeds or grass that may have sprung up in the interval between the planting and coming up of the cotton, will be destroyed.

The first cultivating should be followed by the hoe. Any grass or weeds that may have been left by the cultivator, must be destroyed, and the plants reduced to a stand. In the judgment of the writer, from two to three stalks should be left in each check; the number to be graduated by the character of the soil. The thinning should be done by hand, and the thriftiest and healthiest plants left.

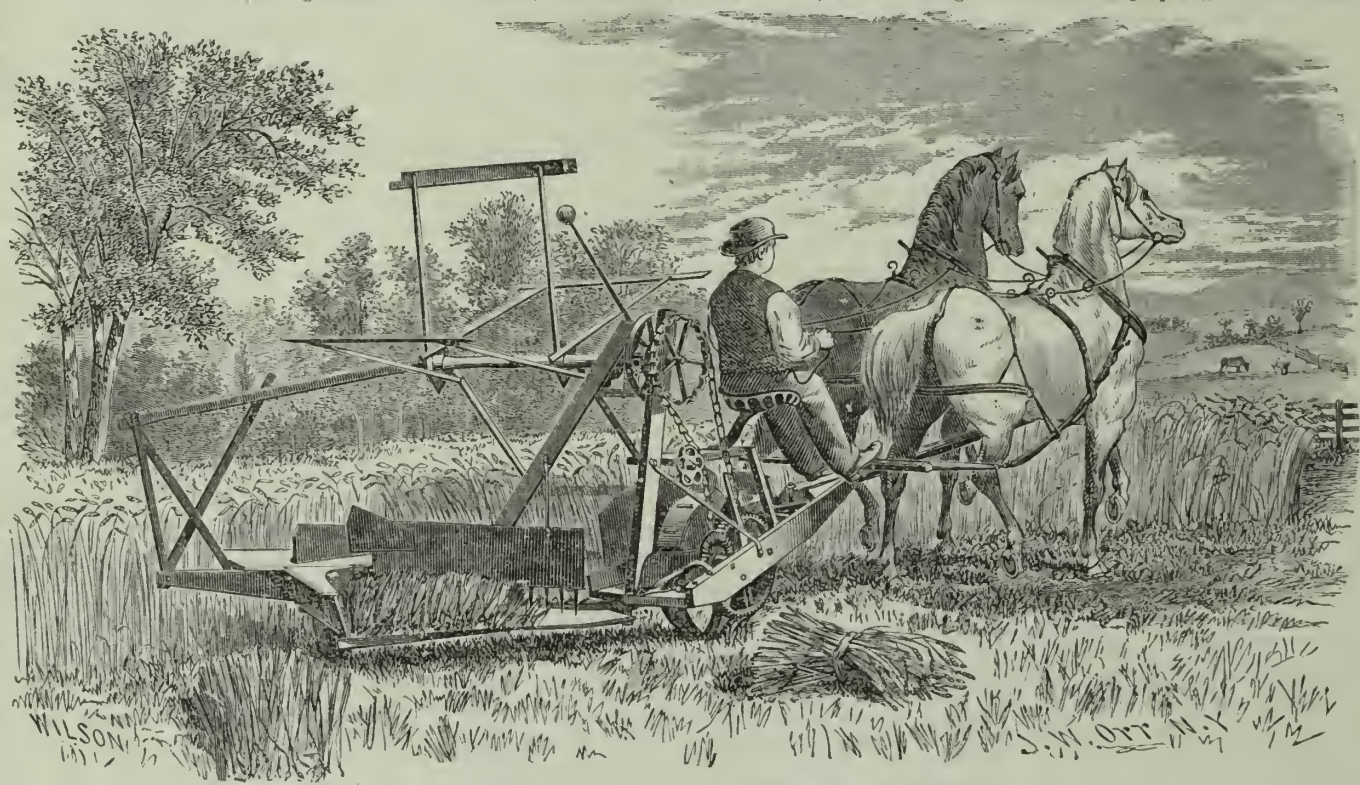
The hoe hands will carry a small sack full of seed, suspended from the neck by a string, and from this sack carefully replant all hills or checks where the seed has failed to come up. After this work is finished, the cultivator should be again passed through the rows, each way, keeping the soil about the plant loose, to allow a full circulation of atmospheric air to the fibrous roots, which are now shooting out in every direction from the main or tap-root, in search of nourishment, and to furnish also a free mellow soil for their rapid and perfect development. Care should be exercised that these fibrous roots are left unbroken by the plow, to avoid which, it should not approach the plants nearer than six inches on either side. If any grass or weeds should be left on the spaces thus remaining untouched around the plants, it must be removed by the hoes, which will follow for this purpose and also to reduce the replanted cotton to a stand. The hoe hands will carefully *share* off the grass from the spaces, not *dig* it, as the digging will either break or expose the fibrous roots, deprive the plant of one of the principal sources of its nourishment, and result in a loss of its fruit during that season when its demands upon culture, soil and atmosphere are greatest.

It is the opinion of the writer that the system herein indicated will insure a full yield. It involves thorough preparation and careful cultivation—treatment which invariably resulted in remunerative returns to the planters of the Cotton States—but which, in the present disorganized and demoralized condition of the labor system, he cannot adopt. Under the influence of the pernicious system of "shares," by which alone he can obtain labor to cultivate his fields, every effort toward progress and improvement is fettered, and he finds himself under the necessity of substituting ignorant and primitive ideas for his own intelligent direction. He thus witnesses a ruthless butchery of the cotton plant under the old "grass killing" process, and the constant exhaustion of the soil by changeless and artless culture. Add to this his subjection to all the vicissitudes of uncertain seasons and fluctuations in price, and the manifest advantages which we enjoy will present to us sufficient causes for present gratulation and future hopes.

Each mail covers the table of the writer with disheartening lamentations from his Southern friends over present prospects and future anticipations. Their fields are white with ungathered cotton, the snows and freezings of a winter of unprecedented coldness are beating it into the earth and destroying it, and the "share-holder" is idle. Under the highest average yield of the war, the cost of production exceeds the price received, and longing eyes are turned to California, earnestly watching the efforts of the writer and eagerly awaiting the results of those efforts, made at one-half the expense that attend their own. In the next paper contributed to the PRESS the promise of his efforts will be stated.

## THE McCORMICK REAPER AND MOWER.

On another page will be found an interesting letter from W. H. M., who sends us an account of the celebrated manufactory of the McCormick Reaper and Mower Manufacturing Company, at Chicago. In connection with this, we give an engraving of one of the machines turned out by that company, the one which they term the "Reliable."




THE McCORMICK "RELIABLE" REAPER AND MOWER.

In no other matter has our American inventive talent been turned to better account or followed by more important results, than in the improvement of agricultural implements. The farmer is indispensable to the welfare, to the existence even, of the country. It is therefore particularly necessary that his tools should be of the best kind. In our land of broad acres and extensive farms, it is necessary to have machines which will work with rapidity, that large crops may be grown and harvested. Much credit is then due to the man who invents improved devices for the farmer; and perhaps of all inventors of the kind, no one deserves more praise than Mr. McCormick, the Pioneer of reapers and mowers.

We shall be enabled to give illustrations of one or two other inventions of the kind as devised by this gentleman; and thereby, we think, we shall be acting in the interest of our readers; for here, if anywhere, such machines are particularly valuable.

A LITTLE sound knowledge, with a great deal of care, goes further on a farm than great knowledge half applied.

SWEDEN still sticks to the velocipede, and several factories are busy all the time.

## SALT MAKING IN ALAMEDA.

The *Overland Monthly* for February shows undiminished excellence. It contains the usual miscellany of good stories, poetry and interesting articles. The corps of contributors is enlarged by the addition of several good writers, and the matter is as interesting as ever. We can well be proud of the existence of such a magazine, filled with contributions of Pacific Coast talent, devoted to and ably supporting the Pacific Coast interests,—one which we can justly claim to be peculiarly *ours*,—and yet inferior to no journal in the whole country. The last statement is sufficiently well proved by its extensive circulation at the East. We take from its columns the following extract concerning the salt works at Alameda:—

In the salt works of Mr. Quigley, three ponds are used. These ponds are situated in close proximity, and contain each about the same superficies, or eight acres. The outer pond, and the one that communicates with the tide-water directly, holds the salt water in deposit, to be carried into the intermediate, or "pickle-pond," as it may be needed, and is generally less shallow than the other two. The water here is of a dull, leaden color, with nothing to relieve its monotony, very different in appearance from the "pickle-pond" it feeds. This pond—known in local parlance as the "pickle-pond"—is a shallow, irregular basin of water, isolated from the outer and inner ponds by strong cross-dykes. Its purpose is to hold the salt water in solution until it becomes a strong brine, hardly less vigorous than the pork brine of the butcher. It receives the tide-water from the outer pond at irregular periods, determined by the state of the weather, or the inclination of the salt-maker. When sun and wind take kindly to his interests, and he does not forget them, these periods are regular and frequent. In the first supply of water, the color of this "pickle-pond" is not unlike that of the outer pond, afterward changing to a variety of hues, among which a dirty red is most prominent. When, by test, which is usually that of taste, the brine is strong enough for the inner, or "salt-pond" proper, it is carried into it by means of a rough, wooden force-pump and by windmill power, through a small ditch that connects them. The supply of brine is furnished to the "salt-pond" daily, when winds are favorable, and is so regulated that it shall not cover the surface to a greater depth than two or three inches, as that amount is more readily and safely evaporated than a larger one. In shape this pond is more regular than the other two, is somewhat larger than either of them, and much more shallow. Its color, too, is distinctive, being of a whitish cast, with here and there a pinkish tinge. It is the pond *par excellence*. Whatever the others may be, this must be perfect, or the work is almost a total failure. They (particularly the outer one) may be carelessly diked, dirty as you please, and have defective bottoms; the "salt-pond" must have none of these characteristics; it must have their opposites.

## GRAPE CULTURE IN THE FOOT HILLS.

Some one has furnished the *Hearth and Home* the following figures showing the profits of grape culture in the foot-hills of this state:—

The cost of cultivation and net profits this year of a small vineyard of less than four acres in El Dorado county, are hereto annexed, the figures given being furnished by the owner himself:

| | |
|---|---|
| Thirty days' pruning in Jan. and Feb. | $60 00 |
| Cultivating, men and horse 8 days | 24 00 |
| Hoeing, 4 days | 8 00 |
| Picking, 15 days | 30 00 |
| Total expenses | $122 00 |

Nineteen tons of grapes—four and three-quarter tons per acre—were, without irrigation, gathered from the above small patch of ground, and that was a small yield. The grapes were sold for $20 per ton, or a total of $380. Deducting the expenses of cultivation from the gross receipts, leaves a net return of $258, or $64 per acre.

The only reason, remarks the Marysville *Appeal*, why grape culture has not proved profitable in many remote places has been in the want of a market for the grapes or wine. All through the northern counties grapes grow abundantly, but the expense of transporting them to market is so great that it has prevented people from planting vines, except to provide grapes for their own use or local consumption.

If the grape growers would unite in establishing wine-making companies with proper cellars, etc., or in any way procure their establishment at accessible points, they would thereby provide abundant and convenient markets for their surplus grapes at highly remunerative prices — say $20 per ton. Several such establishments are already in existence and others are in contemplation, which, as soon as in operation, will become centers of grape-growing districts, and lead to the rapid development of an important industry.

The writer in the *Hearth and Home*, from whom we have already quoted, says further:—"In ten years hence, certainly, and in five probably, an average vineyard and orchard in the foothills will sell for more, acre for acre, than wheat land in our valleys, for which from $30 to $60 per acre is now asked.

We believe that his prognostications are correct, and that the dwellers in the foothills will soon awake to a realization of the situation and profit by it.

WOOD AND WATER.—There is talk, in some of the Western States, of asking Congress, if State statutes are not to be procured, to pass a law for the protection of the forests growing by the large streams of the country, at least at their sources. The ground for such a movement is, that our annual spring freshets, which are so destructive in their effects, would thereby be greatly, if not entirely, prevented.

SINGULAR CIRCUMSTANCE.—A man by the name of Moran recently murdered Minot C. Packard, of Stoughton, Mass. When the grand jury, before whom Moran's case was to be presented, was drawn, the first name taken from the jury box was that of his victim.

MULBERRY TREES—The Sacramento *Bee* of Jan. 23d, states that I. N. Hoag had that day forwarded to a party at Lincoln, Placer county, 2,300 mulberry trees grown in his nursery across the river. Large quantities of these trees are almost daily sent by him to the interior, indicating that silk culture is rapidly on the increase.

SWAMP LANDS.—Oregon has 2,000,000 acres of swamp lands and California about 3,300,000.

# POPULAR LECTURES.

## Vaporization and Elastic Force of Steam.

[Prof. JOHN LECONTE before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

### What Boiling and Simmering are.

LECT. III. Jan. 28. We have before considered, said the professor, the formation of vapors at temperatures below the boiling point. We have seen that the vapors form at the surface of the liquid and that their elastic force increases with the temperature. At the boiling point, however, new phenomena present themselves. No matter how we may increase the heat applied, we can get no augmentation of temperature in the liquid. In the case of water, we cannot get the thermometer to rise above 212°. Beyond this point, the heat all disappears, or rather, it is used up in changing the state of the liquid, in the rapid formation of vapor.

The ebullition or boiling is caused by bubbles of vapor forming in the body of the liquid and rising up through the liquid without being condensed. It is necessary for this action that the elasticity of the vapor formed should be sufficient to overcome all the forces striving to restrain that elasticity. One of these forces is the cohesion of the particles of the liquid; this is different in different liquids. Another is the pressure of the superincumbent liquid; another is the pressure of the atmosphere on the surface of the liquid.

Boiling is not the passage through the liquid of bubbles of heated air, as is very commonly supposed, for this would require an indefinite supply of air in the liquid, but of vapor, as already remarked. The *simmering* which precedes boiling is really a phenomenon of the same character. When heat is applied, the water (or other liquid) below becomes warm and rises, while cold water takes its place. If we heat slowly, this circulation continues and gradually the whole is heated to the boiling point without any simmering. But if we heat rapidly, this circulation cannot take place rapidly enough, and steam is formed below and rises into the upper part of the liquid which is not yet hot enough, however, to enable the steam to pass through it uncondensed. Therefore the steam bubbles collapse, and this is what we call simmering. When the boiling point is reached, the vapors are no longer thus condensed, do not collapse.

We find that each liquid boils at a fixed temperature under the same circumstances; that the temperature remains constant during the whole process; and that the liquid expands and takes up a much larger space in changing to vapor.

Circumstances which influence boiling are: 1. The depth from the surface of the liquid; the pressure of the superincumbent column makes a great difference. 2. The pressure on the surface of the liquid. 3. Substances in solution, as salts, etc. 4. The state of cohesion of the particles to the inclosing vessel, or to one another.

### We can Lower the Boiling Point.

We can reduce the boiling point indefinitely. Thus, if we put water under a vacuum (by means of an air-pump), by thus reducing the pressure on it, we can get it to *boil* at 100° (Fah.) or 60°, or even (if we remove the vapor formed, by proper apparatus) *when on the point of freezing*. We can show this by a simple, and rather curious, experiment. We fill a glass flask partly full of water, which we boil until all air is driven out of the flask. We cork the flask up tightly and invert it in a stand, in such a manner that the neck dips into a vessel filled with water. Now there is no pressure on the liquid in the flask except that of the water vapor. If then we pour *cold* water on the flask, the water in it commences to boil, while by pouring *hot* water on it, this boiling can be stopped. The reason is that the cold water cools and condenses the vapor and therefore diminishes the pressure on the liquid.

As removing or lessening the pressure of the air on the surface of the liquid lowers the boiling point, we find that this boiling temperature is the lower, the higher up we ascend. The following table illustrates this, giving the boiling point of water at several elevated points.

| | Elevation. | Boiling Temp. |
|---|---|---|
| Mt. Blanc | 15,780 feet | 184.95° Fah. |
| Antisana (South America) | 13,455 ,, | 187.30 |
| Quito | 9,541 ,, | 194.20 |
| City of Mexico | 7,471 ,, | 198.10 |
| Sea Level | 0 ,, | 212.00 |
| Dead Sea | —1,317 ,, | 214.44 |

### Effect on Cooking—Hights measured by the Boiling Points.

In consequence of this, combined with the fact that the cooking power is increased by an increase of the boiling point, but decreased by the decrease thereof, people in elevated regions find it difficult to cook their food. Thus, at Antisana, potatoes may be boiled for hours without being made eatable. Under such circumstances people are obliged to have recourse to artificial means to raise the boiling point. For certain substances, as the starch of potatoes, etc., a certain high temperature is required to cook them, and if the boiling point is below that temperature, boiling will not cook them.

The relation of elevation to boiling point has led to propositions to determine the hight of places by the boiling temperature, if one has no better way. But this is a very imperfect method, and one which cannot be relied on. Formulæ have been given for this object. Forbes gave this: Hight in feet=543.2 × (212°—t), t being the boiling temperature at the place. Tyndall gives it: H=590 × (212°—t). Now if we apply this to Mt. Blanc, where the boiling temperature is 184.95°, we should have the hight, according to Forbes' formula,

H=543.2 (212—184.95°)=14,696 feet;

or, according to Tyndall,

H=590 (212—184.95°)=15,959 feet,

while in reality, it is 15,780 feet, as given above.

This shows the inaccuracy of the method. Moreover, the thermometer used must be very delicate, for a mistake of one-tenth of a degree gives an error of 60 feet! Again, the barometer is subject to fluctuations at any one place. Thus, at Paris, it has been found to stand at 781 m.m., and at 719 m.m. The boiling temperature for the first point is 213.44°, Fah., for the second, 209.30°. Difference, 4.14°. Reckoning by Tyndall's formula, we have the difference in hight (H=590×4.14°)=2,443 feet; that is, the hight of Paris has fluctuated 2,443 feet; while, of course it has in reality remained the same. By this method, a traveler found that the *source* of the Amazon was *several hundred feet below the mouth.*

### We can raise the Boiling Point.

By *increasing* the pressure, we can raise the boiling point. This is an important fact, for by it we are enabled to dissolve many substances usually considered insoluble. If, for example, we suspend fragments of glass in the boiler of a steam engine, for some time, we find that they have assumed the shape of drops, showing that they have been dissolved to a certain extent. It is important in a geological point of view, indicating that many minerals may be thus dissolved in the interior of the earth by the waters percolating there. And as a small amount of alkali, dissolved in the water, augments its solvent power, this becomes a point of very considerable geological interest.

Papins "digestor" was merely a kettle arranged with a valve to increase the boiling point, by increasing the pressure, so that in it bones can be dissolved in hot water. The common "soup-digestor" is a similar arrangement, by which we can dissolve not only the juices of meat, but also the gristle, etc.

By dissolving salts in water, we can raise the boiling point. This may possibly result from the cohesive force of the particles being increased thereby. By adding chloride of calcium, the boiling point of water has been raised to 335° Fah., for example. In support of the explanation just given, we may remark that it has been found that washing the interior of a vessel with sulphuric acid increases the boiling point of water heated in this vessel, by increasing the cohesion of the water particles to the sides of the vessel. By adding the acid, the boiling point can be raised very considerably, but when the liquid commences to boil, it does so with great violence, incurring danger of breaking the vessel. For the heat hitherto imprisoned makes steam with great force. Then the temperature sinks to and remains at 212°.

The presence of air in water promotes boiling and its absence retards it. We may perhaps compare the particles of air intermingled with the particles of water to elastic cushions, which serve to act against the cohesive forces; but when these cushions are removed, greater force is necessary to overcome the latter. By removing the air, water has been raised to a temperature of 300° without boiling. But when it does commence to boil, as in the last case, it does so with explosive force, and the temperature falls to 212°.

### Boiler Explosions.

Very possibly some of the mysterious cases of boiler explosions may be due to this cause. For example, a river steamer goes along quietly until it comes to a stop at a landing; then the pumps stop and the water in the boiler becomes quiet, and very probably the temperature increases until it may be above the boiling point.

Nothing occurs until the steamer starts again, when the pumps commence working, water holding air is injected into the boiler, and an explosion follows. This would explain why a certain class of explosions occurs when an engine starts.

Faraday has experimented on this subject. In order to get the water as free from air as possible—and to get it perfectly free is very difficult—he took solid ice, which holds but very little air, and melted it under oil. He, too, raised the water to 300° without boiling.

Dufour went still further. He found that there were other conditions under which the boiling point could be raised. This he did by heating liquids which were not in contact with any solid. Thus, he made an oily mixture of the same specific gravity as water, but with a higher boiling point, and put a drop of water into it. The drop remained suspended in the oily mass, and by heating the oil, he could get the water above its boiling point without boiling. A drop, one or two millimeters in diameter, could be heated thus to 350°. This corresponds to a force, retaining the water in the spherical shape (which it assumes) of 120 lbs. per square inch. He concluded that its remaining without boiling was due to the elastic film which holds it in shape. As soon as the drop is touched by a solid body, as a glass rod, it boils with violence. This experiment can be repeated with other substances; as, for instance, with chloroform in a concentrated solution of chloride of zinc.

### The Spheroidal State—What it is.

This phenomenon has been observed from time immemorial, by ordinary persons. Blacksmiths have often witnessed its occurrence, for when they throw water on a hot fire, many of the drops dance about quite a time without evaporating; and laundresses test the heat of their flat-irons by it, for if the saliva simply evaporates they know the iron is not as hot as when it dances about in a globule.

But nothing resulted from these observations until the attention of scientific men was attracted, in 1756; and in 1842 the matter was scientifically investigated. Bontigny investigated the matter with great care, and arrived at important results.

We heat a metallic plate or dish (of silver, copper or platinum) to a red heat over a spirit lamp, and then put a few drops of water on the plate. The liquid assumes a globular shape, often has a roseate hue, and rotates rapidly, without boiling or decreasing perceptibly in size. When the plate is kept very hot, we can gradually add quite a large amount of water without its boiling. If one lets the plate cool, the water begins suddenly to boil with great violence.

Experiments have established the following:

1. The temperature of the plate is *above* the boiling temperature of the liquid.
2. The temperature of the liquid spheroid is *below* its boiling temperature. This we can determine directly, when we have quite a large amount of the liquid, by inserting a thermometer in it.
3. The temperature of the vapor is *nearly equal* to the temperature of the plate.
4. Evaporation is *less rapid* than at the boiling point.
5. The spheroid is *not in contact* with the hot plate. This we can easily see on looking closely. Between the liquid and the plate is vapor, superheated steam, referred to under 3.
6. The surface of the spheroid is *bright* and *silvery*.

The following table illustrates points 1 and 2. The degrees are of Celsius:

| | Least Temp. of Plate. | Temp. of Spheroid. | Boiling Temp. |
|---|---|---|---|
| Water | 142° | 96.50° | 100° |
| Alcohol | 134 | 75.05 | 78.26 |
| Ether | 61 | 34.25 | 35. |
| Chloride Ethyle | — | 10.05 | 12.50 |
| Sulphurous Acid | 35 | —10.05 | —10.08 |

With regard to point 4, experiments gave the following results:

To evaporate 0.10 grammes of water, it took 207 seconds when the temperature of the plate was 200° Cel.; 91 seconds, when it was 400°; 73 seconds, at a dull red heat; 50 seconds at a full red heat; while at the boiling point it took only 4 seconds.

Many reasons have been propounded to show why the spheroid doesn't become hotter than it is. Bontigny supposed that the heat from the plate was reflected by the bright surface. Thus, if we place a bright object before a fire, it doesn't get very hot; and as the spheroid does not touch the plate, it is not heated by conduction.

Bontigny thought that many *boiler explosions* might be explained from these facts. The water in the boiler assumes the spheroidal state, and when the heat is lessened an explosion occurs. It is difficult to understand how it can get in this state. But practical men of note have supported the assertion that it does do so according to all appearances.

### Curious Experiments.

If we thrust a white-hot iron rod into water, we can see that it remains white-hot under the water for some time, and the boiling does not commence for several moments. This phenomenon is the same in character as the above. So are the following:

Bontigny (and after him many others have done the same thing) *thrust his arm into melted iron* without having it burned, having previously moistened it. Blacksmiths have been known to *lick white-hot iron* without getting their tongues blistered, as would be the result were the iron not so very hot. Any one can try a simple experiment of the kind which does not demand so much nerve. If we tie the finger of a glove on a stick and thrust it dry into melted iron, it is charred; if we wet it first, it is not charred, and we can see that the iron does not come in contact with it. In all these experiments, the heated liquid and the arm or glove *do not touch*, but are separated by vapor, as in the spheroid of liquid over our heated plate. And in the last case, if we move the stick rapidly through the melted iron, we find that it is charred on the side which is towards the front, for here the pressure has removed the vapor.

The fact that the temperature of the spheroid is below the boiling point of the liquid enables us to perform other curious experiments. Thus, sulphurous acid boils at a very low temperature. Bontigny dropped this substance in a hot crucible and into it, when in the spheroidal state, inserted a little vessel holding water. The water *was frozen*, although the outer vessel was red hot. In the same way, by using solid carbonic acid, Faraday has even *frozen quicksilver* in a *red-hot crucible*. This is possible with many other substances, where we can get the boiling point of one near the freezing point of another.

The lecture was illustrated by a number of experiments, which made it particularly interesting to the audience.

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VERY useful and convenient is the new invention just patented—a wire spring to secure ladies' veils to their bonnets.

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A PAPER MILL is projected at Reno, Nevada.

## A Whaling Incident at Monterey.

The Monterey *Democrat* gives the following description of the narrow escape of the crew of a whale-boat a short time ago. The party had struck and made fast to a California gray, a species of whale they describe as particularly vicious, and were approaching him for a shot with the bomb-gun. There were a lot of porpoises around the creature, which suddenly appeared to be "gallied" by them, and paused in his race. The boat, under sail and running swiftly, got unawares within the sweep of the leviathan's tail, and when the shot was fired a stroke in response from that tremendous engine crushed like an egg-shell the timbers of its bow. The sea rushed in through the fracture, and the boat being weighted down with her crew, an anchor and two heavy guns, sank several feet below the surface. The captain had been struck in the side by a fragment of the broken timbers, and was almost paralyzed. In the confusion, for a moment or two, no one thought to cut the rope by which the fish was fast, and it had resumed its flight. A tragedy was imminent, but luckily the captain, recovering himself, ordered the rope to be cut, and the immediate and most pressing danger escaped. The peril was, however, still considerable. Two of the crew could not swim, and they were all immersed to their necks in ice-cold water. Once or twice the boat rolled over, and they were in that perilous condition for half an hour before their consort, which was at some distance, heard their cries and came to their rescue.

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A LARGE TURBINE.—The Carson *Register*, after a visit to the mill of the Yellow Jacket Co., at Empire City, thus describes the hydraulic motor:—The water, used to run the mill, passes through the large flume (14 x 4 feet), which also supplies the Mexican mill, one mile above. At present 5,350 cubic inches of water per minute pass through a 63-inch Lafell (or American double action) turbine wheel—the largest one in use on the Pacific Coast. The pedicle of this wheel is surrounded by an air-tight curb, so constructed as to create a suction below and give double force to the water pouring into the wheel. The parts are so accurately adapted to each other that the turbine utilizes the power so as to produce an effect equal to about 90 per cent. of the power expended. On the upper part of the perpendicular shaft of this wheel is affixed a cog-wheel fitting into a similar one fastened upon a horizontal iron shaft. To the end of the latter shaft a pump-rod is attached, which hoists all the water used in the batteries, pans, etc., while in the center of the shaft is a large wooden drum or band-wheel, over which passes a leather belt 30 inches wide and 125 feet long. This communicates motion to all the machinery in the building, save the pump.

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FISH.—The Humboldt (Nev.) *Silver State* urges more stringent laws against the indiscriminate slaughter of fish, and more active measures for stocking streams. It say: The experiments made by Col. Evans, of this place, have demonstrated the entire feasibility of introducing into our mountain streams any of the varieties of fish which are found in the large bodies of water in the State. He has on his place several ponds now filled with at least three varieties of mountain fish, and finds that they thrive wonderfully and increase with astonishing rapidity. We mention these facts to show the feasibility of growing fish in our mountain streams, now destitute of them.

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ERMINE.—Mr. Sanders, an agent of the South Yuba Canal Co., in Bear Valley, yesterday sent down an ermine, or white weasel, which was killed in that locality a day or two since. The color of this animal is brown in summer and changes to pure white in the winter. The skin is highly prized for trimmings of robes, and also for collars, muffs and cuffs. The lady who gets a genuine ermine set, considers herself fortunate. If Sanders can find many such, he will make a fortune. This specimen is probably the first found in California.—*Nev. Trans. Jan.* 21.

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BORAX.—The Inyo *Independent*, of the 14th, says: A large deposit of borax has been discovered at or near Fish Slough, some five or six miles from the bridge across Owen's river, in Bishop Creek precinct. The borax is found in beds; is slightly impregnated with saltpetre, and after having been tested at several blacksmith shops, is pronounced of the best quality. The claim is owned by Brockman, Ryan, Westerville and others.

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SAN FRANCISCO:

Saturday, February 4, 1871.

## OUR WEEKLY CROP.

Our picture gallery has received a fine addition in an engraving of Sunset on the Coast, with an account of Mr. Prang, from one of whose chromos this engraving is taken. Our library of Mechanical and Scientific Progress has also been largely increased. One Bound East continues his letters, this time from Chicago; an example comes to us from Montana of an Agricultural Mining District; the last First Railroad and First Locomotive pass by our house.

Having read all about these things, Prof. Carr tells us more concerning the Needs of Agricultural Communities, and gives a very interesting account of the different Agricultural Colleges in each State of the Union; and then we are served with a lunch of the State Agricultural Society Report, and with Notes from San Joaquin County, which we enjoy in the shade of our grove, where we are now cultivating the Alder, and are introducing a Substitute for the Sugar Maple.

Mr. Strong leads us through our Cotton Fields, telling us just how to cultivate the cotton plant. We go to the vineyard and see what the expenses and profits of Grape Culture in the Foot-Hills are. Our Salt Ponds are shown, and our grain fields, where we are using a McCormick Reaper and Mower. The evaporation of the saline solution in our salt pond leads to a very interesting lecture on Boiling.

Progressive Agriculture, and how to make happy homes for the farmer, is the subject of our conversation as we walk along over the fields to where we have been trying to Introduce Game into our State. Then we view new grain crops, and see how important it is to use Good Seed.

Having wandered far away, by this time, we take the cars back to the house, enjoying the ride all the more that we have Comfortable Seats. Arriving at our farm house, we rest awhile in the company of our lady editors, who tell us the Doctor's Story, converse of Childless Households, of Flowers and Children, and read us a Chapter for the Month and a Song of the Sleigh Riders. Our Housekeeper now takes us in charge, and shows the conveniences for Bathing, so important for health, which we have in our house, says A Few Words about Eating Pork, and gives us a number of Hints and Domestic Receipts.

Finally we enter into the discussion of Land Matters, and have the whole question of Swamp Land Titles and Legislation ably reviewed,—a question in which so many are in the dark. Then we have only to look over the Market Reports, and it is time to break up our meeting until another week.

AGRICULTURAL.—At the annual meeting of the State Agricultural Society held at Sacramento on the 37th ult., C. F. Reed of Yolo was re-elected President, unamimously. H. R. Covey of San Francisco, and R. S. Cary of Yolo were re-elected Directors. Col. C. Younger of Santa Clara Co., was elected a director, *vice* H. M. Larue term expired. The new Board will meet at the Secretary's rooms at Sacramento on the 15th inst. at 2 o'clock P. M., to begin the necessary preparations for the State Fair of 1871, and to fix the time of the same.

## PROGRESSIVE AGRICULTURE.

HOW TO MAKE HAPPY HOMES FOR THE FARMER.

One of the most important and a truly legitimate result of progressive agriculture is the social and mental improvement which it introduces into the household of the farmer. According as the practice of agriculture becomes improved; according as men excel in the cultivation of the soil, to the same extent does the social condition of the farmer advance. Intelligence, education, refinement and prosperity go hand in hand.

As the farmer begins to regard his avocation as one of progress, and brings to his aid the power of the intellect, he craves a different style of living from that which satisfies the uneducated mind; and his improved system of farming gives him the means to gratify such advanced taste. He raises better fruit and more of it, and is rewarded two and three-fold from the same orchard. Just so with his grain, root and grass crops. His stock is improved in a similar ratio, and the increased profits from every department of the farm keep pace with his progressive ideas. He is thereby enabled to live in a better house, provide it with better furniture, ride in a better carriage and drive a better horse. He looks out over more pleasant surroundings;—his barns are more extensive and befitting; his cattle, his hogs and his poultry are more shapely, more fat and more beautiful, and are the admiration of every one who sees them.

Such a farmer rejoices in a higher degree of social intercourse, exhibits more general refinement, and stands an equal anywhere among his fellow citizens. His dwelling, adorned with shrubs and flowers without, is also beautiful within, and radiant with smiling wife and happy children, ever ready with words and acts of welcome.

He has no difficulty in keeping his children at home. The city and its attractions have no allurements for them, for they have a happy, pleasant and attractive home on the farm. The boys as they grow up have no desire to change the mode of life to which they have been accustomed. They prefer to "stick to the farm," with its certainties, rather than try the uncertainties of a business life in the city.

Progressive and intelligent farming *pays* too. It pays just as surely as good crops pay better than poor ones. The better the preparation and cultivation, within reasonable limits, the better and more profitable are the crops. Are our farmers thinking of this now, as much as they should—now, while they are putting in their crops? Are they going over the ground as fast as they can with the idea of compassing the largest breadth; rather than keeping in view the largest crops from a moderate area? We fear that such is the case with many.

Another source of profit and pleasure to the progressive farmer is in the improvement of the farm—the adding to its value; to its productive capacity. Too few of our farmers appear to realize the *profit;* to say nothing of the pleasure, of having a farm properly imprvoed. Snug buildings tastefully embowered with ornamental trees, shrubs and flowers; and supplied with garden, fruit orchard, etc., add greatly to the value of a farm. These things are indispensable beginnings for such farm houses as we have pictured above.

The profits of labor so expended are too little considered. We have heard of such a farm which five years ago was almost a waste. It consisted of 300 acres, and was purchased by three brothers. These brothers went to work to *improve* it, with the view of selling. The ground was properly divided off, fenced and prepared for grain, roots and other crops. Hedges were set, barns and outhouses and a dwelling built and mostly paid for from the proceeds of the first crop. Fruit and ornamental trees were set out, and the grounds about the dwelling properly ornamented with evergreens, shrubs, flowers, etc.; such work being done at times, when the labor of the proprietors was not needed for the care of the crops. In less than five years the farm which cost $5 an acre was sold, as we are informed, for $60 an acre! Eighteen thousand dollars for three young men in a little over four years—over and above their living; for the profits from the farm during the time it was in their possession, had paid back the original purchase money, and all the cash outlay, for improvements and the current expenses of the proprietors. This was the result of intelligent, progressive agriculture.

## INTRODUCTION OF GAME INTO CALIFORNIA.

A correspondent of the California *Horticulturist* urges the importance of the introduction of game and fish into California. Game birds do not interfere with the welfare of the farmer, with the exception of the wild pigeon, whose presence should not be encouraged. The birds most desirable to introduce are the varieties of the goose, and partridge families; the European pheasant, and the golden and the silver pheasant of China, and the wild turkey. Many of the song birds should also be introduced—such as are useful in destroying insects and worms.

The correspondent alluded to assures the farmers that the birds referred to rather subserve the interests of the farmer than otherwise. Although they may eat a few kernels of grain, they work a great advantage to growing crops "by destroying grubs, snails, insects and worms that are continuously and everlastingly eating both the root and seed of all vegetation." The time when game birds congregate in the largest numbers is when the farmer is cutting his crops. During the time of planting and growing the crops, the birds are passing their breeding season, and are too shy to venture very near to the habitations of man. The red-headed woodpecker, the blue jay and California linnet will do more damage to fruit-growers than all the family of game birds. Add to these the gopher, squirrel, coon and skunk, and you have the worst enemies of the farmer.

Never was there a better field for sportsmen than this our adopted State might be made with a little effort. The Ornithological and Piscatorial Society of this State is now fully organized, and has entered upon its work not only for the purpose of importing the different species of game birds and fish from foreign countries into this State, but also for the protection of those already here. This society is now in communication with several well-known sportsmen in the Eastern States and in Europe and Australia.

Mr. R. B. Woodward has, with his usual public spirit, generously offered the society both room and water in his gardens to hatch out a large quantity of trout ova now on its way or already arrived from the East. As a matter of interest and economic value to the State at large, it may be stated that the importation of game birds and fish of choice species will furnish a large supply of good, nourishing, healthy and cheap food for the people. With the correspondent aforesaid "we sincerely hope that the endeavors of this society will meet with the approbation and cordial support of every well wisher of the State."

SILK CULTURE IN ALAMEDA COUNTY.—The Oakland *Transcript* says that Mr. Blacow is preparing to put out ten acres of mulberry trees for silk culture at Centreville. He is sanguine that silk culture may be successful and profitable in the valley. Others in the neighborhood are thinking of engaging in the business. Mr. Lake has intimated his intention of cutting down his orchard and planting the ground in mulberry.

## IMPORTANCE OF GOOD SEED.

MESSRS. EDITORS—In your issue of Jan. 14 was a paragraph stating that Mr. S. C. Pattee, of N. H., threshed out two bushels of wheat with the flail, without untying the sheaves, and then hand-picked it; that it was sown in a field with seven bushels of machine threshed; all of the conditions of the two kinds from seeding to harvest precisely alike. The result at harvesting was 33⅓ per cent. in favor of the flail-threshed. Mr. Pattee further stated that in his judgment *three* pecks of seed, flail-threshed, will produce as many plants as *four* pecks, machine-threshed.

Why should this be so? I answer, because there is less force used in threshing by the flail than by the machine, and of course less grains of wheat are destroyed or injured for seed by being crushed, when threshing; besides, in these two bushels, the sheaves were not unbound, hence only the best of the wheat was taken.

It may be difficult to convince our wheat growers that such a slow, and of course expensive way of selecting seed wheat will pay. I think it will. Because a farmer here, with seed selected the usual way, and sown on virgin soil, with our genial climate, gets what he calls a good crop, is no proof that with *better seed* he would not get a *better crop.* How else can you account for the large yield of wheat to the acre in Ireland, on land that has been cropped for hundreds of years, but which is yet producing forty to sixty bushels to the acre? It is only by acknowledging and carefully following out in practice that "like begets like." Theory and observation in the vegetable, animal and moral world confirm the truth "that whatsoever a man soweth that shall he also reap." B.

Our correspondent is correct, and the principle which he lays down should be carried out in every branch of culture—whether in grain, fruit, tree or flower. What careful housewife or florist does not pick the seed pod of the finest flower for the next year's annual. The largest and most thrifty ears of corn are always selected for seed, because it is easily done.

So a farmer should go over his best field of wheat and carefully cull, one by one, the finest, tallest and largest heads; carefully shell out the seeds by hand; pick out any small or imperfect kernels from the mass, and sow the perfect ones only, in soil especially prepared for the purpose, and use the product of such care for his next year's seed,—such labor would pay him tenfold that of any other which could be performed on his farm. If this course be repeated every two or three years, interchanging seed with neighboring farmers, who pursue a like course, the improvement in the quality and quantity of wheat would be most marked, and bring with it largely increased profits.

It is in this manner, either by accident or design, that new and improved varieties of grain are produced. It was in this way that all the cereals were originally produced from common grasses. Our farmers are quite too careless in the attention bestowed in the selection of seed. They are too forgetful of the fact that "like produces like"—that if they sow poor, shrivelled seed they will reap the same, and that only.

RAILROADS VS. FENCES.—The question as to whether railroad companies, were compelled to build fences along the line of their road and keep them in order to prevent the killing of stock along said line, has repeatedly been before our courts; but, until very recently, there has been no definite construction of the law given. We see in the case of McCoy vs. the California Pacific Railroad Company, the Supreme Court has decided that a railroad company is bound to build fences along the line of the road, and that in the absence of such fences they (the company) are responsible for the live stock they kill on the track. This is one of the most important decisions yet rendered by the Supreme Court of this State in the interest of farmers and stock-raisers, and more particularly does this decision beneficially apply to parties resident upon the lines of railroad.

CASTOR BEANS PROFITABLE.—Last week, says the Los Angeles *News* of Jan. 21st, a Santa Barbara farmer sold to the oil works at San Francisco the castor beans raised on five acres of land. The crop yielded a clear profit of $325.85.

## BLOOD'S PATENT CAR SEATS.

We of the present generation apparently do not have such stiff backs as our ancestors had. Many of us can remember how our grandmothers sat erect in their chairs, disdaining to rest against the chair-back. Theoretically, we don't know but what they were more correct in the principle than we are, but personally we always select that chair whose back presents the most comfortable rest.

Had these ancestors of ours been as much addicted to riding in railroad cars as we are, we think they might have modified their action, and sought to relieve their weary spines. But this last has hitherto been difficult of accomplishment. The straight backed seats become very tiresome, when one is jolted along for a considerable length of time, and how to secure a comfortable position has heretofore defied the most persistent efforts of the traveler.

The Chicago *Railway Gazette* describes these efforts well. It says: An erect sitting posture is quite comfortable at first, but the continual jar tends to render it monotonous and almost impossible to maintain, and here the traveler finds himself reduced to a choice from a few attitudes which vary considerably in their elegance but very little in their comfort. He slides slowly down until it is necessary to brace his knees high up against the back of the forward seat and here, in the shape of a horizontal interrogation mark, he finds a "brief bitter bliss" until his breaking neck and aching limbs compel him to resign it. The most ingenious traveler is seldom able to suggest to himself any improvement on these two luxurious positions, unless he be fortunate enough to secure, and keep, a double seat, in which exceptional case he can prop himself up with his baggage and devise a variation of his agony.

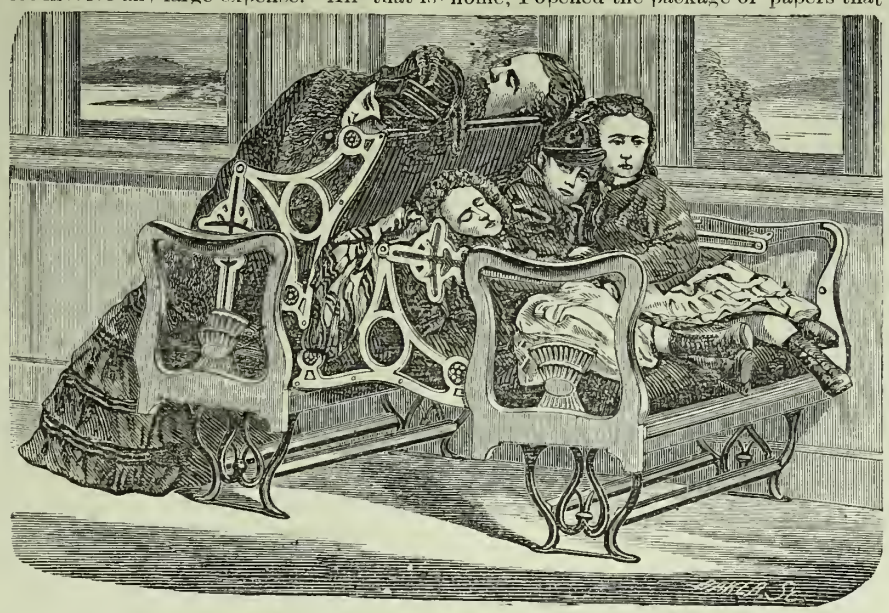
There comes now to our relief, a St. Louis inventor, whose device really seems most promising. This gentleman has furnished an arrangement by which one can obtain that variety of postures which is so necessary for comfort on a long trip. It now may be possible for the traveler to exclaim with sincerity, "Bless me, this *is* pleasant, riding on a rail."

Our engravings illustrate this device and present some of the variations which can be attained thereby. One illustration represents the seats in the common attitude. Another shows a change which can be effected instantaneously, allowing an easy, half-reclining position. Another shows the variation as a sofa; and another, one which renders it possible to make the trip enjoyable to children, and to dispose of a small family in a compact way, so that their comfort, particularly that of the little ones, can be assured.

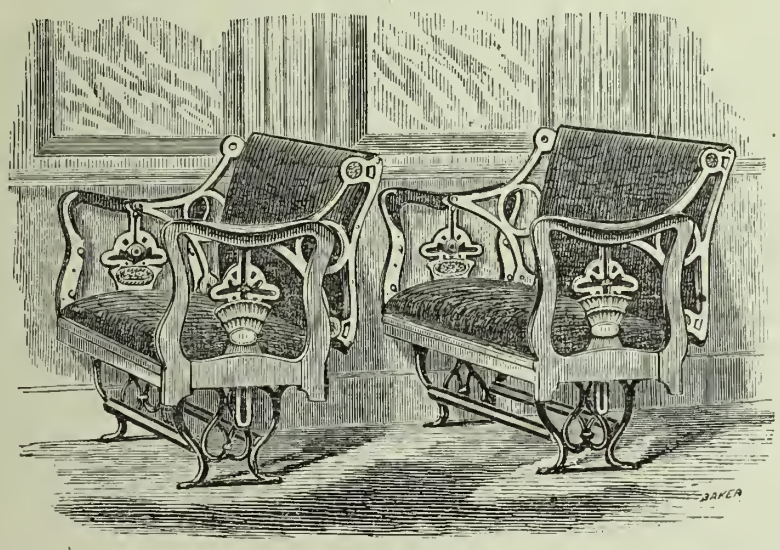
These changes are all made without trouble, by graduating the movement of the shifting irons to the desired position, and securing the wished-for arrangement by means of a lock attached to the shifters. All these are so simple that they can be effected by any one, without the necessity of calling on the conductor.

The adoption of this improvement does not involve any large expense. All that is necessary is a simple change of the irons on which the backs of the seats revolve, and this is effected at a cost of about three dollars a seat. The device being so important an improvement and the expense of introducing it so trifling, we naturally find it adopted on many routes; for any railroad, to succeed, must provide as well as possible for the comfort of the traveler. Such a contrivance on our overland railroad would be a great addition; and it would be in excellent place in the Emigrant cars. A small extra sum might be charged for these seats and thus much comfort could be secured at a small expense.

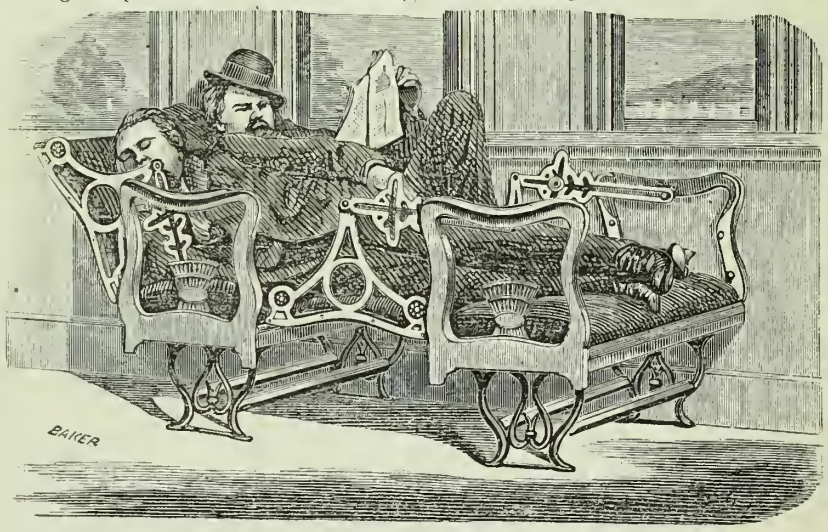
Mr. John H. Blood, of St. Louis, Mo., a brother of the patentee and part owner of the patent, is authorized to dispose of rights and make contracts with any road in the United States, for the introduction of their improved car seats.



VARIATIONS OF BLOOD'S IMPROVED CAR SEATS.



BLOOD'S IMPROVED CAR SEATS.



AS A SOFA.

HALF RECLINING POSITION.

## FROM A PIONEER AGRICULTURIST.

SHERMAN ISLAND, July 27th, 1871.

MESSRS. EDITORS:—Upon my return home, I opened the package of papers that you so kindly furnished me, and was surprised to find so vast an amount of choice reading matter contained in them, and that of the highest order. What a field of knowledge is spread out before the reader; so full of the right kind of valuable information, that at every turn a feast is spread before him.

Why, it is just the paper that is wanted on this coast; here the farmer can find an abundance of information upon all subjects appertaining to his calling; nothing seems left unsaid that can be of value to him. I am surprised to find such a mine of good paying reading enclosed in its pages.

Then the mechanic can also find information that treats upon all branches of the mechanic arts.

And, then, what shall I say of such a host of contributors! Why, the articles from Professor Carr are worth a year's subscription. Last evening I read two of them, and my only regret was, that there was not more for me to feast upon.

Gentlemen, go on; you have struck the right vein at last, and you will get your reward. Your paper has started in just the right time, and thousands will bless you for so doing. It stands in the highest rank of the best agricultural papers in the Union.

Yours truly, DANIEL L. PERKINS.

WRITE FOR YOUR PAPER.—A correspondent, who appears to entertain a high appreciation of both the SCIENTIFIC and the RURAL PRESS, writes from Gilroy as follows: "An agricultural journal can never be made really valuable to subscribers until a goodly number of intelligent men in every department of that great industry will take the trouble and pains to give their views and experience through, and take a general interest in such a paper. Such an interest will be as much for their own benefit as for that of the community at large. And no agricultural community can thrive without such a journal.

Many are deterred from giving their valuable experience to such papers because they cannot put it in desirable shape. But a flowery speech or contribution is not expected from ordinary farmers; still they are the ones whose experience is the most valuable and reliable, and whose interests such a paper is calculated to more especially benefit. They are the ones who must support such a paper, if it is supported at all in the interest of the agricultural community. There are very few who have made farming or stock-raising their business, for a term of years, who cannot give a neighbor much valuable information, in some particular branch of farm work—probably years before he would learn as much by actual experience; and such as would save him, especially if he was a new beginner, considerable money. All this might be done by devoting a few minutes, once a week or once a month, to a short article in the RURAL PRESS. Such items would also call out ideas or remarks from others that would benefit in return. Try it and see what effect it will have." C.

WANTS EVERY NUMBER.—A subscriber writes from St. Helena, under date of Jan. 30th, as follows:—"You have commenced the publication of a paper that suits my ideas exactly. I resided in Del Norte Co., 15 years, on a dairy, hog and fruit farm, and I often felt the need of just such a paper as you propose to make the PACIFIC RURAL PRESS. I took several Eastern "*Rurals*," but they were far from being satisfactory for a farmer on the Pacific Coast. I do not want to miss a single number of your paper, as I know it will be of great use to me on the Small Fruit Farm which I am just starting."

HORTICULTURAL.—A. D. Pryal, our well known horticulturalist, says the Oakland *Transcript*, has recently undertaken to beautify and improve the grounds belonging to Hon. John Nugent, at San Leandro. The work has been laid out by a master hand, and its completion will doubtless reflect great credit upon Mr. Pryal, who has made the subject of landscape gardening the study of his life, having attended the famous schools of London, besides having had a life-long experience in this country. The improvements are on a grand scale, and have already been put fairly under way.

BY OUR LADY EDITORS.

## THE DOCTOR'S STORY.

BY NELL VAN.

[Written for the PRESS.]

"Come Doc., give us a story," said Bill Somers, as we lounged around our camp fire, after our second day's hunt; "give us one of your rip-roarers, now, for I'm in for a good laugh."

"That's you for sartin, Bill; I never yet saw the time when you could not laugh at nothing, all alone by yourself," spoke up Tim, our sturdy friend, who was the surest shot of the party. "A story, yes," sung out several voices.

"Well, then boys," said the Doctor, slowly winking in the most comfortable manner, "I don't care if I do tell you something about old college days, since you mention it; but on no account let me be interrupted, for its sure to put me out, and I don't like to lose myself, and mix up the past with the present. . D'ye understand?" We all agreed to keep quiet as mice and to avoid asking questions till the story was over; so the good Doctor began as follows:

"When I was a student, our Professor of Anatomy was one of those solemn-faced, long-winded old fogies, that young fellows always feel like poking fun at; and many's the time he has stopped short in the middle of a sentence, raised his brows and given us a long steadfast look, over his glasses, with the utmost solemnity, till we were forced into silence. Never but once did we find him guilty of perpetrating a practical joke, and it is of this I mean to tell you to-night.

Now it is the custom among students, when they get a new subject for dissection, to give it some nick-name to designate it from all others. And there is usually some humorous fellow in the crowd who hits upon a jolly cognomen, which shows up some striking peculiarity of the grave subject. Thus we had "Old Frizzle Top," "Warty," "Bottle Nose," "Bob Short," and "Yellow Jack." "Chalky," was the name bestowed upon the one of whom I have to tell you, because of the perfect ghastliness of his complexion, and lack of the usual growth of beard. The Professor was in the habit of preparing the subject in the dissecting room, during the forenoon, for the afternoon lecture, and always brought with him for lunch some sandwiches, of which he was extremely fond.

The students were always playing off jokes upon each other, and finally grew bold enough to try their tricks on the Professor, who, upon several occasions, missed the sandwiches from his coat pocket, which hung in an adjoining room. Nothing was said to the students about their pranks, which were getting almost unbearable, till one afternoon we were all seated in the lecture room, with note-books open and pencils ready, when the Professor called the class to order, and stated that he had a remark to make before commencing the lecture, which was, that the student who had been greedy enough to devour his sandwich that day, had unconsciously regaled himself on a sample of "Old Chalky;" for having been annoyed by their proceedings, on several occasions, he had boiled and sandwiched between some bread a tender morsel which he thought would cure them pretty effectually of their depredations in future.

A glance down the class disclosed a sudden palor, and slight shudders passing over more than one of the most daring ones, and an explosion of laughter from the rest betrayed the guilty parties. It is needless to add that the Professor's sandwiches remained undisturbed from that time henceforth.

"Capital," exclaimed Bill, recovering from a hearty laugh in which we all joined. "Two to one, Doc., you was the chap who had the biggest bite of that new-fangled sandwich. Tell us, now, how did it taste? and is human flesh really an improvement on the sort we are accustomed to eat?"

"Well now, boys," spoke the Doctor deliberately, "not to spoil the story, I will confess that I had gone without my breakfast that day in consequence of a slight headache, and being somewhat roguish, in those days, I had more than once assisted in dispatching the Professor's sandwiches; but upon that particular day, being more sharp set than common, I went for my own lunch instead of fooling about the Professor's coat pocket. But Meredith, a student from Virginia, never heard the last of it, for he was one of the fellows who turned so deathly pale, and looked like 'Chalky' himself, as we all said.

Upon the principle that carnivorous animals grow to resemble the creatures they most feed upon, and the Englishman derives the appellation of 'John Bull' from his fondness for beef, so we, in like manner, christened him 'Chalky Meredith,' which name clung to him throughout the entire course. But we never could induce him to describe to us the peculiar flavor of the sandwich made from 'Old Chalky.'"

## CHILDLESS HOUSEHOLDS.

Requests have been sent that a growing vice in our land be touched in this column. It is true that in cities and in many sections that have been longest settled and most highly civilized in our country, big families are the exception, and by no means the rule. It is true that when individuals pass a certain point in physical refinement, like double flowers, they lose the power of perpetuating themselves. It is also true that by a great many married pairs children are looked upon as an incumbrance. Hotel and boarding-housekeepers regard them decidedly in that light. It is easier for man, wife, and dog to secure board from this class of our public than for parents and child to find like accommodation. And it is also true that many a married pair lay the flattering unction to their souls that they may build up a *home* where little feet never patter over the floors, little mischievous fingers never put things out of place, sweet child-voices never make music, filial love is never known. God never made any such homes. His blessing on Adam when he gave to him and Eve the first Paradise, and when to Noah the world was given again was quite in another direction. The end of marriage is the perpetuation of the race, and they who assume a part of its sacred responsibilities and abjure the rest, how can they expect the Divine blessing upon their households? There are many people by nature, by physical, mental, and moral constitution unfit to be intrusted with the training of children, and with whom, according to human wisdom, the race should die out. But these are not those who defiantly take the laws of God into their own hands and say what shall and what shall not be. Yet the woman who dares to enter the Sanctuary of Life and lay violent hands on the unfinished work of nature there, is unworthy to bear that holiest name of mother. How shall she who shrinks not from destroying a budding life, be fit to nurture the delicate instincts of an immortal soul, to twine the first tendrils of the moral nature in the direction of virtue? To such women and men we commend the sixth commandment; and are sure that if they hear not Moses and the prophets, neither will any words of ours keep back their hands from crime. —*Ex.*

CASTOR BEANS AT ALVARADO.—An acre of land has been prepared near Alvarado, upon which to experiment in the culture of castor beans.

THE SUGAR MAPLE.—It is said that a variety of the sugar maple, whose sap is as fully charged with the saccharine principle as that which flourishes in the Eastern States, is found in the cañons of Montana. The sugar maple is also found in some of the mountainous regions of the northern part of California; but we believe that it is deficient in the quantity if not in the quality of its saccharine principle, as compared with the Eastern sugar maple.

RECIPE FOR AN EVENING PARTY.—Take all the ladies and gentlemen you can get, put them in a room with a slow fire, and stew them well. Have ready twelve packs of cards, a piano, a handful of prints and drawings, and throw them in from time to time. As the mixture thickens, sweeten with politeness, and thicken with wit, if you have any; if not, flattery will do as well, and is very cheap. When all have stewed for an hour, add ices, jellies, cakes, lemonade and wine. Fill the room quite full and *let the scum run off.*

## FLOWERS AND CHILDREN.

Flowers and children are of very near kin, and too much of restraint or too much of forcing, or too much of display, ruins their chiefest charms. I love to associate them together, and to win the little ones to a love of flowers. Some day they tell me that a violet or a tuft of lillies is dead; but on a spring morning they come, radiant with the story—that the very same violet is blooming sweeter than ever, upon some far away cleft on the hillside. So you, my child, if the great Master shall lift you from us, shall bloom—as God is just—on some richer, sunnier ground.

We talk thus; but if the change really comes, it is more grievous than the blight of a thousand flowers. She who loved their search among the thickets—will never search them. She, whose glad eyes would have opened in pleasant bewilderment upon some bold change of shrubbery or of paths, will never open them again. She, whose feet would have danced along the new wood-path, carrying joy and merriment into its shady depths—will never set foot upon those walks again.

What matter how the brambles grow? Her dress will be torn. What matter the broken paleing by the water? She will never topple over the bank. The hatchet may be hung from a lower nail now—the little hand that might have stolen possession of it is stiff—is fast! God has it.

And when spring wakens all its echoes—of the wren's song—of the blue-bird's warble—of the plaintive cry of the mistress cuckoo (she daintily called her "mistress cuckoo")—from the edge of the wood—what earnest, eager, delighted listners have we—lifting the blue eyes—shaking the curls—dancing to the melody? And when the violets repeat their sweet lesson they learned last year of the sun and of the warmth, and bring their fragrant petals forth—who will give the rejoicing welcome, and be the swift and light-footed herald of the flowers? Who shall gather them with the light fingers she put to the task—who?—*Ik Marval.*

DREARY HOMES.—Of all the dreary places, deliver us from the dreary farm houses which so many people call home. Bars for a front gate; chickens wallowing before the door; pig pens elbowing the house in the rear; scraggy trees never cared for, or no trees at all; no cheering shrubs; no neatness; no trimness. And yet a lawn, and trees, and a neat walk, and a pleasant fence around it all, do not cost a great deal. They can be secured little by little, at odd times, and the expense hardly felt. And if the time comes when it is best to sell the farm, fifty dollars so invested will often bring back five hundred. For a man is a brute who will not insensibly yield to a higher price for such a farm when he thinks of the pleasant surroundings it offers his wife and children.

OUR BEST PARLORS.—Don't keep a solitary parlor, into which you go but once a month, with your parson, special guests or sewing society. Make your living-room the house. Let the place be such, that when your boy has gone to distant lands, or even when, perhaps, he clings to a single plank in the waters of the wide ocean, the thought of the old homestead shall come to him in his desolation, bringing always light, hope and love. Have no dungeon about your house—no room you never open—no blinds that are always shut.

BEECHER ON WOMAN.—Henry Ward Beecher, in a recent sermon, discoursed thus in regard to the fair sex: Maidens, look to the God of your fathers. If there be any one in this world who can not afford not to be a christian, it is a woman. If there be any one whose beauty fades as a flower, and whose grace needs the sustenance of the Ineffable; if there be any one whose power is in beauty, in purity, it is woman. If there be any one more than another upon whom blight falls more rudely; if there be one more than another who is burdened with grief or wrung with sorrow, it is a woman that is not a christian. The ladder between her soul and God is not half so long as that between our souls and God. God made woman to be better than man; and the perversion is in proportion when she is worse.

A CORRESPONDENT of the *Hearth and Home* remarks that it is the poorest economy in the world for women of limited means to buy the cheaper grade of goods. It takes just as many stitches and as long a time to cut out and make a garment of poor material as of good, and the latter will last in perfect condition long after the former has gone to the rag-bag. A print that costs twenty-five cents a yard is cheaper by far than one at twelve or fifteen.

## A CHAPTER FOR THE MONTH.

[Written for the PRESS.]

February.

Our beautiful young Queen of the Occident is now displaying all her charms, and putting forth all her blandishments. There is no taste but may be gratified, no wish without some shadow of a corresponding form, no whim but may find some tangible image, or representation of itself, in the infinite varieties of divertisements which now surround and enchant us.

The country, too, has its charms. Ah, that is a mythic word; and with its utterance, we are off on a tangent from the thronged plaza, leaving behind the gorgeous splendors of Market and Montgomery streets; for even now there is so much that is fresh and beautiful in the country, so much of hope amid the bleakest dreariness of winter, that we could not choose but go there, were it only to be free. Never can a drive to the Cliff, or the Ocean House, present more attractions than at this season, especially to those who like a little brisk circulation, now and then.

But really, we know so little of winter, and one month is so like another, in this ever-blooming city, that we should visit our neighbors, and by processes either of imagination or memory, see what they are about.

Look at yonder cottage, nestling so covertly amid the brooding hills. There may be traced paths made by busy little feet, and winding to the rounded summits, whence the merry coasters* make their short, brisk journey to the plain. Do you think they are tired, though they have made the circuit for the hundredth time? They never weary of their toilsome sport, till the sun drops down suddenly among the spectral woods, as if he were tired of his short journey, and would fain rest.

But, with the rising moon, which glints so vividly along the flashing snow-crest, lighting the ice-gems that crest shrub and tree, the skaters are abroad, with echoing shouts responding to the sharp ring of the curvating steel; and they can gather a full harvest of pleasures, even on the barren fields of winter.

The patient kine stand ruminating near the stable doors, or looking thoughtfully at the brilliant icicles, which the fairy, Frost, has woven around their drinking trough; while Chanticleer struts among his dames, with increasing majesty, or with a loud and clear voice, replies to some favorite in the hay loft, who, with a shrill and joyous cry, announces the pleasing fact, that an incipient chicken has been given to the world.

The farmer walks abroad, surveying his fields with a serene faith in the providence that governs all things; for he knows that the soft and feathery snow is wrapping in its swaddling clothes, the young germs of his future harvests, while they sleep safely in the warm soil beneath. Beautiful are all the ministrations of nature; but there is none more beautiful than this.

### Song of the Sleigh-Riders.

Vigorous hearts and voices merry
Hail thee, bright-eyed February!
Hark, the cheering music swells;
Joyous shouts and ringing bells!—
O'er the glades of flashing snow,
Hale and happy, here we go!

Echoes ring out, in sweet chimes,
Melodies for other times—
Flashing eye and mantling cheek,
Drooping glances, soft and meek,
Lend their lustre to the snow—
Hale and happy here we go!

Now the murmurs, soft and sweet,
In a tenderer silence meet,
Nursing, in its depths so still,
Mutual love's electric thrill!—
O'er the glades of flashing snow,
Hale and happy here we go.

In the swelling buds are wreathing
Garlands, and the spring is breathing
O'er the wan and sheeted plain
In the language of the rain;
But we'll have our ride, we know;
Hale and happy, here we go!

*Riding down hill, or sliding over the snow-crust, in the East, is called coasting.

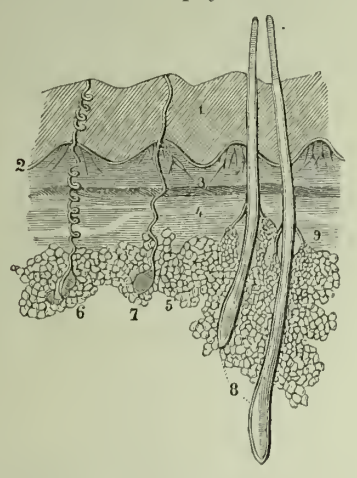
WHY NOT?—"Ma," said a thoughtful girl, "why don't they have Rescue Missions and Magdalene asylums for men? Shouldn't *they* be taught to lead a pure, good life, as well as women?" "And if all men were good and noble, wouldn't it be easier for woman to be so too? I should think they would begin by caging the lion before securing his victims."

HOME-MADE LINEN.—At the Hillsdale, Mich., Fair, the linen work of a Mrs. Hooper, an old lady of 70 years, was examined with surprise. Hosiery and table linen were shown of her production, wrought from the crude material, spun and woven by her own hands.

# HOUSEHOLD READING.

## The Skin and its Functions.

The advantages of bathing and friction will be seen and understood by considering the structure of the skin, which cannot be explained by a verbal description. We therefore insert a cut, drawn from a section of skin as seen under a microscope, and clearly delineating the different parts of this complicated and important organ, and showing the necessity of cleanliness in order to the perfect performance of its functions. We copy, with slight modifications, from a work written by Dr. Bellows, entitled: "The Philosophy of Living."



1. Cuticule, or Scarfskin.
2. Rete Mucosum, or Mucous Web.
3. Corpus Papillæ.
4. True Skin.
5. Cellular Membrane, or Fat Cells.
6 and 7. Perspiration Glands and Ducts.
8. Roots of Hairs.
9. Oil Follicles.

1. *The Cuticle or Scarfskin* is the dry membranous outside covering of the body, consisting of laminæ of hardened mucus, or albuminous matter, without nerves or blood vessels, and therefore without feeling or life, except a kind of vegetable life. It is, when kept clean and fresh, as it may be by daily ablution or friction, spongy and porous, so as to admit through it freely the perspiration, &c., which exudes from beneath; but when neglected becomes hard, and filled with concreted impurities, which obstruct the natural secretions, and become the source of much derangement of the system, and many diseases both of the skin and other organs. It forms into small microscopic scales, as we can see at any time by applying friction or a moist cloth to any part of it, and is separated in blisters on the application of heat or irritating substances, as Spanish flies, mustard, &c.

2. *The Rete Mucosum, or Mucous Web* in which resides the coloring matter which constitutes the complexion, and which, in the Ethiopian, is black. Like the cuticle, it is not organized with nerves and blood vessels, and therefore not absorbed, and being covered with the cuticle, does not form scales. It therefore remains almost permanent, and letters and figures inserted with coloring matter like India ink, remain during life. It is this inertness that renders diseases of the skin so difficult of cure. In the cure of disease absorption is necessary; therefore those parts in which the absorbents are inactive, as in the cartilages bones, and *rete mucosum*, when once diseased are very slow of cure, the irritating matter being out of the reach of the absorbents.

3. *The Corpus Papillæ* is that sensitive part of the skin in which resides the sense of touch. It consists of a collection of papillæ formed by the extremities of the nerves and vessels; which, after having passed the true skin beneath, are grouped in little pencils or villi on a spongy erectile tissue. These villi are disposed in pairs, and when not in action are soft and relaxed, but start up erect when employed in the sense of touch. They are very readily seen when a blister has removed their covering, and give the acute sensibility which in that case is felt to the touch, the scarfskin being necessary to modify and blunt the sensitiveness of the uncovered papillæ.

4. *The Deeper Layer, or True Skin.*—This consists of a dense collection of fibres, forming a firm stratum, interspersed with holes for the passage of nerves and blood vessels, and is mostly composed of gelatine; and the skin of animals is therefore used for making glue. Gelatine, when united with tannin, forms a substance which is insoluble in water, and constitutes the leather for our boots, &c.

These four strata constitute the skin, which is united to the structures below by cellular membranes, which contain more or less adipose matter, or fat, which is represented by the little globules under the skin, marked 5. We shall continue this subject next week.

## Up Country Letters.

### A Few Words about Eating Pork.

DEAR READER:—I have been thinking of pork to-day. It happened in this wise: The farmer's wife was getting supper, and as the savory (suffocating?) smell of the frying pork met my olfactory nerve for the third time to-day, I asked the abrupt question of the good wife, "Why do you eat so much pork in the country?"

The red face and burnt eyes turned toward me as she answered, impressively, with upraised fork, "Well, it is the cheapest, easiest to get, and we like it best?"

I sat in my invalid chair and pondered. "Cheapest?" let me see. If they should make Johnny cake of the sour milk and corn they give the pigs; bake the apples, and feed them *first hand* to the family at every meal; give potato skins and refuse from vegetables to the live stock, which considers such food dainty morsels; feed the table crumbs to the chickens; would it really not be a cheaper way?

As to its being "the easiest to get"—with a butcher's cart passing the house daily. Surely she forgets the hard work, during "killing season;" trying of lard, salting down, sausage making, smoking of the hams and sides; weary hours and days spent in preparing and preserving the entire animal for future use, certainly can't be called *easy*. I do not speak of the care bestowed on the *living* animal, fattening, etc. And as to their "liking it best"—recalling to mind the amount of fresh meat eaten individually and collectively at a single meal, when it is cooked, I begged to differ from her, but I was silent, thinking of the evil effects of pork eating on our people.

Common observation has long since set down the prevalence of scrofula, erysipelas, a variety of glandular and eruptive diseases, and even consumption, as resulting from impure blood, caused by eating the impure flesh of the hog; while our scientific men have discovered the existence of myriads of living animalculæ, called *Trichinae*, which are found only in the hog, until taken into the human system by eating its flesh! Are not such facts enough to warn mankind to choose purer and better food than swine flesh.

A good story is told of Dr. Adam Clark, who, when desired to ask grace at a dinner party where a roasted pig *graced* one end of the table, suggested the possibility of God's blessing under the Gospel, what was cursed under the law!

One of these days, when I get stronger, I am determined to bring up this subject again to the good wife, and ask her, if after reading the scrap I send you for perusal, on the fatal effects of pork eating, she can conscientiously feed her children on Trichinæ, even if they are cooked!

JEWELL.

BEE STINGS MECHANICALLY TREATED.—The *Scientific American* states that the poisonous effect of bee stings can be prevented, or at least considerably mitigated, by pressing over it the pipe of an ordinary trunk key. The reason is obvious. The pipe acting as an annular compress close to the puncture, forces the poison out. Could not this simple process be extended in its application to the bites of serpents and rabid dogs? The absorption and spread of the virus might thus be prevented, or at least retarded, until a physician could arrive with a more effective remedy.

RECONSTRUCTING POTATOES.—The French manufacture new potatoes out of old in the following manner: The potatoes are put into tubs of water and vigorously stirred about by the feet until the old dark skin has been rubbed off, when the tubers acquire a smooth and satin-like appearance. They are then dried, neatly wrapped in paper, and arranged in small baskets, which are sold in the markets for five francs each, as "new potatoes."

## Domestic Receipts.

DYSPEPTIC'S BISCUIT.—Take Graham flour (wheat coarsely ground, without bolting) two quarts; corn meal sifted, one quart; butter, half a cup; sour milk to wet it up, and saleratus as for biscuit. Roll out and cut with a tea-cup and bake as other biscuit, and when cold they are just the thing for dyspeptics. And if the flour was sifted, none would refuse to eat them.

TO REMOVE GREASE FROM FLOORS.—To extract grease from old floors, apply a paste of wet wood-ashes, keeping it on several days, or cover the spot with pipe-clay. Grease on wall-papers, caused by persons rubbing their hands against it, is taken out by applying a cream of pipe-clay and water, leaving it to dry, and scraping it off. Stains on wall-paper may be cut out carefully with a sharp pen-knife, and pieces to match inserted with paste. When nicely done, it is, if not imperceptible, at least much better than black spots.

TO SOFTEN HARD WATER.—A small lump of quick lime dissolved in nine quarts of water, and the clear solution poured into a barrel of hard water; the whole will be soft water as it settles.

FOR A COUGH.—Where nothing better can be obtained, a strong decoction of the leaves of the pine, sweetened with loaf sugar. Take a wine-glass-ful. We often saw the same thing used, in the early days of mining in California, for the scurvy, contracted by long use of salt meat, and with good effect.

STRAWBERRY TOOTHWASH.—Pure strawberry juice, 4 ounces; tincture of orris root, 6 ounces; pure spirit, 3 ounces; tincture of rosemary, 1 ounce; tincture of cochineal, enough to color; mix thoroughly together, and filter. This compound is an agreeable and useful wash for the teeth and gums; removing the tarter from the former, and rendering the latter hard and healthy.

MOUTHWASH FOR SMOKERS.—Chloride of lime, 6 drams; water 4 ounces; agitate together one hour, filter and add pure spirit, 4 ounces; tincture of orris root and orange flower water, of each, 1 ounce.

TO PREVENT "MOTHER" IN VINEGAR.—Add a few drops of sulphuric acid to each gallon of vinegar, and it will thoroughly arrest farther vegetation of this kind.

## Mechanical Hints.

PRESERVATION OF BRONZES.—Bronzes when placed out of doors too often become black and dirty, and cease to be ornamental. But it was observed in Berlin that those parts of a bronze statue which were much handled by the public retained a good surface, and this led to the conclusion that fat had something to do with it. An experiment was therefore tried for some years with four bronzes: one was coated every day with oil, and wiped with a cloth; another was washed every day with water; the third was similarly washed, but was oiled twice a year; and the fourth was left untouched. The first looked beautiful; the third which had been oiled twice a year, was passable; the second looked dead; and the fourth was dull and black. Perhaps public authorities in this country who have charge of statues and other adornments will profit by the experiments here described.

IMPROVED BRONZE MANUFACTURE.—Mr. J. L. Montefiore, of London, Eng., has recently devised an improved manufacture of bronze, in which phosphorus or a phosphoric substance is introduced during the process of melting the copper, tin and other metals which form the basis of the metal known as "bronze," whereby its quality in regard to elasticity, hardness, and toughness, is considerably improved as compared with the bronze manufactured in the ordinary way, as hitherto adopted.

POWER OF INDIA-RUBBER TO DEADEN SOUND.—*Chamber's Journal* gives this illustration of the power of india-rubber to deaden sound: "We once visited a factory where some forty or fifty coppersmiths were at work in a shop above our heads; but what was remarkable, scarcely a sound of their noisy hammering could be heard. On going up stairs we saw the explanation. Each leg of every bench rested on a cushion made of india-rubber cuttings. This completely deadened the sound."

HOUSEKEEPER.—It is a good plan to put new earthenware into cold water and let it heat gradually until it boils, then cool it again. Brown earthenware, particularly, may be toughened in this way. A handful of rye or wheat bran thrown in while it is boiling will preserve the glazing so that it will not be destroyed by acid or salt.

## Life Thoughts.

A FOX should not be on the jury at a goose's trial.

IF an ass goes a traveling, he'll not come home a horse.

A GOOD word for a bad one is worth much and costs little.

DESPISE not little temptations; for, rightly met, they have often nerved the character for some fiery trial.

MARSHAL SAXE used to say that in almost every dispute between a horse and a man, the horse was in the right.

RUN not after blessings, only walk in the commandments of God, and blessings shall run after you.

THE door between us and heaven cannot be opened if that between us and our fellow-men is shut.

THERE are two reasons why some people don't mind their own business. One is that they havn't any business, and the second that they have no mind.

A LITTLE second knowledge, with a great deal of care, goes further on a farm than great knowledge, half applied.

TRUST not the flatterer. In the days of sunshine, he will give thee pounds of butter; and in the hour of need, deny thee a crumb of bread.

A CLEAN TONGUE.—It is good in a fever, and much better in anger to have the tongue kept clean and smooth.

## "God Bless You, my Little Fellow!"

A crippled beggar was striving to pick up some old clothes that had been thrown from a window, when a crowd of rude boys gathered about him, mimicking his awkward movements, and hooting at his helplessness and rags. Presently a noble little fellow came up, and, pushing through the crowd, helped the poor crippled man to pick up his gifts, and placed them in a bundle. Then, slipping a piece of silver into his hands, he was running away, when a voice far above him said: "Little boy with a straw hat, look up!" A lady, leaning from an upper window, said earnestly: "God bless you, my little fellow! God will bless you for that." As he walked along, he thought how glad he had made his own heart by doing good. He thought of the poor beggar's grateful look, of the lady's smile, and her approval; and last and better than all he could almost hear his Heavenly Father whispering: "Blessed are the merciful, for they shall obtain mercy." Little reader, when you have an opportunity of doing good, and feel tempted to neglect it, remember the "little boy with the straw hat."

GREATNESS AND GOODNESS.—It is not possible for us to make our children great, but we can do a great deal toward making them good. Great influences that we cannot understand, stretching over the whole span of our life, will make one man as great as a Mariposa redwood, and another as small as a dwarf-pear. Yet this, in its degree shall be as good as this, while the sun will shine, and the rain fall, and the blessing of heaven rest on both. But the possibility is that the little one may become not only good, but great. Goodness of itself may be greatness, as it was in Washington and Lincoln; or there may be greatness without goodness, as the vast catalogue of mighty men who have been the scourge and curse of the race can testify.—*Robert Collyer.*

WHAT'S THE USE?—What's the use of minding what they say? What's the use of lying awake nights with the unkind remark of some false friend running through your brain like forked lightning! What's the use of getting into a worry and fret over gossip that has been set afloat to your disadvantage by some meddlesome busybody, who has more time than character? These things can't possibly injure you unless, indeed, you take notice of them, and in combining them give them character and standing. If what is said about you is true set yourself right at once; if false, let it go for what it will fetch, until it dies of inherent weakness.—*Termini.*

MEN'S happiness springs mainly from moderate troubles, which afford the mind a healthful stimulus, and are followed by a reaction which produces a cheerful flow of spirits.

A TROUBLED mind is often relieved by maintaining a cheerful demeanor. The effort withdraws its attention from the cause of pain, and the cheerfulness which it promotes in others extends by sympathy to itself.

# LAND MATTERS.

## SWAMP LAND TITLES AND LEGISLATION REVIEWED.

[Written for the PRESS.]

The swamp and overflowed lands, though not granted to the States until the year 1850, had, for more than half a century, been a fruitful source of discussion in Congress, and numerous schemes for their reclamation by the General Government had been devised, considered and condemned. For twenty years previous to the date of the grant a growing disposition had been manifested by Congress to transfer these lands to the states in which they lie.

On the 21st of March, 1826, a resolution was offered in the Senate, by the Hon. Thomas H. Benton, calling for information concerning these lands, with a view to the introduction of a bill granting to the several states the lands within their limits that were "unfit for cultivation," for reasons enumerated in the resolution, which were, "being wet, or marshy, or subject to inundation from overflowing of the rivers, or covered with standing waters in ponds and lakes;" and when the bill granting these lands to the State of Arkansas and extending the grant to the other states was under discussion in Congress, in 1850, he thanked the Senators from Arkansas for introducing and advocating a measure he had recommended for more than twenty years, making "unfit for cultivation" the leading and prominent idea.

### Granted to the States.

The bill, as first drawn, granted "the swamp and overflowed lands known and designated on the plats of the General Land Office as 'Swamp Land;" and in this shape passed the Senate. It was amended in the House of Representatives, 1st. By striking out "known and designated on the plats of the General Land Office as "swamp lands," and inserting in lieu thereof, "made unfit thereby for cultivation." 2nd. By inserting "and overflowed" after the word "swamp" in the fourth section. These amendments received the concurrence of the Senate, and the Act now stands as follows:—

AN ACT to enable the State of Arkansas, and other states, to reclaim the swamp and overflowed lands within their limits.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.* That to enable the State of Arkansas to construct the necessary levees and drains to reclaim the swamp and overflowed lands therein, the whole of these swamp and overflowed lands, made unfit thereby for cultivation, which shall remain unsold at the passage of this Act, shall be, and the same are, hereby granted to said state.

Sec. 2. *And be it further enacted*, That it shall be the duty of the Secretary of the Interior, as soon as may be practicable after the passage of this Act, to make out an accurate list and plats of the lands described as aforesaid, and transmit the same to the Governor of the State of Arkansas; and, at the request of said Governor, cause a patent to be issued to the state therefor; and on that patent the fee simple to such lands shall vest in the said State of Arkansas, subject to the disposal of the Legislature thereof. *Provided however*, That the proceeds of said lands, whether from sale or by direct appropriation in kind, shall be applied exclusively, as far as necessary, to the purpose of reclaiming said lands by the means of the levees and drains aforesaid.

Sec. 3. *And be it further enacted*, That in making out a list and plats of the lands aforesaid all legal subdivisions, the greater part of which is wet and unfit for cultivation, shall be included in said list and plats; but when the greater part is not of that character the whole of it shall be excluded therefrom.

Sec. 4. *And be it further enacted*, That the provisions of this Act be extended to, and their benefits be conferred upon, each of the other states of the Union in which such swamp and overflowed lands, known and designated as aforesaid, may be situated.

*Approved. Sept.* 28, 1850.

### Discussion in the House of Representatives.

When the phraseology of an Act is such as to obscure its meaning it is usual for Courts to seek further light in the discussions attendant upon the passage of the bill; and as this Act seems to be regarded by some as ambiguous, it may not be amiss for us to follow their example. When the bill came up in the House of Representatives, Mr. Johnson, of Arkansas, said, "The bill as it now stands, though professedly of a character, and designed in good faith, to benefit the states to which it refers, is *worthless*. It is not so from any design, as I believe, to effect a fraud, but from ignorance of the technical language of the surveys. That the House may understand the matter, I will send to the Clerk's table a letter from the Commisioner of the General Land Office, which I desire to be read. From this letter the House will perceive how utterly defective the bill is."

### Letter of the Commissioner.

GENERAL LAND OFFICE,
July 20, 1850.

SIR—I have the honor to acknowledge the reception of your letter of yesterday, inquiring whether Senate bill No. 3, will embrace all public lands subject to annual overflow, and if not what is the character of those swamp lands that will be effected by that Act?

In answer, I have the honor to state that, by the first section of that bill, it is proposed to grant to the State of Arkansas, "the whole of those swamp and overflowed lands, known and designated on the plats of the General Land Office as 'swamp lands,' and which shall remain unsold at the passage of this Act, etc. This provision is extended by the fourth section of that Act "to each of the other states of the Union in which such swamp lands, known and designated as aforesaid, may be situated."

This grant being thus restricted to such of the swamp and overflowed land known and *designated on the plats of this office as "swamp lands"* will not include much of that which is subject to annual overflow; for the reason that it has always been an object with the deputy-surveyors to survey the wet or overflowed lands in the driest seasons; and hence those which are returned on the plat and field notes as "swamp lands," are generally of that character in the dry seasons, and consequently, mostly irreclaimable. * * *

By striking out all in the fourth line after the words "overflowed lands," all in the fifth line, and all in the sixth line except the words "shall be," at the end of that line, in the first section, the object of the bill will, in my opinion, be fully obtained.

Very respectfully your obd't. servt.,
J. BUTTERFIELD, Commissioner.

HON. R. W. JOHNSON, House of Reps.

"The bill as it now stands," continued Mr. Johnson, "is not worth a penny. It is altogether a mistake. * * * I shall therefore move to refer it to the Committee on Public Lands. I desire it to go to the Committee accompanied by the letter which has just been read." The bill was referred to the Committee, amended as aforesaid, and passed the House without opposition.

### Discussion in the Senate.

It was discussed in the Senate by Benton, Borland, Badger, Bell, Davis of Miss., Dawson, Felch, Foote, Hale, Jones, King, Mangum, Sebastian, Shields, Underwood and Webster; and of these Borland, Felch, and Shields, each of whom warmly advocated the bill, constituted the Committee on Public Lands, to which the amended bill was referred, on being reported back from the House.

Mr. Hale asked Mr. Borland if he could inform the Senate as to the amount of swamp lands in all the states. He had been told that there were over 4,000,000 acres in Arkansas alone.

Mr. Borland.—I cannot tell precisely.

Mr. Sebastian stated that there were large quantities of land subject to overflow that could not properly be termed swamp lands. These amendments are designed to cover and convey those lands. "There are," said he "two classes of lands. The first amendment will embrace all swamp lands; the second, those lands which though not swamp, are yet overflowed so as to be 'unfit for cultivation.'"

Mr. Mangum stated that "there will be included in the lands to which the amendments may apply, all that may be overflowed once in ten years." And again he says, "It will include those lands in the valley of the Mississippi which were overflowed by the highest freshets."

Mr. Bell said, "there is no planter on the Mississippi who does not know that the most valuable lands there are those which are sometimes overflowed. If these improvements are made there will be an immense quantity of land of this character reclaimed."

Mr. Davis, of Miss., stated that though a portion of the lands which were sometimes overflowed could not be bought for less than from $50 to $100 per acre, yet nearly all that class of land had already been sold.

Mr. Shields.—We call those lands "fever and ague lands" in my state. The sole object in getting possession of them is to have them drained and improved.

Mr. Benton.—In the State of Missouri there is a great extent of country known as the "Big Swamp." It is a great extent of country—rich country—covered with timber—valuable timber—but also covered with water. * * * It will remain as it has remained for the last forty years a loss to the state, and an injury to the country unless put into the hands of the state.

Mr. King.—Whether the quantity be small or great I consider as a matter of no importance, so far as the United States is concerned.

Mr. Foote.—These amendments are excellent. I trust they will be concurred in by the Senate.

Mr. Hale.—I do not object to the bill. I do not know as I should object if it gave all the land to the States. I made the inquiry simply for the information of the Senate.

Mr. Benton thanked Mr. Borland for bringing up the matter, and "procuring the general consent of the Senate. "For," said he, "I believe there is scarcely a dissenting voice."

### Extent of the Grant.

It appears from the letter of the Commissioner, that the intention of Congress, as he understood it, was to grant to the states all the lands subject to annual overflow. The remarks in the House sustain this view. The construction, so much animadverted, given by Arthur Keddie, in Sierra Valley, that this land belongs to the state, if overflowed once in ten years, seems to have been the view entertained of the bill in the Senate, where it was certainly enunciated without controversy by eminent men.

Once in the House, and twice in the Senate, the bill was referred to the Committee on Public Lands. The investigation made by these Committees developed the fact that there were lands subject to an annual overflow of such a transient nature as not to interfere with the usual avocations of the husbandman; while, on the other hand, there were considerable quantities of land not subject to annual overflow yet sometimes inundated, during the planting, growing or harvesting season, to an extent sufficient to destroy any ordinary crop; and, as the year of this overflow could never be known in advance, and, as any ordinary crop, even when it could be sown or planted was liable to be lost before it could be grown and harvested, these lands were regarded by the Land Committees of both branches of Congress as unfit for cultivation without reclamation, even though, under favorable circumstances, several successive crops had been taken therefrom. The word "annual," therefore, was omitted, and there is no such limitation to the grant. The restriction is found, not in the frequency, but in the character of the overflow, which, to vest the fee in the state, must be such that when it does occur the land is made thereby "unfit for cultivation."

### WHAT IS CULTIVATION?

Webster defines it as, "The art or practice of tilling and preparing for crops." The verb till, he says, means "to plow and prepare for seed, and to dress crops." The question, then, in any given case narrows down to this, Is the land ever subject to such an overflow as to render it unfit for the production of crops requiring the plowing, planting, hoeing, sowing, harrowing, etc., of the soil? This question can be decided only upon testimony. The Act of Congress, entitled

### AN ACT TO QUIET LAND TITLES IN CALIFORNIA,

Approved July 23, 1866, says, "If the authorities of said state shall claim as swamp and overflowed any land, not represented as such on the map or in the returns of the Surveyor, the character of such land at the date of the grant, September 28, 1850, and the right to the same shall be determined by testimony to be taken before the Surveyor-General, who shall decide the same, subject to the approval of the Commissioner of the General Land Office. Now what can be fairer or more simple than this? Though a Federal Officer, the Surveyor-General is entirely disinterested. This would not be true of the Registers of the various Land Offices, for reasons which will readily occur to those familiar with the nature of their business. Further than this, Mr. Day has the reputation with all men of being entirely just and impartial; a fact which we fear will necessitate his removal. The traveling expenses of the Surveyor-General are paid by the state, so that this evidence can be taken on the ground in dispute, except when his office is so crowded with business that he cannot get away, which is sometimes the case.

### ERRORS OF THE FEDERAL OFFICIALS.

The letter of the Commissioner of the General Land Office already given shows why contests must necessarily arise, and therefore we are not surprised to learn that, as early as 1855, the United States, misled by the maps in the Land Office, had sold so much of this land as to make it necessary to compromise with the states by refunding the purchase money, and permitting these states to locate a like amount of the public land. (See Act of Congress approved March 2, 1855.) Since that date the United States township maps have been constructed with more care, and much fewer errors have arisen, though it is obvious from the letter to which we have referred that these errors on the part of the Government officials are not likely to be wholly avoided, and that occasional contests must be expected to arise. They are less numerous, however, on swamp lands, in proportion to the amount of land, than the contests between settlers on the public domain. In a large portion of these cases, the contests are more apparent than real, the parties having first purchased of the state, and afterwards from the Government in order to make sure of their lands. They care very little whether the land is adjuged to the State or the Government though if adjudged to the Government, the purchase money, notwithstanding it has mostly been expended in reclamation, must be refunded by the State; a fact which we commend to the consideration of those disinterested parties who are so anxious to have this land awarded to the public domain.

Many of the settlers on these lands have purchased of the state only, and would of course prefer not to be put to the trouble and expense of purchasing again. These contests mostly occur among the earlier sales made by the state and include considerable quantities of land which, though then swamp, or overflowed, yet by reason of sediment from the river, foothills or mines, and from damming of sloughs and the reclamation of adjacent lands, had become so free from water in the dry season, when the United States surveys were made, that they were returned as public lands.

It was contended, by General Houghton, that these lands being overflowed, or subject to overflow, at the time of the grant were included in the grant; in short, that all lands which at the date of the grant, were subject to such an overflow as to render them unfit for cultivation, were granted to the State, whether they still retain that character or not. And from the fact that all these changes were from wet to dryer, and none from dryer to wet, it was evident that all lands now of the character conveyed by the grant must necessary have been of that character, at any former period since the settlement of the State, while considerable quantities of land subject to such overflow in 1850, and sold by the State, in good faith, as swamp, or overflowed ,had since then, become dry; therefore proof that so late as the year 1850, these lands were liable to such an overflow as to render them "unfit for cultivation," was sufficient to vest the title in the State even though they had not been overflowed for the last ten years. The Commissioner of the General Land Office, admitting the correctness of this position recommended the passage of the act of July 23,1866 drawn by General Houghton, making the date of the grant, the time for determining the character of the lands in dispute. Therefore, in deciding these contests, it is not necessary for the State to show that the lands are now swamp, or overflowed, if it can be shown that they were of this character so late as the year 1850; neither is it necessary to show that they were actually overflowed in that dry year but, that they were then liable to such overflow as is contemplated in the grant, by showing that they have since then, been subject to such overflow.

### Swamp Lands Sold.

The last official report made by J. W. Bost State Surveyer General under date of November 1. 1869 gives the amount of Swamp, and Overflowed lands at that time sold by the State, as 3,101,639·97-100 acres; The amount since sold has not been computed, but these sales are a large portion of them re-surveys of abandoned locations. The Grant at the date of of this report was so nearly exhausted, that we may assume the total amount of these lands in the State to not greatly exceed 3,300,000. acres The Report states that "there are several thousand acres in dispute between the State and the United States upon which evidence as to its character, was taken before the United States Surveyor General, under the act of 1866" No decision had at that date been rendered. He adds, "there are *other* cases which should be adjustsd by the United States authorities that purchasers can have their titles settled."

THOSE "OTHER CASES" in the counties Sierra and Plumas, have been complicated of late, by parties who having taken possession of land *after it had been sold by the State*, are now trying to have these sales set aside. Or, in other words, they have stopped the investigation as to the character of the lands in dispute and are now trying to get Congress to pass an *Ex post facto* Act *excluding* these lands from the grant. And there has been found, a man claiming to be a Statesman, who in utter disregard of its effect upon his reputation, and for reason which we can not even conjecture has seen fit to tantalize them by the introduction of a bill that could not stand for one moment before any respectable court.

We will review the Sierra Memorial next week, and give a diagram of the lands in dispute.

### SEGREGATION OF 1861.

It has been recommended by an influential daily, that the grant be restricted by Congress to the segregation made by the state in 1861. As this segregation was made in only a few counties, and was only partial in some of these, this would be a relinquishment of a large portion of the grant now in the peaceable possession of hundreds of purchasers from the state. Why their rights should be thus summarily disposed of is not very clear. The writer referred to, insists that something must be done to fill up these lands with actual settlers, and that Congress is the only power that can deal with the matter. He says "We must have this desideratum and we will have it." He says "We want actual cultivation by the plow and hoe more than magnificent schemes of reclamation." Bless the man! Why does he not put on a pair of gum boots, or if he prefers, wade in minus his nether garments, and give a practical illustration of his theory in three feet of water. No Act of Congress is necessary to authorize this.

At the Swamp Land Convention, one of the speakers showed how the settler was hedged around by the strong ramparts of four different tribunals which must be battered down before he could be swindled out of his land. The writer in question asks, "Did it not strike the gentlemen who heard this statement that this prospect of litigation is altogether too expensive [to the grabber?]; and that it would be infinitely better for the prosperity of the state and the honest settler to have a law of Congress that will close up this great opening for litigious land grabbers?"

We are surprised that he did not call upon Trochu to demolish his outworks, retire into the heart of Paris, spike his big guns and issue a Proclamation,—for ammunition, forsooth, is expensive. Did it never occur to him that no gun will shoot without powder, or that no law will enforce itself?

In order to show how idle and mischievous all this agitation concerning memorials, Julian's bill or any other bill in connection with *this* matteris, we quote the following of the

### Decision of the U. S. Supreme Court.

"In the case of the Hannibal and St. Jo. R. R. Co. vs. Smith (9 Wallace Rep. p. 95). The United States Supreme Court at December term 1869, decided that the swamp land Act conferred a present vested right, to the states, of the land described; and even though the Secretary of the interior had not furnished the Governor of the State with the lists and plats contemplated by the third section of the Act, yet

the title of the State did not depend on his action, but upon the character of the land granted. In this case the claimant under the State, did not pretend that the land had even been certified as swamp land, or that it had ever been patented to the State, yet the court held, that it was competent for him to prove that the land came within the definition of the first section, irrespective of any action by the General Land Office."

### Power of Congress Under this Decision.

Under this decision, it is not within the power of Cougress to take one inch of this land from the State. Tho only question concerning which any doubt *can* arise, is the meaning of the phrase "made thereby unfit for cultivation." All the land granted, so far as known, and perhaps more, than was granted, has been sold by the State, and it is not competent for Congress, at this late day, to give a new interpretation to the grant, or adjudicate conflicting claims. These are the prerogatives of courts, and these questions, if contested, must be left for them to decide. It is nseless for Congress to pass acts regulating the disposition of lands no louger under its jurisdiction; and he is no friend to the settler, who by misrepresentation, unsound advise, or unconstitutional legislation, would induce him to enter upon, occupy, improve, or attempt to hold land which he must relinquish at last.

### The Railroad Companies and the Bill.

It has been stated, we know not upon what anthority, aud we have no present means of determining with what accuracy, that the Julian bill would transfer 800,000, acres to the railroad companies in this State alone, and it has been argued from this, that the bill was prepared by them. We can not think so. The legal advisers of these companies are men of too large attainments to imagine for one moment that Congress can annul the swamp land grant.

A. B. Bowers, C. E.

# City Market Report.

## DOMESTIC PRODUCE AT WHOLESALE.

San Francisco, Thnrs., p. m., Feb. 2d.

FLOUR—The market for flour, during the past week, has been exceedingly active, both for shipment and for local trade, and has also met with a very considerable advance—from 37½ to 50c per bbl. The export demand has been chiefly for Liverpool. Standard Oregon brands are qnotable at $6.50@6.75; extra, $6.75@7.25; local brands—snperfine, $5.75@6.00; extra, $6.75@7.00. Transactions include 10,000 bbls. Cal. extra, 2,000 bbls. Cal. superfine, and 2,000 bbls. Oregon extra.

WHEAT—Has been in good demand, with an excited market, advancing fully 15c per 100 lbs. The demand has been for milling, distilling or for specnlation; the market beiug altogether above orders for export. Unless prices advance on export orders, the market mnst decline. The nominal rates are now at $2.40@2.50. One sale is reported at the extreme fignre of $2.52½. Sales embrace 60,000 sacks. We qnote the range of all kinds at $2.20@2.50; good to choice, $2.40@2.50½. Liverpool qnotations wree reported yesterday at 12s. 2d., an advance of 2d. since last week. New York rates continue at $1.70@1.75 per bushel.

BARLEY—Is still in fair demand, and prices remain abont the same as last week. We quote $1.35@1.45, from fair to choice. Sales 7,000 sacks.

OATS—We note a limited demand for oats. Fair to good may be quoted at $1.45@1.70. Sales 4,000 sacks.

CORN—Quotable at $1.45@1.50.

BUCKWHEAT—Nominal at $3@3.50 from the wharf.

RYE—In limited demand. The latest sale is reported at $2.62½.

FEED—Remains with but little change. We qnote: Straw, $8@9; Bran, $27.50@28.50; Middlings, $35 for feed, and $37@40 per ton for fine; Oil Cake Meal $30.

Hay—The receipts have been fair since onr last, and prices a shade weaker. We quote ordinary wild oat to choice wheat at $12.50@16 50 ₱ ton.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, $12@16, and Potter's, 2 lb do, at $4 ₱ dozen.

POTATOES——Market has declined during the week. We quote 1.40@1.75 from fair to choice.

HOPS—This year's crop is quotable at 9@12½c.

HIDES—We quote Dry, slaughterer's stock, 17@18½ c; Salted; 8@8½c. Sales during the week 1,856 Cal. dry.

WOOL—We quote good shipping, at 15@17½c; very choice, 18½c; bnrry, 10@12½c; slightly do, 13@14c. There are being no stock on the market, the above quotations are merely nominal.

TALLOW—Quotable at 7@7½c, from ordinary to choice.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c.

BEANS—Quiet at the following rates. Bayo at $2.50@2.62½; butter, $2.25; small white, $1.90; pink, $2; red, $2@2.25; pea, $2@$2.25 per 100 pounds.

FRESH MEAT—The market is firm and quotations little changed. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 9@10c ₱ lb.
Do 2d do 8@ 9c ₱ lb.
Do 3d do 7@ 8c ₱ lb.

VEAL—From 11@ 12c.

MUTTON—Steady at 8@10c. ₱ lb.

LAMB—None in market.

PORK—Undressed at 6@7c; dressed, 10@11½.

POULTRY, ETC.—In good supply, and prices remain unchanged. Young Chickens $6@,7; Hens $7@8.50; Roosters $6.50@7.50; Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame, $2.50@$3 ₱ pair; tame tnrkeys, 18c ₱ lb; Hare, $1.50@2.50 per doz; Doves, 50c do; Quail, $1.25@1.50.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 45@50c; Packed rolls, 32@37½c. Oregon firkin, 20@22½c; Eastern do, 25@35c. The receipts of choice butter have been fair.

Cheese—In fair supply, at nnchanged rates. California, new, 10@14c., Eastern, 16@17c.

Eggs—California fresh, 30½@35c; Oregon, 30c; California Lard, 11-lb tins, 14@14½c; Oregon, 14½@15½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lnsk & Co.: Cal. Apples, per box, $1.00@$2.00; Oregon, $1@$2.00; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $40@$50; Lemons, per box, $16; Pears, scarce.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plnm, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this department still contains good; stocks of all kinds are complete, and prices rule low.

BAGS AND BAGGING—Are in moderate request only, and will so be nntil the approach of the coming season. We quote wool bags at 50@52½c. Oat Sacks 23x40, 12½c; 28x35, 18c; Potato Sacks, 17½c.; imitation Dundees, 18@19 c. Standard burlaps, 22x36, 12½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rongh, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5½c; Oregon do, 6½c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ₱ lb; Raisins, layer, $4.25@5.00; Currants, Zante, 11½@12½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 16@16½c; Lard, California, 12½@13¼c; Oregon do, in kegs, 13@14½c ₱ lb.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

San Francisco, Thursday, Feb. 2.

Sole Leather.—Shipments to the east still continne large, and several tanners have advanced their price one cent per lb.

| | | |
|---|---|---|
| City Tanned | 26 | @29 |
| Santa Cruz | 26 | @31 |
| Country | 25 | @28 |

Calf and Kip Skins.—There is no change in French stock, the exportatiou being extremely light. Domestic skins continue firm, with a tendancy to advance.

| | | |
|---|---|---|
| Best French Calf Skins, ₱ doz | 75 00@ | 100 00 |
| Common French Calf Skius, ₱ doz | 35 00@ | 75 00 |
| French Kips, ₱ lb | 1 00@ | 1 30 |
| California Kip, ₱ doz | 60 00@ | 75 00 |
| California Calf, ₱ lb | 1 00@ | 1 25 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ | 1 00 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ | 1 25 |
| Eastern Calf for Backs, per lb | 1 15@ | 1 25 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50@ | 13 00 |
| Sheep Roans for linings, ₱ doz | 5 50@ | 10 50 |
| California Russet Sheep Linings | 1 75@ | 5 50 |
| HARNESS LEATHER, ₱ lb | 30@ | 37 |
| Fair Bridle, ₱ lb | 33@ | 40 |
| Skirting, ₱ side | 4 50@ | 4 75 |
| Welt Leather, ₱ doz | 30 00@ | 50 00 |
| Buff Leather, ₱ foot | 22@ | 26 |

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

Friday, Feb. 3, 1871.

| | | |
|---|---|---|
| Iron.—Duty: Pig, $7 per ton; Railroad, 60c ₱ 100 lbs.; Bar, 1@1½c ₱ lb: Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb. | | |
| Scotch and Eng. Pig Iron, ₱ ton...$34 | @$35 | 50 |
| White Pig, ₱ ton | 32 @ | 33 00 |
| Refined Bar, bad assortment, ₱ lb | — 03 @ | — — |
| Refined Bar, good assortment, ₱ lb | — 04 @ | — — |
| Boiler, No. 1 to 4 | — 04¾@ | — — |
| Plate, No. 5 to 9 | — — @ | — 04½ |
| Sheet, No. 10 to 13 | — 04½@ | — 05 |
| Sheet, No. 14 to 20 | — 05 @ | — 05½ |
| Sheet, No. 24 to 27 | — 05 @ | — 06½ |
| Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | |
| Sheathing, ₱ lb | — — @ | — 26 |
| Sheathing, Yellow | — 20 @ | — 21 |
| Sheathing, Old Yellow | — 10 @ | — 11 |
| Composition Nails | — 21 @ | — 22 |
| Composition Bolts | — 21 @ | — 22 |
| Tin Plates.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX, ₱ box | 12 00 @ | — — |
| Plates, I C Charcoal | 10 00 @ | 10 50 |
| Roofing Plates | 10 00 @ | 10 50 |
| Banca Tin, Slabs, ₱ lb | — — @ | — 42 |
| Steel.—English Cast Steel, ₱ lb | — — @ | — 15 |
| Quicksilver.—₱ lb | — — @ | — 90 |
| Lead.—Pig, ₱ lb | — 6 @ | — 7 |
| Sheet | — 9 @ | — — |
| Pipe | — 10 @ | 11 — |
| Bar | — 8 @ | — 9 |
| Zinc.—Sheets, ₱ lb | — 10½@ | — 11 |
| Borax | — 35 @ | — 28 |

Our Advertisers—A more deserving list of patronage cannot be found in any journal.

## San Francisco Market Rates.

### Wholesale Prices.

Friday, February 3, 1871

| | | |
|---|---|---|
| Sugar, crushed, ₱ lb | 14½ @ | 15 |
| Do. Hawaiian | 9 @ | 12 |
| Coffee, Costa Rica, ₱ lb | — @ | 22 |
| Do. Rio | 19½ @ | 20 |
| Tea, Japan, ₱ lb | 65 @ | 1 00 |
| Do. Green | 60 @ | 1 00 |
| Hawaiian Rice, ₱ lb | 8 @ | 9 |
| China Rice, ₱ lb | 7 @ | 8 |
| Coal Oil, ₱ gallon | 50 @ | 60 |
| Candles, ₱ lb | 14 @ | 18 |
| Overland Butter | 30 @ | 35 |
| Ranch Butter, ₱ lb | 40 @ | 45 |
| Isthmus Butter, ₱ lb | 25 @ | 35 |
| Cheese, California, ₱ lb | 9 @ | 15 |
| Eggs, ₱ dozen | 20 @ | 32½ |
| Lard, ₱ lb | 12½ @ | 13½ |
| Ham and Bacon, ₱ lb | 15 @ | 17 |
| Shoulders, ₱ lb | 9 @ | 10 |

### Retail Prices.

| | | |
|---|---|---|
| Butter, California, fresh, ₱ lb | 50 @ | 60 |
| do. pickled, ₱ lb | 40 @ | 50 |
| do. Oregon, ₱ lb | @ | 25 |
| Cheese, ₱ lb | 20 @ | 25 |
| Honey, ₱ lb | 25 @ | 30 |
| Eggs, ₱ dozen | 45 @ | 50 |
| Lard, ₱ lb | 18 @ | 20 |
| Hams and Bacon, ₱ lb | 22 @ | 25 |
| Cranberries, ₱ gallon | 75 @ | 1 00 |
| Potatoes, ₱ lb | 2 @ | 3 |
| Potatoes, Sweet, ₱ lb | — @ | 2 |
| Tomatoes, ₱ lb | 2 @ | 3 |
| Onions, ₱ lb | 2 @ | 3 |
| Apples, No. 1, ₱ lb | 4 @ | 5 |
| Pears, Table, ₱ lb | 5 @ | — |
| Plums, dried, ₱ lb | 10 @ | 12 |
| Peaches, dried, ₱ lb | 10 @ | 15 |
| Oranges, ₱ dozen | 50 @ | 75 |
| Lemons, ₱ dozen | 50 @ | 75 |
| Chickens, apiece | 75 @ | 1 00 |
| Turkeys, ₱ lb | — @ | 25 |
| Soap, Pale and C. O | 10 @ | 15 |
| Soap, Castile, ₱ lb | 18 @ | 20 |

### GROCERIES, ETC.

| | | |
|---|---|---|
| Flour, Extra, ₱ bbl | 6 00 @ | $6 75 |
| Do. Superfine | 5 50 @ | 5 75 |
| Corn Meal, ₱ 100 lbs | 2 25 @ | 2 50 |
| Wheat, ₱ 100 lbs | 2 15 @ | 2 40 |
| Oats, ₱ 100 lbs | 1 40 @ | 1 50 |
| Barley, ₱ 100 lbs | 1 35 @ | 1 45 |
| Beans, ₱ 100 lbs | 1 87½ @ | 2 50 |
| Potatoes, ₱ 100 lbs | 1 00 @ | 1 75 |
| Hay, ₱ ton | 10 00 @ | 15 00 |
| Live Oak Wood, ₱ cord | 10 00 @ | 12 00 |
| Beef, extra, dressed, ₱ lb | 8 @ | 12 |
| Sheep, on foot | 2 00 @ | 2 50 |
| Hogs, on foot, ₱ lb | 6 @ | 6½ |
| Hogs, dressed, ₱ lb | 7½ @ | 8 |

## Notices of Recent Patents.

Sawing Machine.—Per Johnson, Columbia, Cal. The object of this invention is to make improvements in mounting and operating saws, and also to provide a portable sawing machine. The device consists of a box or cart-body, which is provided with wheels on which the apparatus is moved when a change of location is required, and which serve as balance wheels when the saws are being operated, the machine then resting upon legs which, at other times, are folded upagainst the body. Connected with the shaft of these wheels by belting and other appropriate means, are the saws which are secured in a suitable frame and are placed at suitable distances apart to cut wood into lengths for fuel. By the combination, a person standing at the rear of the cart will be able to drive the saws at great speed with little exertion, as the heavy cart wheels serve as fly or balance wheels to keep up the movements of the saws. The idea is novel and the contrivance is certainly very neat.

Car Coupling.—J. R. Palmer, Mariposa, Cal. This is an ingenious invention, which enables the coupling of cars to be effected automatically, and the uncoupling to be done without the necessity of going between the cars. It will be illustrated in the Press.

Explosive Compounds.—J. Hafenegger, San Francisco. This invention relates to certain compounds for blasting, employing ingredients to secure quick and complete combustion, and thus a more effective blast, with but little smell or smoke; also to an improved cap or firing tube, which shall be both safer and cheaper than those commonly employed. Mr. Hafenegger has diligently studied the matter of explosive compounds for years, and is well known as the inventor of a large number of blasting mixtures.

## TO CLUBS.

Send in your subscriptions as fast as obtained. After the first ten names have been paid for, others can be added within any reasonable time, thereafter on the same terms. Clubs may be composed partly of names for Rural, and partly for Scientific Press Blanks and extra copies furnished when desired.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STOCKTON, CAL.
ALEX McBEAN, Proprietor.
THE LARGEST AND
Best Furnished House in this city.
January 28.—4v1-3mr


## METEOROLOGICAL OBSERVATIONS

At Sacramento, Cal., by Thos. M. Logan, M. D., Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121° 29′44″ W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness: 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF. Barometer Corrected. | | Temp. Air. | | Rel. Hmdty. Saturat'n 100. | | Force of Vapor. | | Amount of Cloudiness. | THER. Maximum. | | Minimum. | | WIND. General direction f'm which it moves, and the Forces. | | R'N. Gauge 50 ft. above surface. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JANUARY. | INS. | DEGS | ₱ C. | INS. | 0–10 | DEGS | DEGS | DEGS | DIRECTION. 0–10 | | | | | | | INS. |
| Sunday.. | 22 | 30.024 | 44 | .76 | .226 | 10 | 49 | 36 | 12 | S. | 2. | | | | | 0.105 |
| Monday. | 23 | 29.997 | 47 | 81 | .276 | 10 | 54 | 41 | 13 | S. E. | 3. | | | | | 0.300 |
| Tuesday. | 24 | 30.238 | 53 | 82 | .340 | 8 | 57 | 48 | 09 | S.—2. | | | | | | 0.100 |
| Wedn.... | 25 | 30.246 | 50 | 73 | .256 | 0 | 59 | 39 | 20 | N.—2. | | | | | | ..... |
| Thurs.... | 26 | 30.238 | 51 | 70 | .234 | 1 | 60 | 42 | 18 | N. I. | | | | | | ..... |
| Friday. . | 27 | 30.183 | 52 | 80 | .323 | 10 | 56 | 42 | 14 | S. E. | 1 | | | | | 0.45 |
| Satu'day | 28 | 30.165 | 2 | 59 | .233 | 5 | 60 | 47 | 13 | S.E. & N.W. | 3 | | | | | 0.165 |

Remarks.—The rainfall for the season thus far, from October to the present week inclusive, amounts to 3.250 inches. The mean annual amount, derived from the preceding 21 seasons, is 19.407 inches; but in forming any expectation from this mean quantity, it must be borne in mind that there is a range of 16.955 inches above, and 14.697 inches below it. The former is found in the season of 1852-53, and the latter in 1850-51.


AGENTS WANTED
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ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the Masonic Mirror, edited by Brothers Amasa W. Bishop and Edwin A Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said Masonic Mirror to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the Masonic Mirror, published in this city be the official organ of this Grand Consistory.

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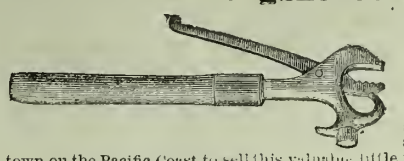

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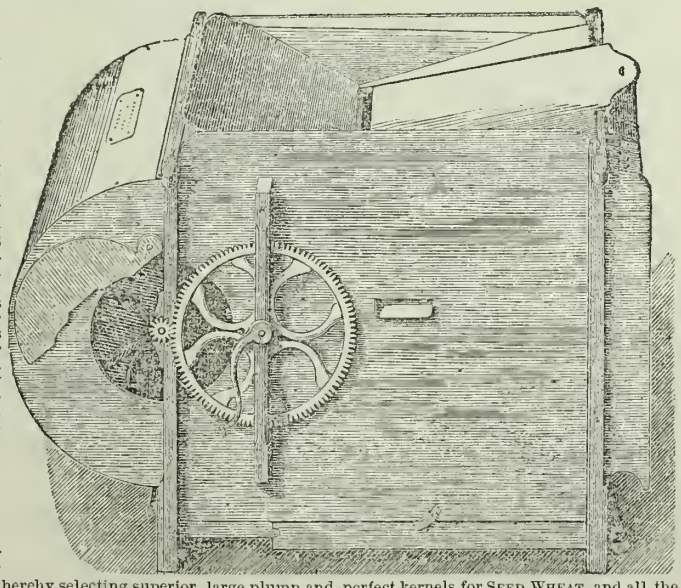

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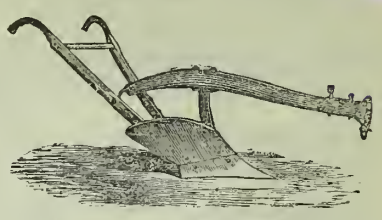

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*OFFICE N.E. COR. CAL. & SANSOME STS. SAN FRANCISCO.*

1v1-3mr

## GAS.

**The Pacific Pneumatic Gas Company**

Begs to call the attention of the public to its gas works which are suitable alike for domestic, manufacturing, and general uses. Their apparatus is the only one worthy of the confidence of those who desire an economical and brilliant light, with perfect safety from accidents.

These works are in successful use in the following private residences: Gov. Haight, the Encinal, Alameda: H. F. Williams, Esq., South San Francisco; J. R. Arguello, Esq., Santa Clara; A. P. Brayton, Esq., Oakland; O. W. Childs, Esq., Los Angeles; Mrs. Brayton, Oakland; Capt. Wilcox, San Diego; J. P. Jones, Esq., Gold Hill, Nevada; W. B. Isaacs, Esq., Post St., San Francisco; Jos. A. Donohoe, Esq., Menlo Park; M. Schallenberger, Esq., San Jose; Capt Kidd, Stockton; John Parrott, Esq., San Mateo; Col. J. C. Hays, Oakland; A. A. Cohen, Esq., Alameda; A. D. Bell, Taylor street, San Francisco; J. S. Emery Oakland, and Isaac Requa, Esq, Virginia City, Nevada.

Also in the following public institutions: The City and County Almshouse, San Francisco; the County Hospital, Sacramento; the Industrial School, San Francisco; the State Institute for the Deef, Dumb and Blind, Berkely.

Also, the following private institutions: The College of Santa Clara, Santa Clara; the Alameda Insane Asylum; Alameda; and the New Hall and Theater, Petaluma.

Also in the following Mining and Manufacturing works. The Pacific Iron Works, San Francisco; the Chollor-Potosi Hoisting Works, Virginia City; the Eureka Gold Mining Company's Hoisting Works and Mill, Grass Valley, California; the Crown Point Mining Co.'s Mill (the Rhode Island), Gold Hill, Nevada.

Also, in the following stores; E. Cohn & Co., Marysville, Gibson and Cross' (saloon), Gold Hill, Nevada; P. Brown & Bro., Marysville; Wm. Klein, Marysville, J. M. Browne, Gilroy; and N. Wagner & Bro., Marysville.

Also, in the following hotels; Horton's New Hotel, South San Diego; the International Hotel, Virginia City, and the St. Charles Hotel, Carson City.

Also, in large works adapted for town purposes: in the Workshops, Streets and Officers' Residences, at the United States Navy Department, Mare Island.

Pacific Pneumatic Gas Company; office 206 Sansome street, San Francisco. Send for Illustrated Pamphlet and Price List. A. D. BELL, Secretary.

J. W. STOW, President. 1v1-3m-r

TRAVIS & WAGNER, 41 First St.—Mill Stones, Belting Cloth and general Mill Furnishings. Portable Mills all sizes from 6 to 36-in. No superior manufactory for farmers & ranchmen

## What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—*San Jose Ind.*

The first No. evinces marked editorial ability.....Fills up a vacancy that has been felt in our agricultural department. ....With its publishers there is no such word as fail.—*Mt. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, $4.—[*Sonora Dem.*

It is a work which no farmer should be without.—[*Vreka Union.*

An admirable specimen both as to execution and contents. ... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—[*Stockton Daily Ind.*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—[*Encinal Alameda.*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life." —[*Encinal.*

They can, if they will, make it a creditable work. [We will that.] It opens well.

Excellent paper and type—and a first-class agricultural journal.. Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—[*Vallejo Recorder.*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—[*Arizona Miner.*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—[*Idaho Statesman.*

Just the kind needed on this coast, and merits an extended circulation.—[*Red Bluff Independent.*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation....

Is running over with entertaining and instructive reading matter, and embellished with numerous engravings.

The heading is beautiful and appropriate.—[*Pajaronian.*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press.*

If the first number is to be taken as an earnest of what will follow, each week, we can advisedly say to all interested in agricultural pursuits..subscribe.—[*Vallejo Chronicle.*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—[*Evangel, S. F.*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the hill.

We notice that I. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—[*Yolo Mail.*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unchasteness in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press"—which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—$4 a year; or to a club of 10 or more, $3. Sample copies sent on receipt of a postage stamp.—["Alpine Miner."

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—[Democrat, Downieville.

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—[Alpine Chronicle.

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—[Christian Advocate, S. F.

It will represent the agricultural interests of California and the Pacific Slope. * * * With so much ability as to command a wide circulation and influence.—[Helena, (M. T.) Gaz.

Will be found worthy the patronage of the people of this State.—[Argus, Snelling.

We heartily welcome the new publication.

The interests of our own county are about equally divided between mining and farming.

Not a farmer in it, however well informed, but may learn something of value pertaining to his business, from an ably conducted paper, specially devoted to the consideration of the peculiar conditions of soil, climate and seasons of the Pacific Coast.

From the well known ability and energy of the publishers, we doubt not that the "Rural Press" will fulfill all these conditions.—[Inyo Independent.

FROM A CORRESPONDENT.—I have seen your "Pacific Rural," and I never tire of looking at and studying its "head and front." It is a *taking* picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

---

SUCCESS IN BUSINESS.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALD'S BUSINESS COLLEGE, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and HEALD'S COLLEGE JOURNAL, which will be sent free upon application. Address, E. P. HEALD, President, business College, San Francisco, Cal. 1vI-3msnr

## A CARD.

Having seen the prospectus of the PACIFIC RURAL PRESS, and believing there is great need in our comparatively new agricultural districts of such a journal as therein proposed, the undersigned do not hesitate to state that from the standing reputation and success of its publishers, (Messrs. Dewey & Co., proprietors of the SCENTIFIC PRESS,) we believe the new journal will be worthy of universal trial by our agricultural and rural population, and that its publication will be fruitful of much usefulness to its subscribers and in forwarding the development of our natural wealth and prolific resources.

CHAS. F. REED, President State Agricultural Society.
DR. J. S. CURTIS, Yolo Co.
WM. H. PARKS, late Prest. North'n Dist. Ag. Society.
ROB'T BECK, Sec'y Cal. State Agricultural Society.
C. T. WHEELER, Member State Board of Agriculture.
ROB'T HAMILTON, member St. Board of Agriculture.
E MILLS, Member State Board of Agriculture.
I. N. HOAG, late Sec'y State Agricultural Society.
O C. WHEELER, formerly Sec. State Agricultural Soc.
G. N SWEZY, Prest. North'n Dist. Ag. Society of Cal.
J. K. DOWK, Prest. San Joaquin Agricultural Society.
ROB'T WATT, State Controller.
JOHN BIDWELL, formerly Prest. Upper Sacramento Ag. Society.
EZRA S. CARR, Prof. of Agriculture and Ag. Chem., Cal. State University.
E. J HOLDEN, formerly Prest. San Joaquin Ag. Society.
HARMEN BAY, Prest. Upper Sacramento Ag. Society.
E. HALLET, Secy. Upper Sac. Ag. Society.
R. B. SWAIN, Prest. Chamber of Commerce, S. F.
H. N. BOLANDER, Prest Bay Dist. Hort'l Society.
A S HALLIDIE, Mechanics' Institute of the city of S. F.
HENRY KIMBALL, Prest. Odd Fellows Library, As'n S.F.

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[ADVERTISEMENT.]

## A NEW PAPER FOR 1871.

—THE—

# PACIFIC RURAL PRESS

## A First Class Pacific States Agricultural and Home Journal.

Will be issued weekly on Saturdays, commencing Jan. 7th, 1871, containing sixteen pages devoted to

**Agriculture, Horticulture, Stock Raising, Domestic Economy, Home Manufactures Mechanics, Industries, etc.**

With an able and ample corps of editors, special contributors and correspondents, we shall publish a liberal variety of articles, entertaining as well as instructive, which will not only make the RURAL PRESS an able assistant to its patrons, but an attractive and welcome visitor to every reader in every intelligent

### Home Circle,

in the Pacific States. And more than this, we shall freight its columns with fresh thoughts, and new ideas, which hastened across the continent by rail, shall awaken and quicken the zeal of the more staid and gradual moving culturists of the eastern and European States, to their

### Pleasure and Profit.

We shall not only make a good paper for all husbandmen and homestead owners, (who now, more than ever require a knowledge of new discoveries in science and mechanical improvements,) but shall also render the journal a desideratum for those who contemplate becoming freeholders, and a large class of

### Mechanics, Teachers, Students, Business, Professional and Trades Men,

whose interests are more or less identical with successful farming, and the active development of our vast and rich resources. Few there are—male or female—who will not find pleasure and ennoblement in the study of progressive farming and gardening.

Honest, intelligent and correct information will be faithfully given, in behalf of, and urging

An improved Cultivation of the Soil;
A greater Diversity of Products;
Better Breeds of Stock;
Better Varieties of Fruits;
The Culture of New Products;
Creation of New Home Industries;
Adoption of Improved Implements;
Higher and Happier Aims in Life, etc.

### Valuable and Timely Hints,

will be given weekly to lessen the labors of the farm, the household and the shop, and add to the health, the wealth and the wisdom of every patron of industry.

### How to Farm in the Pacific States.

As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxilliary and modifying instructions.

The following are among the specialties upon which the PACIFIC RURAL PRESS will treat:

Silk, Cotton and Sugar Beet Culture; Nurseries, Orchards, Tropical and small Fruits; Steam-plowing, seeding and harvesting for large tracts; Reclamation of swamp and unproductive lands; Hill and mountain farming; Grape growing; Fig, Raisin and Fruit drying; Irrigation; Lessons and Lectures on the chemistry of growing crops and on fertilizing lands; Practical Farming vs. Speculation; Taxation of unimproved lands; Railroads and improved transportation for crops and the better class of immigrants; Farmer's Clubs, lectures and associations; Co-operation in farming, mechanism, manufacturing and other industries; Government lands for settlers whether sold by R. R. operators or the U. S.; Reliable wholesale and retail market reports; Brief notices of Mechanical and Scientific Progress; Instructions for regular and farmer mechanics; Household Reading; Health and domestic receipts; a sprinkling of sprightly reading; Life thoughts; Poetry, condensed stories, items of news, etc., will be given.

### A Plain and Simple Style

Of writing will be our endeavor. Necessarily dealing largely in researches for facts we believe it desirable to present them in an inviting shape and in so comprehensive language that our special journalism shall advance in popularity and common relish.

*No editorials or selections of unchaste or doubtful influence; or lottery, quack or other disreputable advertisements, will be admitted into its columns.*

### Arrangement of Matter.

Our reports of agricultural, horticultural and other fairs, lectures, farmers' clubs and social literary meetings [the improvement and increase of which we shall especially advocate] will be carefully prepared in a valuable form for preservation; and the matter of our entire columns will be so classified as to be convenient to readers of various minds and individual tastes for ready perusal and future reference.

### Interesting Illustrations of Pacific States and Eastern Inventions and Machinery, Fine Arts, Science, Fruits, Rare Stock and Natural Scenery,

Of special or peculiar interest to our readers will be published weekly in liberal variety. No pains or reasonable expense will be spared to furnish a

### Large and Richly Filled Journal

Nicely printed on fine paper, which will favorably compare with the long established class journals of more populous fields and older communities. Although the latter have less opportunities than new communities to be benefitted by printed information of discoveries,

### And Neighborly Experiences,

the reading of agricultural newspapers and books is lately increasing with a rapidity quite astonishing, and with the most profitable results.

We enter the field after a careful consideration and consultation with many of our leading agriculturists, with the strong conviction that such a journal on this coast is greatly needed and earnestly desired by the most prospectively flourishing and rapidly progressing community in the Union if not in the world. We know the task before us,—two of the proprietors and editors having experienced respectively 18 and 13 years of successful journalism in this state.

**SUBSCRIPTION IN ADVANCE.**

One copy one year.....$4 00
One copy six months.....2.50
One copy three months.....1.25
Single copies.....10

**CLUB RATES.**

Ten copies or more, first year, each..... $3.00
[A free copy or premium sent to getter up of club.]

A select variety of advertisements only will be inserted. Circulated widely among the most thrifty of our population, the P. R. P. will be the cheapest and most effective medium for a large range of first class advertisements in the Pacific states.

Correspondence is respectfully solicited from every worthy source.

LOCAL CANVASSERS WANTED for every town, city and county. Special inducements offered.

Parties desiring to get up clubs or act as agents, will be furnished sample copies and prospectus free.

**DEWEY & Co.,**

Publishers Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

[Being also publishers of the SCIENTIFIC PRESS, we would say here that no change will be made in that paper except to improve it in its present character. Each journal will be published entirely distinct from the other.—D. & Co.]

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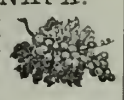
## HOPE VINEYARD, NAPA.



**20,000** Cuttings of the best varieties of Foreign Grape Vines for sale by the undersigned, 3½ miles west of Napa.

R. S. THOMPSON.

N. B. Orders left with BROCAS, PERKINS & FRANK, 516 & 518 Sansome street, San Francisco, will receive prompt attention. 5vI-1mr

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## Stolen Land Warrant.

Notice is hereby given, that the undersigned will apply to the Commissioner of Pensions, as the law directs, for the re-issue of Military Bounty Land Warrant, No. 90,783, for one hundred and twenty acres of Land, issued April 28, 1857, to Aunic Farnsworth, widow of James Farnsworth, private in the New York Militia, war of 1812; and which said warrant was stolen from the undersigned, in the city of San Francisco; on the nineteenth day of November, 1864; and all persons are cautioned against using or purchasing said stolen Warrant, as such purchase or use will be considered void.

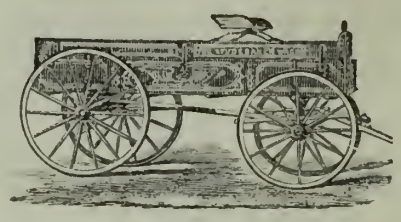
T. HART HYATT.

Dated San Francisco, Cal., Jan. 21, 1871. 4vI-6wr

# New Advertisements.

*No quack, indelicate or other disreputable notices will be accepted. All advertisements in this paper appear in our monthly edition and bound volumes of the Pacific Rural Press for Railroad Depots, Steamboats, Hotels, and other free reading rooms.*

## THE STUDEBAKER



**WAGON.**

The best Farm Wagon;
The best Ranch Wagon;
The best Truck Wagon;
The best Team Wagon:
The best Header Wagon;

**The Best Thimble Skein and Iron Axle WAGONS.**

Sold for $100 to $175.

**AMES & WOOLVERTON,**

General Agents for the Pacific Coast.

5vI-3mr 217 & 219 K St., SACRAMENTO, CAL.

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## THE NEW TYPE

ON WHICH

## THE PACIFIC RURAL PRESS

is printed, is from the

**CALIFORNIA TYPE FOUNDRY,**

405 and 407 Sansome St.

GEO. L. FAULKNER, Agent.

1vI3-mlnr

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## We wish to Call

THE ESPECIAL ATTENTION of the owners of some of the best Patent Gang Plows in California, to the

## "BUTLER PLOW,"

now on exhibition at the SCIENTIFIC PRESS office.

As no arrangements have yet been made for their Manufacture or sale of territory effected.

For description of the PLOW, see article in the second number of the RURAL PRESS,

### "A Singular Looking Plow."

Please Address, E. P. HICKS, S. F., Cal.

2vI-1tr

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## NOW IS THE SEASON.

Farmers who desire to sow Norway Oats—for seed or hay—should now obtain their seed, and be sure of getting the genuine Ramsdell grain. Those wanting to sow in quantity will find it to their advantage to call on this office as we are now able to make special terms in favor of those who will cultivate extensively this year. These oats will do to sow in some localities very late, even till 1st of April, according to last year's experience in California.

PACIFIC RURAL PRESS

Number 6.] SAN FRANCISCO, SATURDAY, FEBRUARY 11, 1871. [Volume I.

## CATTLE BREEDING.

### SHORTHORN CATTLE.

#### Their Origin and History.

We present herewith a beautiful representation of a very fine Shorthorn cow, (Dairy Maid), bred and owned by N. P. Boyer & Co., of Gum Tree, Chester County, Penn., and take the occasion to give a brief outline of the origin and history of this famous breed.

There has long been more or less controversy among breeders with regard to the origin and history of the Shorthorn breed of cattle. Some refer its origin to a compartively recent period—the latter part of the present century; holding that its peculiarities were brought out by the modern system of cross-breeding; while others take the ground, and no doubt correctly, that the Shorthorns existed, so far as the possession of all their essential features are concerned, long anterior to the efforts of modern breeders to improve our domestic stock—that they originally constituted a *race*, rather than a *breed*.

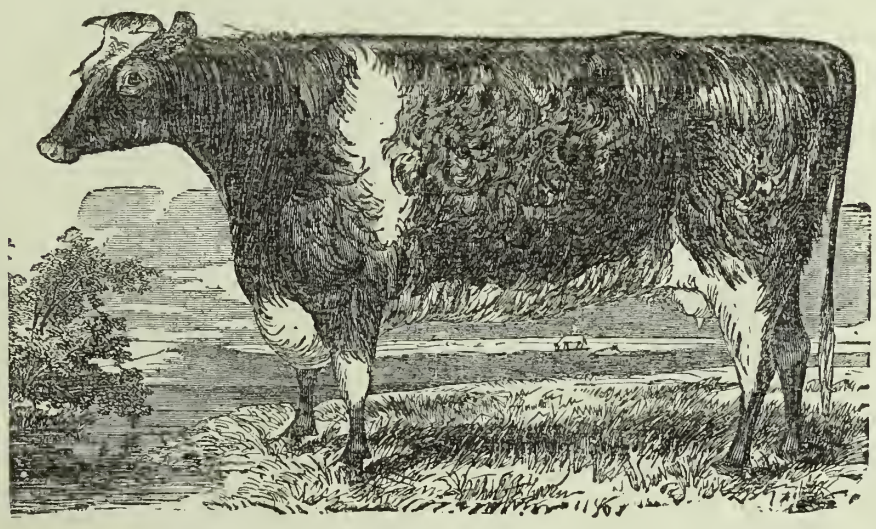
As an evidence of the correctness of the latter proposition, there is to be seen on one side of the tower of the cathedral of Durham, Eng., the sculptured representation, in relief, of a cow, which unmistakably shows the shape and general appearance of a genuine "Shorthorn." This tower was finished, with all its ornaments, about the year 1,300; and there is abundant evidence in addition to this, that this breed of cattle has been kept up in that county and the two adjoining counties of York and Northumberland, from that date to the present time. The fact in the matter undoubtedly is, that when the Danes and other more northern Scandenavians passed over into the north of England, some three hundred years previous to the date above given, they brought with them cattle with short horns, which were natives of the north of Europe, but which had never before been seen in England. They were rough, hardy animals, and not of themselves very superior; but it was soon discovered that crossing them with the native English breeds, generally improved the stock of both. It was in commemoration of this acknowledged and important fact, no doubt, that the effigy of one of the genuine short-horns, was elevated into honored prominence, in the immediate neighborhood, where the great value of the breed was first made known.

#### Their Introduction in the United States.

We believe there is no well authenticated evidence of the introduction of this breed into the United States anterior to 1818, about which time a general movement for the improvement of our domestic animals began to be observed.

Cornelius Coolidge, of Boston, imported the yearling heifer, "Flora," and the bull "Cicero," in 1818. The same year Gorham Parsons, of Brighton, Mass., imported some stock of this breed; and in 1820, Theodore Lyman, of Boston, made another importation. From this time forward, a large number of importations were made, and great care was observed in breeding this stock and properly crossing it with our native stock.

The breed is now well represented in this country, and particularly in the middle and western states, on the broad and luxuriant pastures of which they seem to flourish in great perfection. The American Shorthorn Herd Book, now numbers eight volumes, and contains the pedigrees of over 7,400 bulls, and 12,000 cows, comparatively few of which were bred in New England, where they were first introduced and it is reasonable to assert that we have at this time in the United States, as good shorthorn cattle as can be found in any part of the world. Our enterprising breeders have sought out the best herds and have freely drawn from them, without regard to cost, the choicest and most approved strain of blood. As an evidence of this, it is well known to cattle fanciers that promiuent English breeders, within a few years past, have purchased choice Short-horns, bred in this country, for shipment across the Atlantic, eastward, and have paid prices therefor, equal to anything previously paid by the original American purchasers in England.



SHORT-HORNED COW—DAIRY MAID.

This much, and in brief, for the origin and history of the Short-horns, and their introduction into the United States. We propose to follow up this subject, and show for what purposes the Short-horns are especially serviceable, and in what latitude and topographical surroundings they flourish best. And just here we will say—that there is no country where they will do better than in certain parts of California.

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POINTS OF A GOOD COW.—She's long in face, fine in her horn; she'll quickly get fat without cake or corn; she's lean in her in her jaw and full in her chin; she's heavy in flank and wide in loin; she's broad in her rib and long in her rump—a straight and flat back, with never a lump: she's wide in her hips and calm in her eyes; she's fine in her breast and good at the pail; she's fine in bone and silky of skin; she's a grazier's without and a butcher's within.

CATTLE WITHOUT HORNS—A NEW RACE? A late Belgian paper, the *Le Nord*, publishes the following:—M. Dutrone, one of the most distinguished cattle breeders of France has succeeded; after twenty years trial, in producing a bovine race without horns, which carried the first prize at the great cattle show of Poissyn in 1864. A cow of this specie, which had been raised on the farm of the King of Belgium, at Lacken, near Brussels, was killed lately in the latter town, in the presence of the professors of the veterinary school and the surveyors of the public slaughter house. The report of these gentlemen confirms the fact that the quantity both of suet and meat was much more considerable than that of the ordinary cattle. Mr. Dutrone ordered that one-half of the cow should be sold for the profit of the much suffering poor of that town.

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A HINT IN BREEDING.—Mr. Torr, the well-known breeder of Short-Horn cattle and Leicester sheep, in the course of some remarks at his recent letting of the latter, touching on breeding in general, said: "The way to establish uniformity or family likeness is to begin by putting the best male to the best female, and to continue to put *the* best *to* the best;" secondly, "not to put opposite characters together, or the traits of both will be lost; but if any fresh characteristic is required to be imparted to the issue of the present stock of animals, this must be done by degrees, or by that discreet selection which will yield a little more wool, or size and substance, the first year, and a little more and more in the second and third generations, and so on."

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AN APPEAL TO HUMANITY.—The S. F. Chamber of Commerce appeals to our California public to contribute towards the alleviation of the terrible sufferings of the French people. All political questions are laid aside, all opinions as to which nation is right in the present contest. The people are starving, dying,—that is the only point considered. Other states are contributing. Shall California refuse? Donations may be sent to C. Adolphe Low, 208 California street; J. C. Merrill, 204 California street; C. S. Hopkins, 318 California street; Jacob Deeth, 203 Sacramento street; or Albert Dibble, 38 California street, San Francisco.

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SOME of the wheat in Petaluma Valley is said to be five inches high.

## NOVEL FARMING.

Very large tracts of land have been and and are being made or reclaimed on Sherman Island by daming the sloughs and ditching the land, thus keeping it from overflow. As soon as it is dry enough, which takes a season, the surface, which is a mass of tule grass and roots, is set on fire and burned over, leaving a deposit of ashes ten or twelve inches deep. Seed is sown on this, the sower sinking the depth of the ashes every step. As neither harrow nor roller could be applied, an original driller has been substituted, which does the business admirably. A flock of sheep are driven closely over the seeded land, their tread drilling the seed and compacting the soil equal to the best roller. So well is it done that sheep are in demand for this purpose, and a compact traveling flock are kept going from farm to farm, hired from one to another, while other flocks are being trained to the same duties.

These are the only agricultural implements used as yet, for their first crop. Mr. Roberts has imported the road steamer to test the availability of cultivating the land by steam. This season will demonstrate that question, either by the Thompson steamer, drawing plows, or by the steam Propeller Plow Co., with its patent traction steamer, carrying its plowing arrangement projecting from the rear end of the machine in the shape and manner of propellers, six or eight of them in a row and cutting from six to ten inches deep and ten to twelve feet wide, as it moves along. Should this be a success, steam culture will be inaugurated in California and the sheep can be put to other uses.

## THE CROP PROSPECT.

Our exchanges are generally hopeful with regard to the coming crop. The rains thus far have supplied the immediate wants of the farmers; but, the moisture has not yet penetrated the earth to a depth from which vegetation will be able to draw any very continuous support. The crops generally look well, especially those which have been sowed upon fallowed ground. A good soaking rain is much needed now, to carry the moisture to a depth, from whence supplies can be derived to pass the dry spell which is usually met with previous to the coming of the latter rains of April and May. There is but little or no danger, however, to be apprehended from crops on fallowed ground, and a similar remark may be made of grounds that have been thoroughly and deeply cultivated, *and seeded early*. When our farmers learn to summer fallow and get in their seed before the first rain comes, so as to get the full benefit of *all* the moisture, we shall hear no more of uneasiness and doubts about coming crops. We are pleased to learn that this year a much larger number than usual have adopted the course suggested, and that never before have farmers who have not fallowed, so thoroughly prepared the land for seed by extra care in plowing.

## MECHANICAL PROGRESS.

LOCOMOTIVE BOILER IMPROVEMENT.—The *American Artisan* describes a novel system of boiler construction as follows: "In the proposed system, the ordinary horizontal tubular boiler is divided transversely into three compartments. In other words, it is made to constitute three boilers, having but one furnace for them all. The forward compartment is filled full by the feed-pump; the feed-water entering at its extreme front, and, circulating between suitably arranged diaphragms, at last enters the central compartment. This latter is furnished with a steam dome. The rearmost compartment in the immediate neighborhood of the fire-box is also kept full of water, and is so maintained by circulating pumps, which draw water from the central to the rear compartment, in which latter the pressure is considerably more than in the other. The rearmost communicates, further, with the central compartment by a valve at its upper part. The operation is essentially as follows:—the water in the foremost compartment is heated by that portion of the boiler-tubes through which the gases pass immediately previous to their exit to the smoke-stack, and the temperature of which is comparatively low. The heat from the gases at this part being thus utilized to the utmost, the water passes to the central compartments, devoted either wholly or only partially to making steam. From this the circulating pumps force it to the rearmost compartment, where it is heated, as just indicated, to a temperature above that in the central division of the boiler, ebullition being prevented by the complete filling of the compartment with the water. Passing back through the suitably arranged valve into the central compartment, the lower temperature of the latter causes a part of the water to flash into steam, which from the dome goes to the engine, while the water, reduced in temperature, falls, and is in due time again pumped into the rearmost compartment, heated, and caused to return, in the manner just explained, to the central or steam-generating compartment."

CHROME STEEL.—The editor of the *Iron Age* has visited the works of the "Chrome Steel Co." at Williamsburg, Pa., and was greatly pleased with everything connected with the establishment. His description we have not space for; but we give part of the concluding portion which refers to the product: "The company hold that their steel is superior to any thing manufactured in this country or in Europe, and back up their assertion by their willingness to prove it under any forfeiture. They say that it has properties and advantages entirely its own, and is especially adapted for tools of all kinds. It can be worked at a white heat—and "can not be injured by over heating." It can be welded to iron or to itself, leaving no trace of the weld; it can be worked and reworked without injury; and, they claim that, when made into a tool, it will do at least 50 per cent. more work than any steel, not excepting the highest priced, and be perfectly uniform in each grade, and they so warrant it, with this qualification, that it must be treated according to directions, which are mainly that it should be dipped at a low red heat, as seen in the shade; that all tools forged from a large body to a small edge should be allowed to cool off after forging, and be reheated for tempering, and they claim that the only way in which it can be spoiled is by dipping it in water or hardening mixtures when too hot. Several bars were heated to almost a white heat at our request, then worked, reheated and reworked, tempered, and a specimen cut off, of most beautiful fine grain so hard as to cut glass. Another of the bars thus put through the white heat was split, allowed to cool, then heated again, hammered together without flux, and a chisel forged out of it, the edge being on the weld, which was tempered at very low heat, ground, and then tried on an ingot of steel, cutting out chips to half an inch deep, without showing any mark of bluntness or fracture; we took that cold chisel home as a sample. It shows the mark of having been sliced half way up the handle. As a test of toughness we were shown a ⅝ inch square bar twisted cold until it looked like a cable, also a turning lathe shaving forty to fifty feet long. Dynamic tests of this steel have been made by David Kirkaldy, in London, also at West Point foundry, which latter showed as the highest strength of 12 specimens, 198,910 lbs; lowest strength of 12 specimens, 163,760 lbs.; average of all the specimens, 179,980 lbs.; or say, 180,000 lbs. per square inch, which is one-third more than Percy gives as the highest tensile strength attained in steel. It is further stated that run into wire it will tie into knots, and stand 400 pounds more in No. 16 than the wire used by hoop skirt makers; and Mr. Wood says that he can make a tool from it to drill through Stubbs' hardest file."

MACHINE FOR PIECING BOILER FLUES.—The *Railroad Gazette* describes the shops of the Chicago and Alton R. R., at Bloomington, Ill. Among other things noted is a machine for piecing flues. We quote:—"An ordinary locomotive tube has so little metal in it that it will hold a welding heat but a short time. It is therefore difficult for a blacksmith to strike fast enough to effect a perfect weld before the metal becomes cooled. Mr. Hughes, the foreman, having experienced this difficulty designed a trip hammer to be worked by hand. The hammer head and anvil each have a half-round die which conforms to the shape of the tube. The hammer helve is operated by a ratchet wheel with six teeth, and the hammer is brought down quickly by a steel spring. The shaft of the ratchet wheel and crank has a heavy fly-wheel to overcome the intermittent motion of the ratchet. With this machine a man can strike two or three times as fast, and with much greater precision than is possible by hand. The blacksmith's helper turns the crank, while the former handles the tube to be welded. The two have pieced out 150 2-in. tubes in ten hours, and have taken a whole set of flues out, pieced them up, and returned them to the engine in the same day. After they are welded up they are all tested by a hydraulic pump." Out of a set of 136 two only were found to be imperfect."

MORE OF PETROLEUM FUEL.—The Chicago *Tribune* of Jan. 21st notes the experience of Gen. Blunt at his lime kiln, in the use of petroleum as a fuel. The apparatus used consists of a cylinder, like a small locomotive boiler set on end, with a smaller cylinder within it, the intervening space being filled with petroleum. The smaller cylinder is filled with 600 small copper tubes, and through these the superheated steam passes, producing vapor from the oil that fills the interstices between the tubes. This vaporized oil rises through a layer of prepared sponge, and just at the point of exit is mixed with superheated steam in any required proportion, thus producing hydrocarbon gas. This gas passes through iron tubes to the point where the fuel is needed and is there burned. * * Gen. Blunt stated that his conclusions, based on results obtained, were that with the expenditure of $25 per day for wood, he could burn 125 barrels of lime. The same sum expended for oil would, with the aid of this machine, turn out from 250 to 300 barrels per day, and one machine would be amply sufficient to supply fuel for three kilns. The saving in time was so great that he could produce the same effect with oil in three hours, starting with a cold kiln, that he could in twelve hours with wood.

STEAM ORE STAMP.—The *Engineer* of January 6th describes a modification of the steam hammer, lately constructed at Bolton, Eng., for the crushing of ores. The boiler not being properly adapted to the machine, it was worked, on the trial, with half steam only, and gave an average of only 100 blows per minute, instead of 150, of which it is capable under favorable circumstances. Notwithstanding this and other drawbacks, two tons of ore were run through in thirty-six minutes.

CABLE SCREW WIRE.—The following is from the *Iron Age* of Jan. 12th: The latest and one of the most ingenious inventions for fastening the soles of boots and shoes is that known as cable screw wire, which is cut off and driven into the sole by means of a machine bearing the same name. The wire is twisted into the form of a screw, instead of cutting the metal as in the ordinary process. The machine is capable of bottoming five hundred pairs of shoes daily.

WOOD ENGRAVING.—Thirty years ago there were not twenty professional wood-engravers in the United States; there are now four hundred. There are thirty-five engravers in steady employ at Harper's, and sixty-eight at Leslie's. In 1869 eighteen thousand wood-engravings were prepared for Mr. Leslie for which $180,000 were paid.

## SCIENTIFIC PROGRESS.

THE SOLAR PYROMETER.—London *Engineering* for Dec. 30, has a description, by Capt. John Ericsson, of his instrument for measuring the temperature of the sun. We quote briefly:—"At first sight, it will appear futile to undertake to measure temperature at a distance of 90,000,000 miles; but in view of the fact that the sun has been weighed by an instrument consisting principally of four leaden balls less than 10 in. in diameter, the attempt cannot justly be deemed absurd. The reader will remember that in the celebrated Cavendish experiments, afterwards repeated by Baily and others, the weight of the earth—on which the weight of the sun is based—was ascertained by measuring the attractive force of two spheres of lead weighing 174 lb. The delicate nature of the experiment may be inferred from the fact that the ascertained attractive force was found to be only 1-4300 of a grain. The illustrated device by means of which the temperature of the sun may be measured, involves no such nicety. Before entering on a description of the solar pyrometer, it will be necessary to call to mind the previous article in which it was demonstrated that the law relating to the radiant heat of spheres, is also applicable to concave spherical surfaces if the substances exposed to their radiant heat be placed in the center of curvature. The article referred to, also asserted that the temperature produced by the radiant heat transmitted by concave radiators of equal temperatures, at equal distances, is directly as their areas.* * * The principle of my solar pyrometer is that of ascertaining the intensity of the heat of the sun by comparing the temperature produced by the radiant heat of a concave spherical radiator of 10 in. diameter, at a distance of 18 in. from its face, with the temperature produced by the radiant heat of the sun a sphere of 852,584 miles in diameter—at a distanc eof 91,430,000 miles from its centre. The radiant heat in both cases is transmitted through ether; in the former to the surface of the bulb of a thermometer; in the latter to the boundary of the earth's atmosphere. The law which governs the propagation of radiant heat through ether, is as absolute as the law of gravitation, whatever be the distance; hence the pyrometer under consideration, in which the radiant heat is propagated a distance of 18 in. through ether, is as competent to determine the temperature of the sun, as the Cavendish leaden spheres acting at a distance of 8.85 in. to determine his weight. * * In the solar pyrometer we only require a correct indication of the temperature of the radiating concave spherical surface, and of the temperature transmitted to its focus; together with an accurate measurement of the distance of that focus, and of the area of the radiating surface. These points being determined with exactness, we may enter upon and carry out our computation without introducing a single correction."

ITACOLUMITE.—Prof. Wetherill, whose idea that the flexibility of this curious rock is due to minute ball and socket joints throughout the mass has been opposed by Prof. Edwards, publishes another note upon the subject, a part of which we quote from the *Journal of the Franklin Institute* for January: "In order to see the joints, a thin section, supported at one end or at both ends, may be moved while under the microscope with a needle point; by changing the position of the section, a part may be reached at which the play of the joints may be perceived. They can also be seen by *dissecting* a flexible piece of the mineral, using either a fragment or a surface rubbed flat. The surface to be examined is inverted, tapped, and, as far as practicable, brushed free from loose grains. It is then examined under the microscope with a power of 40 to 60 diameters. The attention of the observer is first attracted by the irregular pits or depressions formed by grains of sand. By very delicate touches with a fine curved needle point, the surface may be investigated; loose grains of sand are seen and removed. Touching other grains and congeries of them delicately with the needle, proves that some have motion in a cavity formed of grains of sand and cemented together. These are dissected out, and other movable groups are found. Some have less motion than others, and some are immovable. By patient investigation of the mineral in this way, the observer will rise satisfied that it is made up of joints of the character which I have described."

ERICSSON ON SOLAR TEMPERATURE.—The following is from an article by Capt. Ericsson in *Engineering*: "Our space only admits of an allusion to the speculations and calculations which have been published of late by certain savans relative to solar temperature. Among these Zöllner's calculations may be mentioned as the most singular, being based on the height of the observed solar protuberances. Practical men who have witnessed the explosions in closed reverberatory furnaces, which take place when a dense mass of incandescent coal gas, resting on the fused metal, is suddenly ignited by the admission of oxygen, will probably attribute the solar protuberances to a very different cause from that imagined by Professor Zöllner. They will assert that the observed explosions in the solar atmosphere are quite possible without sending up gas from a depth of 139 geographical miles through the "ausströmungsöffnung," supposed by the German physicist. The reader may have noticed that some of the savans alluded to have attempted to set limits to solar temperature on chemical and dynamic grounds, insisting that the temperature of the sun is under 60,000° Fahr. All such speculations are futile, in view of the fact which we have established, that a heated sphere subtending an angle of only 32', at a distance of 90,000,000 miles, cannot, unless raised to a temperature of several millions of degrees, transmit radiant heat sufficiently intense to cause an elevation of temperature 84° Fahr. at the stated distance."

ONE SUCCESSFUL ECLIPSE PARTY.—The Boston *Advertiser* gives an extract from a private letter dated Catania, Sicily, Dec. 22d, and written by a member of the U. S. Coast Survey. "All the success seems to have been reserved for our party. Just before the instant of total obscuration there was a break in the clouds, which was the more remarkable because it was raining and hailing at the time. This break did not extend a thousand feet from the place where we observed. But it gave us a superb view of the corona and the whole totality, and enabled us to establish very important conclusions. It must be said, however, that there was just enough haze to deprive us of what I am disposed to call the false corona, and which I consider to be a part of our own atmosphere. But the true solar corona is clearly proved to be a solar atmosphere extending about eight thousand miles above the ordinary visible surface of the sun. There were three different sources of proof of this conclusion. The work is done successfully."

IMITATION VOLCANOES.—At a late meeting of the Vienna Geological Institute, M. von Hochstetter exhibited miniature volcanoes formed by sulphur in a soda manufactory. Sulphur melted in water under a steam-pressure of two to three atmospheres combines with a certain quantity of water. Larger masses of this melted sulphur (one to two quintals) were poured in conveniently deep wooden vessels. In consequence of the refrigeration, a crust was soon formed on the surface. In this crust a hole was kept open, through which, as the congelation of the sulphur proceeded, periodical eruptions of melted sulphur, together with exhalations and explosions of steam, were observed. After the lapse of an hour and a half, a miniature volcanic cone was formed, with all the characters of a volcano formed by successive lava streams. Observations which can be made during this experiment are sufficient to explain and to confirm many facts observed in real volcanoes. If the artificial eruption is interrupted by a second hole made in the crust, the cone becomes hollow, and if this hollow cone is crushed and the eruption again caused by closing the second hole, a model is formed of a younger volcanic cone which is surrounded by an outer barrier, like Vesuvius or the Peak of Teneriffe. If the process is conducted to the end without interruption, the result is a massive cone with a closed crater, which resembles perfectly the homogeneous dome-volcanoes, as Seebach calls them. These domes, or massive cones, must therefore be considered as the inner massive nuclei of perfectly extinct volcanoes, the lava, ashes, and tuffs of which have been removed by denudation.

# CORRESPONDENCE.

## Notes of Travel in Stanislaus County.

[Written for the PRESS.]

### Modesto.

Modesto, in this county, is situated on the San Joaquin and Visalia R. R., 20 miles from Lathrop, the junction of the C. P. R. R., and about 30 miles from Stockton. The first building in this thriving little village was erected no longer ago than last November (1870), while now there are over 150 buildings, being an average of over one per day since the first one was erected. It contains one hotel, presided over by Jas. Cole Esq., a clever gentleman, by the by; also 4 boarding houses, 1 restaurant, 6 saloons, 9 stores, 4 blacksmith shops, 2 harness shops, 2 shoemakers, 2 meat markets, 1 stove and tin shop, 3 livery stables, and other things to correspond. James McHenry Esq., was the pioneer of this section. He first moved here in November last, but has been a resident of the county since the year 1863, and has been one of its supervisors. When Mr. McH. first moved to this county, the whole annual product of the county could have been shipped to your city upon a single steamer; now it ranks first in the production of cereals. This gentleman has shipped from here by railroad, since November last, over 2,000 head of hogs (alive), besides a large number of sheep. He owns personally about 800 acres of beautiful land, situated some 3 miles west from here, all of which will be in grain this season.

This section, extending from Lathrop and below in San Joaquin Co., to this point, and for three miles above here into Merced Co., is one complete grain field, for say 50 miles! Little or no fencing has been done in this county; a local law, forbidding loose animals running at large, protects the grain producers.

Wm. M. Hughes Esq., of the firm of Hughes & Keys, commission merchants of this place, is the possessor of some 2,550 acres of fine land, situated some 7 miles south-east from here on the line of the S. J. & V. R. R., all of which is in grain at this writing. Eight miles east from that point he owns and cultivates 1,800 acres more. Six 8-mule teams are now engaged in running gang-plows, (of the Matteson & Williamson make, of Stockton) upon this tract. It is also stocked with 1,600 head of fine sheep. The number of pounds of grain shipped from this point (Modesto), since Nov. 1st, 1869, by J. Mitchell, C. H. Hoffman, and Hughes & Keyes, is 2,580,345. If there are good crops this year, ten times that amount will be shipped. W. O'Brien Esq., has shipped 220,000 lbs. of live mutton in the same length of time. Ex. Gov. Standford's private secretary has just passed south, said to be on subsidy questions from Merced, Fresno and Tulare Co's.

### Stages—New kind of Telegraph.

Stages, Z. &. H. Fisher, of Stockton, proprietors, at present leave this point for Snelling, Plainsburg, Hornitos, Bear Valley and Mariposa, also for Visalia, three times per week, but will soon leave daily. This is a distributing post office, and the labors upon its Post Master, Mr. McEwen, are extensive, requiring a deputy to assist in order to get the mails off in any reasonable season. His salary, which is but $280 per annum, should be $2,000.

They have a new method of telegraphing in this section. It consists of a *lassie* and *laddie* who are supposed to be in love, but residing some 5 miles apart. Lassie milks a *cow* that feeds in the vicinity of laddie's house. Communication is had by enclosing a note in the old cow's tail, which is answered daily. The balance you can guess.

C. H. Sisson & Co's. U. S. Mail stages leave Wells, Fargo & Co's. office daily, (Sunday's excepted), from Stockton for Knight's Ferry, Chinese Camp, Montezuma, Jamestown, Sonora, Shaw's Flat and Columbia; also, stages for Mokelumne Hill, San Andreas, Angels, Vallecito, and Murphy's; also, stages for Telegraph and Copperopolis, Monday, Wednesday and Fridays, connecting at Murphy's with stages for the Big Tree Grove, daily, and at Chinese Camp with stages for the Yosemite Valley, *via* Coulterville or by the New Road through Big Oak Flat, and Harding's Mills. On or about the 1st of March next, the stages will connect with the Stockton & Copperopolis Railroad, at Petersburg, 15 miles from Stockton for the above mentioned places. From Merced County in my next. L. P. MC.

## Bound East—At Chicago.

[Written for the PRESS.]

### Western Enterprise.

Not many years ago, a company commenced a manufacturing business here (Chicago) in a small room, 14x20 feet. By careful attention to business and to the workmanship of the articles they turned out, they gradually built up a large trade, and now, under the name of the North Western Manufacturing Co., they occupy a three-story building, with 154-foot front, and employ constantly 400 hands! I passed through their very extensive works, where everything is conducted in a most systematic manner, and saw an immense amount of work going on. Steam engines, steam pumps, cranes, hoisting machines, steam heating apparatus, malleable iron castings, etc. They have made a specialty of the manufacture of wrought iron steam and gas pipe for the last five years; and, although they have had a strong eastern competition to contend against, they have succeeded in building up a very large business in this branch of industry. They have been running their mill night and day during the past season, are using daily over ten tons of iron, and the superior quality of the pipe produced therefrom creates a demand for it not only in the north, south and west, but as far *east* as Ohio and Pennsylvania, a fact that is highly creditable to the skill and energy of this firm.

### The Pullman Palace Car Company.

In 1831, a Professor Low was dismissed by the Faculty, from the chair he held in a Kentucky college because he was insane. His insanity was proved, in the opinion of his associates, by the fact that he had written and published a pamphlet advocating a national railway across the continent from one shore to the other! In May, 1869, only 38 years later, Professor Low might have been justified in dismissing the other professors. In September, 1869, the first railroad car passed direct from New York to San Francisco. This was a Pullman Palace car, a wonderful and magnificent innovation on our roads. Since then, hotel cars have made the trip, each more comfortable than the preceding; and improvements have been added until one wonders what is to come next. Certainly Mr. George M. Pullman must have a quick brain to devise, and a cunning hand to execute.

The Pullman Car Company has become one of the leading business associations of the country; for at the east, no competing railroad line can expect to secure a large passenger traffic without having these most excellent cars, so popular are they with the traveling public. The main office and commissary department of the company are in Chicago; the manufactories are scattered throughout the United States.

### The Chicago Office—California Woods.

The offices here are fitted up splendidly, handsomer ones perhaps, do not exist in the United States. Black walnut woodwork, frescoed and panelled ceilings and walls, rich carpets, magnificent furniture,—everything in the finest style and most exquisite taste. One of the rooms is a real curiosity, for it is papered with a material printed from the fibres of different woods, by some process, and so perfectly that it is almost impossible to think that the walls are not veneered with the real woods. The place is well worth a long trip to see.

The affairs of the company are conducted in a most thoroughly systematic order. The master spirit, whose influence is visible everywhere, is Mr. George M. Pullman, from whom the company gets its name. Mr. Pullman, by the way, awards to California the prize for superiority in wood suitable for car-building. He has in his office a collection of sample woods from the Pacific Coast, the names of which I send you. Those in italics are California Coast woods:

Oregon Ash (very well liked), *Abazo Veva*, *Primavera*, *Ebony*, *Aquilado*, Coffee Wood, Alaska Cedar, *Male Linola*, *Female Linola*, *Cabo de Hacho*, *Cal. Beach*, Redwood, Colorado Lena, Tecomate, Mountain Mahogany, Oregon Cedar, *Blood Wood*. *Lanco Wood*, Lower Coast Ebony, Tiger Wood, *Chilillo*, Campeche, Lena Tuerte, Temisquito.

Connected with the offices is the manufactory of bedding, mattresses, etc., for the cars. Spring mattresses, among other things, are furnished here. The supply rooms look like huge wholesale grocery, glass and hardware establishments. Everything is of the best, the handsomest and the neatest.

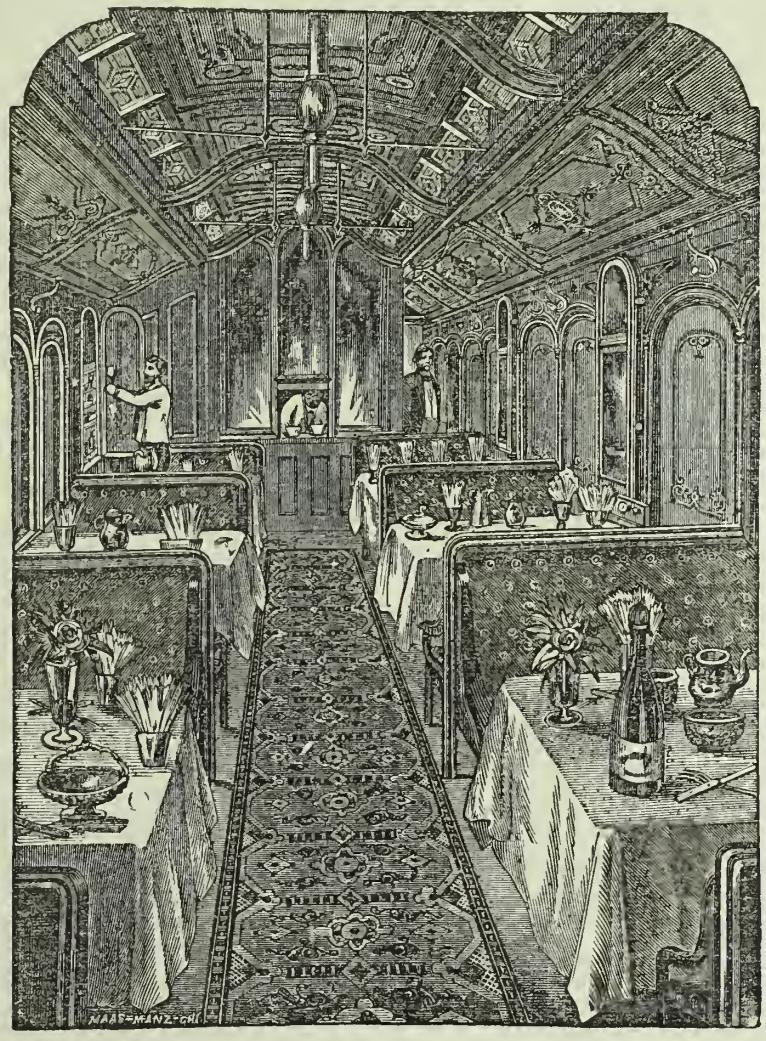
### The Cars.

The company is ready to furnish excursion parties with cars to San Francisco or elsewhere. For a regular sleeping car with 28 berths, or a drawing room car which can be converted at night into a sleeping car with 26 berths, with conductor and porter, a charge is made of $75 daily. For a hotel car with kitchen fully equipped and with conductor, cook and two waiters, the charge is $85 daily.

Everything in the cars is most elegant and comfortable. Between New York and Chicago, sleeping cars are run which are *lighted with gas*, the arrangements for this being perfect. I came on over the Union Pacific to Omaha and on the Burlington route to Chicago in the Pullman cars, and I assure you that it was grand.

In the dining cars more could not be wished. The choicest of food on tables covered with spotless linen and garnished with the finest of silver services, the best of waiters and, if you can afford it, really good wines, incline one to do full justice to the appetite acquired from the bracing air of mountain or plain. I could hardly realize that I was the same fellow who roughed it across the plains in an ox-cart, years ago.

But I cannot dilate longer on this subject and must conclude with my thanks to the officers of the company for the many kind attentions shown me.



INTERIOR OF PULLMAN HOTEL DINING CAR.

## Filing Saws.

[Written for the PRESS.]

EDITOR PRESS:—In an old number of the SCIENTIFIC PRESS appeared an item headed "How to File a Saw." Now, there is one little difficulty that I have always encountered, that "How to File a Saw" did not enlighten me upon,—and that is this: It frequently happens that the teeth upon one side not only get larger (a thing easily remedied), but smaller in every way. In endeavoring to file the back side of the large tooth in a cross-cut saw, the file is liable to over-ride, so as to damage the next tooth forward. To prevent this, for a long time I was accustomed to hold my thumb-nail close to the file, so that it would stop it whenever the tendency to over-ride carried the tool over the top of the tooth; but in so doing, although the forward tooth was protected, it was at the expense of an occasional sore thumb; until it occurred to me to substitute a soft piece of iron that would receive the file, if it slipped over, and so protect the small tooth from damage and make the tool do its work upon the large one. The foregoing hints may be of use to those who have encountered the difficulty mentioned in saw-filing. F. M. S.

San Diego South, Jan. 22, 1871.

THE BLUE LAKE MONSTER.—"Ink Stand" writes to the Healdsburg *Flag* that he has actually seen this rather mythological inhabitant of the Blue Lakes of Lake county, and is going to make it a point to ascertain just what it is. We hope he will succeed. He says: I caught a glimpse of him swimming near the opposite shore, a distance of some 400 yards from me. I stopped the team to get a good look at him. I should think he would measure at least twenty feet in length and five or six feet around the body. The Indians hereabouts have the superstition that a sight of this monster devil fish, as they call him, is certain death to them. They will not fish in the lake he inhabits, the upper Blue Lake. I refused to believe this big fish story until convinced by the evidence of my own eyes. I find my incredulity gone but am unable to say what this huge creature is.

A COLORADO AMALGAMATOR.—The Colorado *Herald* thus describes an amalgamator, designed for taking the flow from stamp mills and by forcing it through quicksilver ensure the amalgamation of all free particles of fine gold. The bed of the machine has two half cylinders somewhat like Hungarian bowls. In these revolve very slowly two fluted wooden cylinders. The arms made by these flutings force the pulp through the charge of quicksilver, which is placed in the bowls. No quicksilver is used in the batteries. It is claimed that in this way all of the pulp must pass through the quicksilver and that perfect amalgamation thereby ensues. We hope some one will give it a trial. It is called the Eureka amalgamator.

NEVADA COAL.—In a few weeks, at most, says the Elko *Independent*, of Jan. 28th, will demonstrate the fact whether Elko county boasts a first-class coal mine or not. The probabilities are all on one side, and the indications are that the bed is not only extensive, but of a very superior quality. This will give us another source of wealth as well as filling the pockets of the fortunate owners.

# HOME AND FARM.

## SHORT PAPERS ON AGRICULTURE—NO. 2.

[By Dr. J. H. Thomas, for the PRESS.]

It is presumed that the early Greeks imported from Egypt some knowledge of scientific farming. While we have very meager accounts of the exact state of their agricultural knowledge, yet we think it legitimate to make favorable inferences from a few historical facts.

THEIR KNOWLEDGE OF DRAINAGE.

The Lacedemonians, especially, understood and practiced an extensive system of drainage. This was absolutely necessary in a country so much engrossed by large and permanent marshes, as was the region lying around Sparta—their ancient capital. This system of drainage was carried on, no less with a view to farming operations, than with an eye to considerations growing out of a prudent sanitary policy. In either of these directions we find abundant motives. Thorough drainage usually accompanies thorough farming; and the highest results can be realized only when the two go together. The soil around Sparta, in its natural state, would have yielded only a stinted harvest, therefore their natural abhorence of dying by starvation, would suggest some improvement of the soil, by a system of ditching. And again they would be prompted to the same policy, by an equal abhorence of dying from malarious fevers, which duplicated the motives.

We will here make one incidental remark on the necessity of drainage, in wet lands. Moisture and heat in certain proportions are indispensable conditions to a vigorous and healthy process of vegetable production. An excess of moisture, however, is injurious, and there is a limit beyond which it is fatal to almost all field crops. Water, permanently diffused through the surface soil over large areas, bars the possibility of favorable temperature, because the presence of much water, under these specified conditions, involves rapid evaporation, which carries off the heat, and chills both the earth and the atmosphere, below the point of healthful vegetation. We will recur to this point in a future paper.

From the fact that the Greeks were skilled in drainage we make an inference favorable to the state of agriculture among them.

THOROUGH PLOWING.

History tells us that the Greeks were in the habit of plowing their lands three times before seeding, both with oxen and other draught animals. This premise authorizes a conclusion favorable to their skill in husbandry.

Thorough pulverization is a cardinal maxim with the most experienced and successful farmers. Unbroken clods are bad absorbents of fertilizing elements from the atmosphere—the chief source from which the soil derives volatile fertilizers. Therefore these clods contain a less per cent. of fertility, proportionally to their weight, than the fine soil. If one-fourth of a field be not disintegrated, whether the clods be large or small, it greatly diminishes the amount of fertilizing matter that ought to be in the field; and that small portion which the clods do obtain, is lost to the plant, because it cannot be penetrated by innumerable lateral rootlets which travel in every direction in quest of plant-food. Therefore no field is well cultivated unless it be thoroughly pulverized, and without perfect cultivation, in this sense, it is impossible to realize a maximum yield of any crop. It is unscientific (*i e*) unreasonable to expect it.

THEY USED FERTILIZERS.

On historical evidence we state, in the next place, that the Greeks appreciated the value, and were familiar with the use of various manures. Pliny informs us, that they first learned the value of manures from Augeas, one of their ancient kings, who at an early period, imported the knowledge and use of fertilizers from Egypt. They also understood the process of making various composts which were valuable for sustaining, as well as for stimulating their thin and barren soils to a greater degree of fruitfulness.

These data, we deem to be very significant in favor of an advanced state of agricultural knowledge and skill among the ancient Greeks; and especially among the Spartons. The Athenians, however, had, had various writers on agricultural science, at the head of whom stands Xenophon, the warrior and historian. This fact indicates progress.

ONE CAUSE OF DEPRESSION.

There was one feature in the social organization of Greece which, while it retarded agricultural, science and improvement, at the same time lowered the respectability of farming, as an industrial pursuit. The Helots, a part of the original inhabitants of the Grecian Peninsula, having been conquered by the Dorians, were reduced to a state of serfdom, and long held as a servile and degraded race. On these slaves mainly devolved the drudgery of cultivating the soil. Farming, therefore, as an occupation, was distasteful to the cultivated classes of the Greek nation proper; as it was supposed to contract a shade of odium from its long standing association with that degraded people, the down-trodden Helots. On this account we may suppose that the Greeks had less of pride, in rushing forward and in perfecting this department of their industry, than they might have had under other surroundings.

There is no nation known to history which has won greener laurels, or achieved greater triumphs in the arts, than the Greek nation; but these triumphs lie more on the side of the ornamental than on that of the useful. In artistic taste and skill in painting, sculpture and architectural constructiveness, the Greeks, generally, and especially the Attic branch, take the palm from the world. We have no authority, however, for saying that they were expert either in machinery or the useful mechanic arts generally.

For the actual progress which they made in agriculture, they were doubtless indebted to a hard necessity, which forced them to resort to improved modes of tillage, in order to extract their bread supplies from a barren and untractable soil, under the influences of a climate not the most favorable to the growth of cereal products.

We defer to our next paper a brief glance at the state of agriculture among the ancient Romans.

Vacaville, Jan. 25, 1871.

## FAULTS IN BUILDING.

Among the most prominent, we may enumerate these faults in planning and erecting houses:

1. Cramping a house down to the smallest possible space, so as to make more yard-room, which will never be used.
2. Making no calculations as to the size of rooms, or the location of furniture.
3. Building chimneys by guess so that one has to have a dozen lengths of useless stovepipe, or else place his stove in the most inconvenient location.
4. Arranging windows and doors so that one opens against the other, or in the very spot to be occupied by a piece of furniture, or so placing them that no fresh air can get through the house, even though the whole should be open.
5. Providing no means of ventilating rooms, save by open doors or windows; hence all impure air which is generated by breathing, cooking, fermentation, as it is rarified, raises to the top of the room and there remains to breed discomfort, disease and death.
6. Laying the floor directly upon joists—or at best, laying it with culls full of knots and shakes which are but little better than nothing, and as a consequence, the floor is always cold and uncomfortable.
7. Letting the work out, as a whole, trusting to the honesty of the contractor to do it, without having plans and specifications properly drawn, and without having any one to oversee, or criticise, or direct it.

THE growing of root crops, the feeding of stock, the collection and application of manure, are subjects of such importance that they cannot be too often brought before the attention of our farmers. Steam culture is performing wonders in Great Britain by deepening the soil and giving the roots of plants liberty to go down and extract the ingredients they require. The same object may be effected with the ordinary plow, in connection with the sub-soil plow. A sub-soil plow, following in the furrow made by the common plow and softening the sub-soil to the depth of four to six inches, will break up the hardpan and make the soil permeable for the roots of the cereals, etc.

MULBERRY PLANTATIONS INCREASING.—The Sacramento *Record* of Feb. 2d says. There were shipped from the nursery of I. N. Hoag, yesterday, 3,500 mulberry trees to Martinez, Contra Costa county. Mr. Hoag has shipped to that place, this season, 5,500 mulberry trees and 15,000 cuttings.

## FARMING IN SAN DIEGO.

[Written for the PRESS.]

GOOD AND BAD PRACTICE.

MESSRS EDITORS:—In almost every community there is found a class of "do-nothings," who either persist continuously in doing nothing or perform what they do accomplish too late to be of much service. Now there is a man in my mind who does not reside a thousand miles from the Tia Juana (pronounced Te Wana), and who occupies as good a bit of land as can be found in this part of the state, with almost every natural advantage of soil and location. This man sat with his hands folded all last summer, doing nothing toward preparing his land for the seed, and when the first rains came there was two months' work to do to get the brush and roots out of the way, before anything could be sown. In the meantime the moisture that should have been utilised had evaporated, and his grain will hardly sprout before the late rains come; then, if those are not abundant, which is hardly to be calculated upon, his crop will utterly fail.

To offset his case there is another whose whole 160 acres were ready, or nearly so, for the seed when the first rains fell. Present appearances indicate that his crop will be good; and he will in all human probability get back his last season's losses, and pay for his ranch at the rate of $5 per acre, while the individual first mentioned will be irretrievably involved and lose his ranch.

There are some people who cannot trust providence at all. They will sell the last bit of jewelry—an heir-loom, may be—to buy Mercantile Library Lottery tickets; but will not invest their time in diging out the roots and properly preparing ever so little ground, to utilize all the moisture when it does come. Such men ought to go a little hungry for the want of the grain that might have been produced.

Now, if the pretended farmers, the would be speculators and the professional drones of this county had gone to work as honest people should, instead of waiting for the Railroad or some other baloon to come along, upon which to jump and slide to fortune, without owing anything to deserve it, the occasion would not have occured to record such a depression in business in this section of the state as exists here. But to return to the plow and its earnest followers; There has been enough done here already to demonstrate that a grain crop is certain here, in some localities at least, provided it is planted upon ground properly prepared, and in season to secure the whole benefit of what rain does fall.

Now let us turn to such other products of the soil as it will pay to irrigate:—The last season has proven that grapes, after the first season, will stand a prolonged drouth, without artificial moisture. There are are also certain varieties of trees and shrubs, prodneing of value, either in timber, fibre, forage or fruit, that are adapted to nearly all localities, hereabout. There is standing upon the Mesa lands—two thousand feet above the bay—eucalyptus trees in thrifty growth, that have had no artificial moisture. But the question arises, will it not pay to irrigate? Now in comparing trees of the same age that have received some irrigation, and those that have been entirely without; the latter, eighteen months old are hardly ten feet in highth, and an inch in diameter at four feet from the ground; while specimens of the former, of the same age, are now standing in the grounds of E. W. Morse, that measure 16 feet 7 inches high, twelve inches in circumference at the ground, and eight and a half inches in circumference five feet above the ground.

Now, I think that difference will pay for the irrigation; and so with many other things, in many instances depending upon the highth the water has to be elevated, of course. But to keep within reasonable limits—say one hundred feet—there are pumps and mills here elevating water to irrigate two acres, raising the water 120 feet; pump and mill costing $200 and well, say $200 more—altogether $400 to prepare for the irrigation of two acres. In many instances the cost need not exceed one fourth of that amount. For my part, although rain is desirable as an economy; where the water is any way accessible, I prefer the artificial moisture, and if I had my choice, would live in the country with barely rain rain enough to make the grain, all other things being equal, and water artificially. everything else that requires it.

F. M. SHAW.

San Diego South, Jan. 1871.

## THE PRODUCT OF A SINGLE WEED.

A person desiring to know what would be the influence of a single weed upon the agriculture of a field or garden, selected a plant of purslane (pusley or pursley as called by some), the meanest plant, and carefully counted the number of pods. It was a large sized plant from a rich spot of ground. The number of its seed pods was 4,613. He then took fourteen of the pods—seven small ones, four medium, and three of the largest, and counted the seed in them. The result gave an average of ninety seeds to the pod. Thus in this single plant we have the enormous number of 415,170 seeds. If these were spread over a plat of ground, and should germinate, and a man should attempt to cut them with a hoe, and should average six plants at a blow, and make thirty strokes of the hoe per minute, it would take him thirty-eight hours and twenty-three minutes to cut them out. Or, if these weeds were equally disseminated at the rate of four to the square foot, they would cover two and a third acres of ground. Again, allowing that only one third of these seeds germinate, and that the product shall be only one-half as rich in seed as this one, yet they will produce the enormous number of 28,727,528,150 seed—enough to cover broad fields the third year from one seed. Do not these figures show the immense importance of cutting and destroying every weed before if goes to seed? There is no doubt that many other weeds are fully as prolific as this. It has been known in wet weather to grow and mature its seed long after it had been entirely severed from the root.—*Ex.*

## HOW TO MAKE A LAWN.

The ground should be entirely free from stagnant water. It must be trench plowed to the the depth of eighteen or twenty-four inches. A week of hot, dry weather will be sufficient to dry up the grass on a thin soil, a whole month of drought would fail to destroy the verdure. The depth, whatever it may be, should be uniform, for if it be deeper in some places than in others, the deep places will settle and make the ground uneven. Unevenness of surface is of great importance. I do not mean level, for an undulating surface is quite as desirable for a lawn as a level one, but whether level or undulating it must be free from even the smallest stones, as these interfere with the operations of the mowing machine.

Red-top is the best grass for a lawn, about fifty or sixty pounds will be sufficient if the seed be clean and and good, which it seldom is. Some people recommend white clover, say one-fourth, to be mixed with red-top, and this does very well, but I prefer the pure red-top. Early in the spring is the best time for seeding a lawn. All preparatory work should be performed in the fall, so that during winter the ground may settle, and any defects that may be developed can be corrected before sowing. In spring, at the fitting moment, give a light plowing, and good harrowing, pick off all the stones, sow the seed, and give it a good rolling, which finishes the work.—*Ex.*

TAKE ENOUGH SLEEP.—Said one of the oldest and most successful farmers in this State: "I do not care to have my men get up before five or half-past five in the morning, and if they go to bed early and sleep soundly they will do more work than if they got up at four or half-past four." We do not believe in the eight hour law, but nevertheless, are inclined to think as a general rule, we work too many hours on the farm. The best man we ever had to dig ditches seldom worked, when digging by the rod, more than nine hours a day. And it is so by chopping wood by the cord, the men who accomplish the most, work the fewest hours. They bring all their brain and muscle into exercise, and make every blow tell. A slow, plodding Dutchman may turn a grindstone or fanning mill better than an energetic Yankee, but this kind of work is now mostly done by horse-power, and the farmers need above all else, a clear head, and with all his faculties of mind and muscle light and active, and under complete control. Much, of course, depends on temperament; but as a rule, such men need sound sleep and plenty of it. Let farmers, and especially farmer's boys, have plenty to eat, nothing to "drink," and all the sleep they can take.

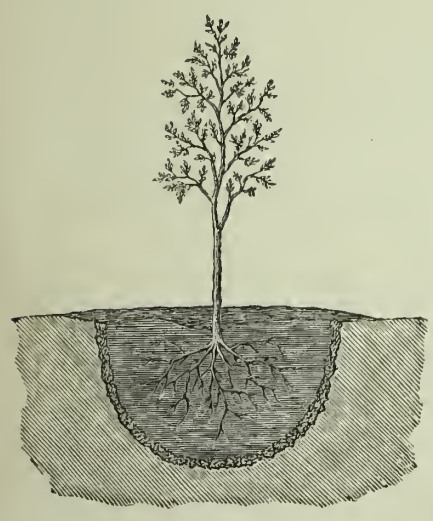
# TREE CULTURE.

## A NEW METHOD OF PLANTING TREES.

[Written for the PRESS.]

The accompanying illustration represents a tree, as set for standards, on a new principle, as adopted by myself. This method applies to those soils and localities which by long continued heat and drouth of summer become parched, hot and dry, as most of the valleys, prairies and agricultural lands of this state do; and are hence not as well adapted to the growing of trees, shrubs and vines, under the old established and common practice of transplanting. The advantages to be gained by following out this method, are at least four fold.

Moisture is retained in and around the tree, three or four times as long, under the same amount of irrigation. The land does not dry up on the surface, and downwards, and thus prevents water from entering and settling immediately around the roots; six times the quantity of water may be taken up in the same space of time, and settle directly around the roots. The heat of the earth outside the lining is checked from penetrating the earth inclosed; and hence the application of a less quantity of water will satisfy the plant.



The reader will see, by the illustration, that the tree stands in a cavity, the outer portion of which is supplied with a lining some two or three or more inches in thickness, composed of such materials as are known to be non-conductors of heat, such as decayed wood, leaves, chips, partially decomposed saw-dust, old straw from stacks, barnyard mulch, constalks, etc.

The soil should be left dishing around the tree, [rather more so than represented by our engraver,] forming a basin for water, and a thick covering of mulch, composed of straw from the manure heap, or fine chips, or something similar, should be spread over all, as shown in the engraving. Irrigating water passes through this mulch, and soon reaches all the roots by way of the non-heating conductive lining.

For common trees, holes are sunk in the earth from two to three feet in depth and the same in diameter, more or less, according to the size of the tree to be set, several pails of water should be poured into the space, where the earth is removed, before the tree is set, especially, if the soil is dry and many more soon after the work is completed. If the tree carries a heavy top it should be braced thoroughly, to prevent any motion of the roots during high winds. In hot and dry soils, the roots should be settled deep into the earth.

This system of transplanting trees, also shrubs and vines, is peculiar to myself; if others have practiced it, I know nothing of it. It is well worthy of trial by farmers, rural gardeners and horticulturists. This mode of operation secures the tree from injury by protracted drouths, and is an auxiliary in collecting moisture, and retaining it. It also operates as a cut-off to heat, and a check to high temperature.

### REMOVING TREES.

Having removed trees of several tons weight successfully (including the adhering earth); I will first call the reader's attention to this branch of work. If less carelessness and more time was spent in lifting trees from their natural beds, holding more or less earth at the junction of the roots and the saving of the small slender roots, the filaments or "feeders" to which the tree owes its life, there would be less complaint of the ill-success in tree setting the first and second year after planting.

When you commence to raise the tree, set the spade in, always keeping the edge towards the body of the tree and some distance from it. Sink well under the roots, all around, drawing the body downwards gradually and carefully loosening the branch and brace roots; amputate the tap root, saving as much earth as you please at the junction of the roots. If it be necessary to remove all the earth, heel in the trees as soon as possible, where they may remain till the time of packing or re-setting. If a portion of original earth is remaining on the tree, the growth is accelerated without stint the first season. It is better to do this work in cloudy and moist days. Thus treated the tree or shrub feels no injury in growth and fruiting if the remaining directions are carried out.

The rays from sunlight, and drying winds and frosts are injurious to the extent of exposure. The alburnum or sap wood and pitch of the evergreen, dries and thickens in the ratio of atmospheric exposure, and can never return again to its natural condition, or move by capillary attraction as required to sustain a healthy action. Therefore it is good and indispensable policy to avoid the exposure of its roots to either frost or heat. The best or a good time to remove these and all kinds of trees is as soon as the sap starts and the buds begin to swell, selecting, if possible, cloudy days.

### PRUNING.

All trees and shrubs should be properly trimmed before, or soon after resetting, by loping off superfluous branches and heading in the main branches and limbs; thus accelerating the growth and improving the fruit.

### TREES SHOULD BE FIRMLY SET.

The tree that springs up from its natural bed, grapples the earth with its numerous roots and filaments, quite tenaciously. Its strong hold sustains the towering oak for ages. Powerful winds and tempests are met with cool defiance. These facts should teach the gardner a lesson that is often overlooked,—transplanting a tree with a heavy top, to secure the body from swaying to and fro; for while the tree is struggling to gain a foot hold, the top swaying this way and that, makes a draft upon its roots with the fulcrum at its base, so that the roots are in motion as well as the branches. It is necessary that they should remain quietly fixed in their new bed. This may be accomplished by bracing the trunk at the time of setting out. By attending to this requisite we have removed trees, the trunks of which would reach a span of nearly three feet, with satisfactory results.

### MY SYSTEM OF TRANSPLANTING

may be practiced in any country or climate with success; but it is more especially useful in the hot and dry valleys and foot hills of California, where the tree and vine demands additional moisture, and a check, or cut-off, to the superabundance of heated earth.

This check is furnished by the lining described, which forms a barrier from without, and when the roots of the tree are thoroughly irrigated, moisture will continue for a period equal to five times the duration for which it would be retained where trees are planted out under the common method.

SOLOMON W. JEWETT.

Rio Brano Ranch, Kern Co., Jan. 1871.

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COTTON LANDS WANTED.—A gentleman from the Mississippi is in correspondence with Maj. Means, of Stockton, with regard to securing a large tract of land in this state, with the view of transplanting thither a colony of cotton planters; 30,000 or 40,000 acres are wanted.

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CALIFORNIA WINES FOR CHINA.—Mr. Bigbey shipped by the last China steamer 23 cases of his wines to Shanghai.

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LARGE YIELD OF CORN.—A farmer on the Bolsas Rancho, in the Stearns Grant, near Los Angeles, is said to have raised the past season 700 bushels of corn on five acres of land, or at the rate of 140 bushels to the acre!

## THE SAN JOSE BEET SUGAR ENTERPRISE.

EDITORS PRESS:—As much interest is felt among the people as to what has been and is being done in the Beet Sugar business, in San Jose. I will give such information as I have obtained from a short interview with the Secretary, Mr. Tyler Beach.

The capital stock is divided into 2,000 shares of $100.00 each, and amounts to $200,000. $40,000 of the stock has already been subscribed, and outside parties stand ready to take the remaining full amount; but it is the expressed desire of the company to obtain the balance of controlling interest among home subscribers.

The company feels the fullest confidence in succeeding in the business, and is in earnest in every respect. They have not yet purchased the necessary lands, nor decided where they will establish the factory; but is figuring for something favorable. To rush up a mill at once they regard as poor policy. Able, active, yet cautious men have the management now, and they will bring matters to a focus in due time.

As it is now too late to obtain the necessary seed for this season's crop of beets, they will only sow what will produce enough for seed for the crop of 1872. The company has for this purpose already secured some 200 lbs. which Mr. J. Q. A. Ballou and Mr. Settle, two shareholders, will cultivate on their lands. They will also distribute among interested parties such packages of different varieties of sugar beet seed, as may be desired to experiment with.

This appears to be an excellent idea. Not only can the best soils, the best time for planting, and systems of cultivation, and the best sorts be ascertained, but the farmers can also come to some determination as to the price at which they can afford to raise beets; while the company gain much practical and valuable information. It is better to make haste slowly, than to recklessly plunge into desperate chances.

Before purchasing machinery or building a mill, the company desire to examine the various methods of sugar making. They think of sending a gentleman to Europe to investigate the various processes and mechanical devices now employed there and to decide upon the most desirable and economical for practical working.

The company has standing offers of lands, etc., which are desirable; but they prefer taking a little more time, as it appears to be advantageous for them to do so.

S. H. HERRING.

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## ORNAMENTAL AGRICULTURAL GROUNDS.

EDITORS PRESS:—I am informed by Mr. Tyler Beach that the Santa Clara County Agricultural Society are improving their fine Fair Grounds by setting out some lines of shade and ornamental trees through the park.

The grounds belonging to the society lay on the south side of the famous Alameda, about half way between San Jose and Santa Clara. The Alameda, by the way, is one of the finest drives in the state, and is lined on each side with grand old willows, near a hundred years old, that were planted by the old mission fathers. These, in some places, meet over head and form a complete shade to the street, which sweeps on in a great curve through the midst of villas and fields and gardens.

The agricultural grounds consist of 76 acres of level land, inclosed with a high, tight board fence. The race track, cattle sheds, exhibition grounds, etc., are here conveniently arranged. And now the place is to be beautified with sheltering evergreens and shady forest trees. Mr. John Rock, nurseryman, has the contract for planting over 400 trees, which are to be arranged in rows. In front of the cattle sheds two rows will be planted; one, within 20 feet of the front, of locust and blue gum trees; the other, 30 feet further, will consist of sycamores, South Carolina poplars, and Monterey cypress.

Along the carriage way, leading from the main entrance to the main stand, four rows will be planted. The central drive way will be 70 feet and the side walks 18 feet wide. The trees will be planted 20 feet apart in the rows, and will comprise locusts, poplars, eucalyptus and cypress trees, interspersed with evergreens and deciduous trees.

We regard this move as highly commendable. It shows a true spirit of improvement that must meet the approval of every farmer. Our agricultural societies, generally, should be better supported, and be better worth supporting. A study into the "ways and means" of conducting fairs, during my visit to several, the past season, has convinced me that there is a great need of better general management; and of greater general and individual interest on the part of our producers. To our mind nothing speaks better for the industrial condition of a community than a successful exhibition of industrial productions and of industrial progress. There is too much attention given to the horse-racing department, to the disgust of a large class of visitors and all who have at heart the real advance of our agricultural interests.

The race-horse must be fed in stalls, while the sheep are unsheltered, and merely tolerated for policy's sake. This is no insinuation; it is a fact, and if something better is not produced at our next year's exhibitions than the miserable pens exposed to the stifling dust of lordly steeds, the exhibit of sheep will not be very alarming. But I would rather see something to approve than to reprove, and hope and expect to see such an interest taken on every hand as will lead to, and encourage a reform in the matters complained of.

S. H. HERRING.

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SILK CULTURE IN NAPA.—A correspondent writing from St. Helena, says: "The farmers in this vicinity are really going into the silk business in good earnest. Scarcely a day passes that the cars do not bring down from Hoag's nursery, near Sacramento, more or less Mulberry trees. P. H. Lumner first received for himself and Mr. Clark 2,000, which they are planting out on their farms. J. McFailin is planting 500, D. Cole 500, and Dr. A. Hess 1,000, Mr. E. M. York, a tree dealer here, received 800 the other day—ordered for some of his neighbors. By trimming the tree they all furnish more or less cuttings, which are also carefully planted. The locality here is believed to be very favorable for the business. Many others are also preparing to set out plantations before the season closes. The old system of sowing the entire land with wheat and barley is giving way to a more rational plan of diversified agriculture. Wine, silk and wool are soon to be among the foremost products of this beautiful valley."

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TO DESTROY GOPHERS, ETC.—A subscriber of the PRESS, from Alameda county, suggests the following method of poisoning squirrels and gophers:—Take common molasses and boil it; when boiling, mix coarse flour with it until a thick paste is formed; after letting it partially cool, mix phosphorus and stir it rapidly. Wheat can then be coated with it, and strewn out on the fields or anywhere else, as there is no danger of setting fields or buildings on fire. The phosphorus gets thoroughly mixed and forms no lumps. This paste can be kept for a very long time without spoiling. Our informant considers it a very effective way of destroying these animals.

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A GOOD ACCOMMODATION.—The C. P. R. R. has lately attached a sleeping car to the freight trains between Sacramento and San Francisco, leaving each place in the evening. Passengers report it very satisfactory as they lose no time and arrive fresh for business or pleasure.

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HEAVY FARMING.—Salm. Brannan, having just finished seeding some five hundred acres of land in the vicinity of Calistoga, has transferred his working forces to his Yuba river ranch, consisting of twenty-five laborers, forty horses and three wagon-loads of plows, harrows, etc. He intends planting a large area of land along the Yuba this Spring.

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THE State Agricultural Society has offered a premium of $25 for the best one-quarter acre of sugar beets.

# California Agriculture.

## REPORT OF THE STATE BOARD OF AGRICULTURE FOR 1870.

[Concluded from page 57.]

### Sheep Husbandry.

This is another industry well adapted to our climate, and one that has proved very successful and profitable here. The seasons are so mild and favorable that the increase is very rapid, and the ranges have been generally so good heretofore that flocks have not required any additional food. The wool has, as a general thing, considerably more than paid all expenses of keeping, herding and shearing the flocks, while the increase of sheep, with good care, has averaged at least 75 per cent. per annum. Those who ten years ago started in the business with a few hundred head of sheep and have remained in it, can now count their flocks by the thousands and tens of thousands. Of late years, however, a considerable difficulty has been experienced by the owners of large flocks to secure sufficient pasture for them. The ranges have been curtailed by the appropriation of the public lands for other agricultural purposes, and owners of sheep are finding it necessary to seek other ranges or buy the land required to support their flocks. Without some precaution or provision for an unfavorable season like that of 1863 and 1864, or the forepart of the present winter, the owners of large flocks are most certain to meet with heavy losses whenever such seasons occur. Again, by allowing the condition of the sheep to become low, the staple of the wool clip of the succeeding shearing is materially injured. These circumstances point to the necessity of adopting a different system of sheep husbandry. We would suggest the seeding down portions, at least, of ranges, to alfalfa. Some of which might be used for pasture during the season when the natural grasses are the poorest, and portions for cutting hay to be used when it may become necessary. We would here also repeat our former recommendations—that the farmers of the State enter upon the practice of keeping small flocks of sheep on their farms in connection with their cows, hogs and other farm stock. Thus they will diversify and increase the industries and multiply the sources upon which they depend for the receipts and profits of the farm. They may also in this way provide a ready supply of meats for their families at all times without even feeling the cost. A few acres of Chile clover set aside as a general stock pasture and a stack of wheat straw will be about all the provisions necessary to keep up a respectable supply of the live stock for the farm.

### Wool.

While, for want of reliable information on the subject, we are unable to state the number of sheep in the State, or the increase from year to year, we are able, from commercial reports to give the annual wool clip, and thus indirectly show the rapid increase of our flocks. During the five years commencing in 1863 and ending with 1868 the average annual increase of our wool clip was 1,591,342 pounds. The clip of 1868 was 14,232,057 pounds, while that of 1869 was 15,413,970 pounds, showing an increase in that year of only 522,600 pounds. This falling off in increase was attributable to scarcity of food on the ranges and consequent poor condition of the sheep. The clip of 1870 shows a larger increase than on any previous year, the clip of the latter year being 21,872,660 pounds. The value of the wool exported in the last three years is, respectively, $2,436,594, $2,370,165 and $3,655,000. It will be seen that the value of wool exported in 1870 approximates to one-half of the value of wheat exported in the same year. It is stated by those best able to judge in the premises that very fine blooded flocks deteriorate rapidly in this State, and that very fine wooled sheep are consequently not so well suited to our dry climate as those of medium grades. In view of these facts it is suggested that an infusion of blood of long-wooled sheep would be an improvement to most of the flocks of the State.

### Cotton.

Experiments in the cultivation of cotton have been successfully made on a small scale in all the valley portions of our State. In 1864 several parties, stimulated by the premiums offered by the Legislature, planted in some of the southern counties as high as a hundred acres each. They all labored under the disadvantages of want of experience and skill in the business, and want of good seed of the varieties adapted to our soil and climate, besides many other adverse circumstances that always attend the introduction of new industries into new countries on a large scale without proper previous preparation. The results of these large experiments were more than could have been expected under the circumstances.

The crops from the seed of the varieties known as the Petit gulf and Tennessee upland, were more than an average of crops from the same variety grown in the southern States. The quality was pronounced by experienced judges good.

Owing to the difficulties of securing, preparing and marketing the cotton, and there being no longer any hope of encouragement by the State, the cultivation was abandoned. Experiments have been made in the Merced valley during the past season, however, by a gentleman of great experience in cotton culture in the Mississippi valley, which prove to his entire satisfaction that nearly all of our great river bottoms are peculiarly adapted to the successful and profitable prosecution of this industry. The average yield of cotton per acre in the Mississippi river bottoms is 200 pounds, while by the experiment referred to 500 pounds was produced per acre. The product was sent for examination to the Board of Cotton Brokers of Memphis, Tennessee, and was by them pronounced equal to the best "Middling Upland" of the South, the staple being finer. It has been generally the received opinion in the South that a good supply of Summer rains was indispensable to the successful production of cotton, but the experiments made here have proved the fallacy of this theory and seem to point to its opposite as more correct, that cotton produced without summer rains is superior.

The Petit Gulf seed, and varieties derived from it are recommended for planting in this country.

Quite a large breadth of land in the Merced valley will be planted to cotton the coming spring, and we indulge strong hopes of its satisfactory success. Its general cultivation would be of great value to the State, both to agricultural and manufacturing industries. It would furnish employment to labor during those portions of the year when such employment is now most difficult to obtain. Until our industries are so diversified and multiplied as to give labor employment the year round, California can never come up to a proper maximum of prosperity.

### Ramie.

This textile plant has been experimentally cultivated by a few individuals in the State during the past year. The result seems to be satisfactory as to its adaptability to our soil and climate. The great obstacle to the general cultivation of this most valuable fiber has been the want of proper machinery to separate and prepare it for manufacture. When this machinery shall be introduced, we have no doubt its cultivation will become a valuable acquisition to California.

### Forest Culture.

In our report to the Legislature a year since, we gave this subject a full and careful consideration. In view of the rapid consumption and destruction of timber on this coast, and the natural climatic influences operating against the reproduction of natural forests, we deem it of the utmost importance that artificial forest culture shall be fostered and encouraged in every possible manner. We believe that as a strictly financial operation the cultivation of forests for timber, lumber and wood in this State may be made eminently successful.

For the purpose of calling the attention of our land-owners to this subject, the Board last spring offered $50 for the largest quantity of useful forest trees planted during the year.

We have now three claimants for this premium, E. F. Aiken and Thomas Edwards, of Sacramento county, and James T. Stratton of Alameda county. Aiken states that he has planted of Lombardy poplar and Balm of Gilead, 5,000; multicaulis, 7,500; morus alba, 2,500; California black walnut, 10,000; American white maple, 4,000; American white elm, 5,000; English elm, 2,000; Spanish chestnut, 400; American chestnut, 500. He remarks: The last five varieties were imported from the Atlantic States at considerable expense and planted in March last, and have done so well that I have ordered several thousand to set out the coming season. The elm and maple have grown from four to seven feet this season.

Edwards proves that he has 7,000 locust trees, half one and half two years old since they were planted out in the form of a forest, being some four years old from the seed. They are planted in rows alternatively eight and ten feet apart, and four feet apart in the rows. Edwards' trees are doing well. He estimates the probable expense of care and cultivation at about $10 per year, and remarks that in ten years he expects to have fence posts enough to fence all his own land and some to spare for his neighbors.

Stratton proves that he has planted out on 53½ acres of land 30,000 blue gum (or eucalyptus globulus) trees and 3,000 red gum trees. His trees were planted in forest form during the last planting season, and were in August last on an average 4½ feet high. They are planted eight feet apart each way. They were grown from seed gathered in December, 1868, from trees belonging to Stratton then seven years old. Stratton estimates the cost at about $150 per acre before any revenue will have been derived from them, which he thinks will probably be in about seven years. The eucalyptus is a native of Australia, where it is considered a very valuable forest tree, being used extensively for piling, flooring and other purposes. Thus it will be seen that we have made a beginning in the cultivation of Artificial Forests.

### Improvements in Stock.

The annual exhibition of stock, both horses and cattle, at the State Society Fair the past few years have shown most conclusively that California is not surpassed by any other portion of the world as a stock growing country. The appearance on the Fair grounds at the last exhibition for the first time of many superior specimens of imported thoroughbred horses, cattle and sheep indicates that our people fully appreciate the advantages to be secured by the introduction of the best breeds of animals. The improvement indicated in our California bred colts over their dams and sires and creditable performances on the track speak well for the judgment and intelligence of our stock breeders and give promise that California may at no distant day present the best turf record of the world.

### General Condition of the State.

It was generally anticipated that the completion of the Pacific Railroad would bring to our shores a large immigration from the eastern states, introduce among us a large additional circulating capital, and consequently give a general impulse to business on this coast. For reasons now generally understood and much to be regretted, these anticipations have not been realized to the extent expected. On the contrary, our merchants, manufacturers, mechanics and many classes of our agriculturists found themselves, by this event, brought face to face in sharp competition with the merchants, manufacturers, mechanics and agriculturists of the eastern states, not only in the general commerce of the world, but in supplying thousands of necessary articles of consumption, wear and use to the people of the States and territories of the Pacific slope. Our eastern competitors had the advantage of us in many respects. Their habits of living were more frugal and economical; their modes of business more close and careful. Their products had been made by cheaper labor. They were satisfied with less profits. While the money with which all their business operations were carried and sustained was rated at an interest of but six and seven per cent. per annum, and that with which we were operating was rated at from 12 to 15 per cent. With such odds against us it could not be otherwise than that all our industries would feel the effects of the contest. They did feel it. General disappointment at the turn things had taken ensued, and general depression of all kinds of business was the consequence. The natural resources of the State are too great and valuable to lie dormant. The determination, perseverance and energy of our people cannot be conquered, and we now see on all sides evident indications of change for the better. Greater prudence and economy in life and business is the order of the day. Large tracts of land, heretofore held at extravagant speculative prices, are being broken up into small farms and sold for agricultural purposes at reasonable rates. A greater variety and diversity of agricultural and mechanical industries are being introduced. A healthy commerce is growing up between the Pacific and Atlantic States to the mutual advantage of all. The surplus capital of foreign countries is feeling and preparing its way for safe and permanent investment among us, and promises to reduce to reasonable rates the interest on money. Rents and labor are moderating their demands in accord with the general changes of the times, and the Board feel warranted in congratulating the people of the State upon the flattering prospects of substantial progress and improvement in the immediate future.

### Permanent Improvements.

During the past year the Board have made many valuable improvements and additions to the Society's property. In connection with the county, which has always manifested the most enlightened liberality toward the Society, an addition has been made to the pavilion, which has increased the capacity of the building for exhibition purposes one-half. Other improvements of an important and permanent character have also been made to the building. At the park, all the stalls have been raised and furnished with permanent roofs and doors. Over the different gateways other than the main entrance and exit gates, have been constructed comfortable sleeping apartments for the accommodation of grooms and others having the care of valuable stock during the Fairs. Also, new and appropriate judges', reporters' and visitors' stands have been erected, and other valuable and necessary improvements of a permanent character made. The expense to the Society for these improvements has been the sum of $6,000.

### Purchase of Real Estate.

The northern half of the inclosed grounds used by the Society has heretofore belonged to an association known as the Union Park Association. The original cost of the property to the Association was $7,200, divided into seventy-two shares of $100 each. By an understanding at the organization of the Association, the Society were to have the free use of the ground for purposes of the Fair for an indefinite time, but the rents went to the Association. The Society have purchased fifty-two shares of the property at the original cost, or $5,600, and will, probably, be able to obtain the remaining sixteen shares at the same rate. The south half of the Park grounds are held by the Society under a lease of ninety-nine years, at a nominal rent. The whole Park has been rented for the ensuing year for $——. The lessee, at his own expense, to put the whole place in condition for the Society's Fair.

FINANCES OF THE SOCIETY.

| | | |
|---|---|---|
| Balance in treasury Jan 30, 1870 | | $61.84 |
| Unexpended appropriations | | 2,838.00 |
| Total receipts for the year | | 33,932.60 |
| Cash assets for the year | | $36,879.44 |
| CONTRA. | | |
| Incidental expenses | $28,428.68 | |
| Permanent improvements | 6,000.00 | |
| Paid for real estate | 5,600.00 | |
| Total expenditures | | $40,028.68 |
| Deficit in treasury | | $3,149.24 |

The State owes the Society a balance of undrawn appropriations for the year, which will soon be paid, of $3,000. This will reduce the deficit in the treasury or the debt of the Society to $149.24.

### The Fair for 1871.

The Board propose, with the assistance of the people of the State, to make this Fair a real exposition of all the industries of the State. To this end, a new and comprehensive premium list will be prepared and published at once, embracing the products of every industry on the coast, and offering liberal premiums for their exhibition. By personal correspondence, circulars and an extensive distribution of premium lists, we propose to reach the representatives of every industry on the coast, and endeavor to wake up in them a renewed and earnest interest in their development, and in the general exhibition of samples of their products at the coming Fair. We propose also to secure the service of a reliable and competent person to visit in behalf of, and as a representative of the Board every important locality in the State, for the double purpose of enlisting the active co-operation of all the people in behalf of the efforts of the Society, and collecting valuable facts and statistics of our industries and resources for publication and general distribution at home and abroad. In the furtherance of these objects we shall endeavor to establish a perfect good understanding between the State Society and each of the District and County Societies now organized in regard to the times of the exhibitions of each, and to form some general plan by which each of such societies may be represented by the products of the industries embraced in their district at the general exhibition of the State Society. To secure the success of this plan we hope to induce the organization of industrial societies embracing every county in the State. With such a system of societies, organized for such purposes and directed with an honest purpose for their accomplishment, it is believed that the labor, skill and capital of our people can be rendered much more productive,

and the resources of our State much more rapidly, thoroughly and satisfactorily developed. Towards the accomplishment of the objects and plans of the Board the earnest co-operation of the entire people of the State is most respectfully and cordially solicited.

January 27th, 1871.

CHARLES F. REED, President.

ROBERT BECK, Secretary.

## Mount Rainier Firing Up.

Many of our readers will remember that, in the graphic account published by us of the ascent of Mount Rainier, by Messrs. Stevens and Van Trump, in August last, it was stated that they slept near the summit on a sheltered spot which was warmed by the fires of a nearly extinct crater, and they saw steam issuing from the crevices in the rocks. However incredulous others may have been of the existence of smouldering fires in the mountain, these gentlemen saw enough to remove any doubt foom their minds.

Since winter set in, with its rains on the plains and its snows on the mountains, people living within daily view of Mount Rainer have observed strange and unusual sights on its rugged sides. One day it is seen covered, apparently at great depth, with snow from the summit to the base; the next day not a vestige of snow is visible. And so it is alternately white and gray from day to day; while some persons allege that they can plainly see smoke and steam ascend from the mountain. None who have witnessed these sights doubt the existence of fires in the mountain, to the heat of which they attribute the rapid disappearance of the snows. In support of this belief it is further stated that the rivers and streams in the vicinity, the Puyallup among others, have for some weeks been much higher than usual.

From all the signs it would appear that old Rainier is firing up for a grand pyrotechnic display. In former years, at this season, the mountain was clad in snow from the foothills to the summit, without a rent appearing in the raiment for months together. Only in summer, under the rays of a warm sun, was the snow partially melted, exposing small portions of its naked sides to the beholder. Should the fires continue to increase in intensity, it cannot be long before they will break through the crust which now confines them, and issue forth in flames and ashes and molten lava. What a grand spectacle that will be! If this exhibition comes off according to promise, we shall have another attraction to add to the many which now inspire with awe and wonder the tourist who comes to see sights in Washington Territory.—*Olympia Tribune.*

## July 4, 1876.

Hon. John Bigelow has written a letter with regard to taking steps for an appropriate celebration of the 100th anniversary of the Declaration of Independence. He proposes that preparations should be commenced at once, that we may be able to give an adequate expression of our patriotism. The celebration should be national and universal, and the participation of foreign countries might be invited to some extent. As a commencement he makes several suggestions: The completion of the Washington Monument, of the Capitol buildings, and, as far as possible, of projected railway, telegraphic and other public works throughout the country; the restoration of the gold standard of values; reduction of the national indebtedness; making geological surveys in states which ye lack them; taking an extra Federal census in 1875. These may or may not be associated with the celebration.

He also proposes for consideration several ways of celebrating the day: coining a complete set of gold or silver current coins with appropriate devices; a poem from an eminent poet; memorials from every art, showing the degree of excellence attained therein; inviting foreign nations to participate; an American Congress for settling many grave international questions; preparation of a series of histories by which to measure the product and progress of civilization in the U. S. for the expiring century; founding a national museum.

The suggestions are worthy of consideration. Some may appear at first a little visionary, but then there is no limit to possibilities, apparently, in our country. The idea is certainly excellent of commencing immediately to prepare for a proper celebration of the most memorable anniversary in our history.

# POPULAR LECTURES.

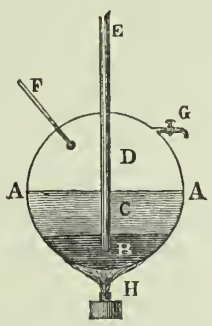
## Vaporization and Elastic Force of Steam.

[Prof. JOHN LECONTE before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

### Steam Under Pressure.

LECT. IV. Feb. 4. I have before treated, said the lecturer, of the laws of the elastic force of vapor below the boiling point, and of boiling under the ordinary pressure of the atmosphere. I have now to speak of the laws under pressure greater than that of the atmosphere. When a liquid is converted into vapor, its volume is very greatly increased. For instance, one cubic foot of water has a volume of 1,698 cubic feet when converted into steam. This occurs under the ordinary pressure of the atmosphere; and, with this condition, steam (not in contact with water), or any vapor, if subjected to further increase of heat, takes a corresponding increase of volume.

If, however, we heat the vapor in the presence of the liquid, which we can do by heating it in a closed vessel, the elastic force increases more rapidly than does the temperature. This has two causes:—the vapor grows hot and strives to increase in volume, and fresh vapor is continually formed. Now this matter is very closely associated with the practical use of steam, and therefore is very important from a practical




point of view. So important is it that governments have engaged scientific men to investigate the matter, and have provided means for more extended research than would be possible for private parties, in order to ascertain the relations of increase of temperature and elastic force (or pressure) of vapors.

The first extensive and accurate experiments were commenced by Arago and Dulong, in 1829, at the instance of the French Academy. These were for the purpose of finding the elastic force of steam up to the highest pressure which can occur in practical life. They used an apparatus somewhat like this which we have here [and which is shown, in vertical section, in the accompanying cut].

### Experiments.

We have here a closed vessel, A, of metal, in the lower part of which is placed mercury, B, and above this is water, C. On heating this by a lamp or fire below, at H, steam is formed, at D, which presses on the water and, through this, on the mercury. If we insert the bulb of a thermometer, F, into the steam, we can determine the temperature at all times, and if we insert into the vessel a glass tube, E, whose lower, open end extends into the mercury, we can also determine the pressure of the steam by the hight to which the mercury will be forced to rise in this tube. G is a stop-cock or safety-valve, for allowing the escape of steam when the pressure gets too great for safety.

The inherent trouble in this experiment is, that the temperature and pressure both alter each minute, and consequently it is difficult to make exact observations. On this account, and to remedy one or two other errors, Regnault commenced, in 1841, a series of experiments which are still continued, unless the present war has put a stop to them. His work was done with the very greatest skill and accuracy. Arago and Dulong carried their researches up to a pressure of 24, and Regnault up to a pressure of 27 atmospheres, beyond which we cannot go in practice without great danger.

These experiments give the relation of pressure and temperature. [The lecturer showed tables found by experiment.] Above these pressures, we can only reckon by formulæ deduced from the results obtained below them; but no formulæ (although we have over 50) can be said to be exact.

The tables show why it is so dangerous to use steam at very high pressures. The danger arises not so much from the mere extent of the pressure, for we can make our vessels very strong, as from the fact that a slight variation of the temperature (which always varies in practice) at these high points causes a very great *variation* in the pressure.

As a vapor must have the same elastic force in all spaces which connect with one another, and as this force cannot be so great in the colder places as in the warmer, if we connect a number of vessels, filled with vapor, but some colder than the others, we find that the vapor in all takes the elastic force of the colder vessels. Watt's condenser is constructed on this principle.

### The Most Economical Boiling Point.

We have seen that by increasing or decreasing the pressure on a liquid we can make it boil at almost any desired point. The question is then natural: Is it more economical to generate steam in practice at a high or at a low temperature? Watt was perhaps the first to investigate this subject, and he concluded that it made no difference. He found by experiment, if the boiling point is 100°, to heat one cubic foot of water from 32° to this point takes (100—32=) 68° of (sensible) heat, and to evaporate it takes 1062° of (latent) heat; total required to heat and evaporate, 68+1062=1130°. To heat from 32° to 212° and evaporate, takes 180° sensible heat and 950° latent heat; total, 180+950=1130°. To heat from 32° to 250° and evaporate takes 218° sensible heat, 912° latent heat; total, 218+912=1130°. The sensible heat is the heat required to raise the water to the point desired, the latent heat is the heat required to change a certain amount of fluid into vapor. We have seen that, no matter how much heat you apply to water (in the air), you cannot get the thermometer to rise above the boiling point. This excess of heat is not lost, but is absorbed by the water in changing into steam, and is called *latent*, because it disappears for the sense of feeling or the thermometer. [That heat is absorbed when a fluid evaporates can easily be made perceptible to the senses. If a person pours a little alcohol or other volatile liquid on the hand, he finds that the hand feels cold, for from it has been taken the warmth necessary to vaporize the liquid.]

Southern, a Scotchman, experimented and concluded that the latent heat was the same for all temperatures. Regnault's most careful observations show that both Watt and Southern were wrong, but that Watt was nearer the truth than Southern—was not very far out of the way in fact.

Persons acting on the idea that they could economize fuel by lowering the boiling point, introduced vacuum pans into sugar manufacture. They, of course, effected no economy of fuel; but, it may be remarked, they found an unexpected gain,—an increased production of sugar, because a smaller amount is changed into molasses.

### Uses of Steam—A "Horse Power."

The uses of steam are two-fold: as a heating agent and as a mechanical agent. As a heating agent it is very valuable, because it can be so easily forced to any desired point, and because it has so large an amount of latent heat which it can be easily made to give up (by condensation) wherever it is required. As a mechanical agent its value is well known to all; it can be made to exert its tremendous elastic force one moment and then to stop, and thus can easily be utilized to performwork.

We often hear it stated by practical engine constructors that the evaporation of one cubic foot of water per hour is equal to one horse power; that, for instance, a 100-horse power engine should be constructed so as to evaporate 100 cubic feet of water per hour. We can calculate this as follows:

Suppose we had a very long tube, placed vertically and one foot square. At the bottom we put a cubic foot of water. There is a pressure on this water,—the pressure of the atmosphere, which is equal to 14.69 lbs. per square inch. Therefore the pressure on the surface of the water (1 square foot) is equal to 14.69 × 144 or 2,116 lbs.

Now if we change this water into steam, it will take up a space, as before said, of 1,698 cubic feet. But to do this it will have to raise this column of air, which weighs 2,116 lbs., up 1,698 feet. This requires a pressure of 2,116 × 1,698 or 3,589,200 foot pounds. We call a horse power equal to 1,980,000 foot pounds. Therefore the force of our steam equals 3,589,200 ÷ 1,980,000 or 1.81 horse power. But in practice we get only about six-tenths of the theoretical amount of work, and 1·81 × 0.6 = 1.08 horse power, which is quite near the amount stated.

### The Most Economical Liquid—Distillation—Heat.

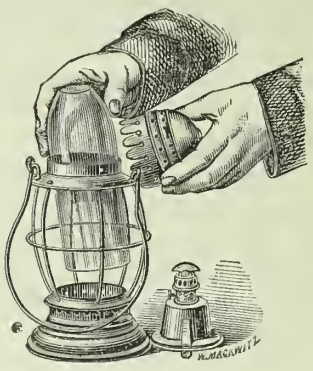
If we experiment with liquids, we find that many of them require less heat to evaporate a given amount than is the case with water. Would it, then, be not more economical to use them than it would to employ steam? Now the economy varies not only (inversely) as the total (sensible and latent) heat, but also directly as the *volume of vapor* generated. With many of these the volume is less, and when we consider that water is exceedingly cheap, we find that probably no other liquid will be substituted for it in practice, especially as many other substances exert a chemical action on the vessels which are used.

The process of distillation consists merely of successive vaporizations and subsequent condensations of a liquid. The object of distillation are: 1. To separate liquids from the solid mechanically mixed with them, as to purify water from dirt. 2. To separate liquids from (non-volatile) salts. 3. To separate liquids of unequal degrees of volatility, as alcohol and water. In this last case, several distillations are necessary, some water but more alcohol going over each time. We can thus get our alcohol nearly pure, with only 5 per cent. of water, but to get it absolutely pure is impossible by distillation. For this we must resort to chemistry.

Two hypotheses have been brought forward to explain the phenomena of heat. The older one was that heat was a substance in bodies, a fluid surrounding the molecules. But to account for the heat generated by friction puzzled the upholders of the theory. Count Rumford made water boil by boring out a cannon immersed in the liquid, and Sir Humphrey Davy melted two pieces of ice, by rubbing them together, in a vacuum at a temperature below the freezing point. The later theory, which is far more satisfactory, regards heat as the motion of the particles or atoms of bodies. When, according to this theory, we rub two bodies together, the motion of the mass is retarded, but motion is imparted to the molecules, and thus heat is generated. This hypothesis seems to explain all other phenomena of heat.

## The "Novelty" Lantern.

The accompanying illustration shows sufficiently well the construction of a claimant for popular favor. It is so simple that a detailed description is not necessary. But the shape of the chimney may be remarked on. Instead of a round or pear-shaped globe, an ordinary straight lamp-chimney is used, which can be procured at



any country store for about fifteen cents. This is one of the great advantages of this contrivance which will be easily appreciated; for while the breakage of the glass renders the common lantern useless, this is not the case with the "novelty." The chimney is secured against all ordinary accidents, and can easily be replaced should it happen to get broken.

The lantern is said to give an excellent light, not to smoke the chimney, and to be particularly good in respect to not getting out of order. It answers the purpose of a house lamp or an out-door lantern, not being affected by wind or motion. A patent has been granted for it to Mr. A. Withmar, of St. Louis. Any enquiries with regard to it may be addressed to A. Withmar or to the Withmar Glass and Queensware Co., 113 North Main street, St. Louis, Mo.

STARTING NEWSPAPERS.—One peculiarity of our American people, and an encouraging one, is the eagerness which they show for starting a newspaper at a new place. The rapid growth of new settlements once astonished the outside world, but people have become accustomed to it now. But this feature of commencing a paper as soon as a town is founded, is now getting to be a common one, and to it we are indebted for the diffusion of a wide-spread intelligence among the inhabitants of our country. The excellent character and ability of many of the journals is really surprising; a "country paper" is by no means of necessity a dull, stupid sheet, but in our interior exchanges we often find matter which excels much in our "enterprising" city journals. We see it stated, by the way, that Kalama, a town just founded on the Columbia River by the Northern Pacific Railroad, is to have its paper. This is coming pretty near to reading before one is fairly born. The phenomenon can hardly be witnessed outside of the United States.

COAL MINE MONOPOLY.—The *Bulletin* states that it has ample evidence of the operations of certain capitalists here to secure a monopoly of the coal mines of the Pacific Coast. The Mount Diablo, the Bellingham Bay and all but the chief coal mine at Coos Bay are now within the control of these parties. The paper gives items with regard to their failure to secure the last-named mine.

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**Take Your Choice.**—Since its first issue we have sent this paper to the subscribers of the farming edition, of the SCIENTIFIC PRESS. If we have thus transferred the names of any who prefer the SCIENTIFIC PRESS, we will return their names to the list for that paper, and send back numbers, if notified in season.

SAN FRANCISCO:

Saturday, February 11, 1871.

## OUR WEEKLY CROP.

Our new short-horn cattle are getting along finely, and 'Dairymaid" has taken upon herself to stand at the entrance of our farm to greet our visitors, while she apparently turns away in displeasure from the sheep engaged in a Novel Farming operation. We leave her to her meditations, sweetened in hope by the Crop Prospects, and look over our library of Mechanical and Scientific Progress in order to keep up with the times. We read notes of Travel in Stanislaus County, take a glance at Chicago, and, perchance, try a hand at filing Saws. Then we listen to Dr. Thomas who dwells, in an interesting manner, on Ancient Agriculture, glance through the powerful telescope of the PRESS, at Farming operations in San Diego, and calculate the enormous possible Product of a single Weed.

Walking across the Lawn, we visit the grove and see a new method of Tree Culture, with an example of Ornamenting Agricultural Grounds. We take a little taste of Beet Sugar, to sweet our path of life. Then we finish the Report of the State Board of Agriculture, consider how to celebrate July 4th, 1876, peep at Mt. Rainier Firing up, and immediately consider the laws of Steam Under Pressure, under the light of the "Novelty" Lantern.

Hard Times and High Prices,—these effect us all. We talk of them on our way to the Farmers' Gardens, which are in excellent condition. Summer Fallowing is what we want in California. Our headman thinks he can employ Felton's Plow with advantage; it is close to where Mr. Perkins is standing, talking about the Sherman Island operations.

Nowhere is it truer than in the Home Circle, that A Soft Answer Turneth Away Wrath. Try it and see if you don't find it pleasanter Around the Hearth. Then refresh yourself with the varied miscellany of our Household Reading.

The subject of Land Matters is brought to a conclusion, after an excellent discussion. Notes of Travel come to us from Monterey. The Santa Cruz Farmers' Club, excellent society, finds its place with us this week, the last but not the least.

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A PROSPEROUS SOCIETY.—The Santa Clara Valley Agricultural Society owns 76 acres of land which is rated at $100 an acre, and still increasing in value. A correspondent in this issue of the PRESS furnishes some interesting information with regard to the proposed ornamentation of these grounds.

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FUEL SAVING.—Mr. Bryant, of Davis street, recently called our attention to a simple and effective device for economizing in burning coal, which he has in his office. It consisted merely in lining the front and bottom of the grate with a wire screen, so that the small particles of coal, usually wasted, are consumed. No. 16 wire, with ¼ inch meshes, was used, 50 cents worth of which is ample for two small grates.

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RURAL PRESS, No. Two.—We have received several copies of No. 2 of the RURAL PRESS for which we return thanks. Any other persons who have No. 2 or 4 to spare will confer a favor by sending them in or exchanging them for other Nos.

## HARD TIMES AND HIGH PRICES.

If there be anything especially notable at this time it is dearth of occupation. We have in San Francisco alone, ten thousand persons struggling against the force of a downward pressure, which may have long continuance. Small shopkeepers, innumerable, find business departing and high rents eating them up. Lodging houses numbered by thousands are half empty. A large army of speculators is sorely oppressed with homestead lots, falsely, so called, that show no prospect of having any value in our time.

It is time that such people be-think them selves about the future. Large numbers of people now in this city, would probably leave it, if they could be brought to see that their available money will be all spent in holding on for the expected revival. For four years past we have done little but puff up the bladder and admire its apparent increase of dimensions. We have been preparing for a rush of strangers eager to buy at any price. Our large land owners have driven off emigration, by holding for prices impracticable. No state in the Union, of the same population, and the same agricultural area, and so restricted a market, sets anything like such prices on land, naked, fenceless, treeless and waterless. Expected buyers have not come this way nor are they likely to. Meantime these large landlords have been borrowing, to hold on, instead of selling to pay off. So far the assessment system has made poor people pay the fair taxation due by the rich. This is at an end. Fair valuations are about to compel the subdivision of land, to the great benefit of the State.

If our remarks are justly founded, we can earnestly counsel the surplus population of our city to seek the country, and large land owners will see their interest in sub-dividing and pricing, so as to retain the population we have. For if the high price of land drive our own people away, it will be long before strangers will come to a place which their reports condemned. Pretty nearly all the fancy men who can be tempted to pay fancy prices, are already accommodated; and if we want to meet the requirements of the times, we must make our prices square with the public necessities. The gas that has been inflating the bladder must be let out. "The great rush" has not come and no one is so blind as not to see that it is not going to come, till the gas is out, and our prices square with those of other states. During the past season one real estate house has spent $600 in advertising lands in the vale of Napa without finding a single person to buy at the asking prices!

Now let us suggest that those who want to sell land, will put it at prices to induce the current of buyers to come to our State. When the tide turns, prices may stand a gradual advancement, till, in time, present impractical valuations may be regained.

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WOOL GROWERS' ASSOCIATION.—Preliminary steps have been taken in Visalia to organize a Wool Growers' Association, for the furtherance of the general interests of persons engaged in that business. J. A. Patterson, J. D. Keener, W. G. Pennebaker, Jas. Pouge, M. Brooks, B. Ballan, A. Noble, and Wm. Perkins, have been appointed a committee to draft a constitution and by-laws for the government of the Association, with instructions to report a meeting to be held in the court house at Visalia, on the first Saturday in March. A full attendence of all wool growers of Tulare county is desired at that time and place.

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A BEAUTIFUL SIGHT is the single stem of an orange tree on exhibition at the Odd Fellows Library in this city. This stem was recently taken from a tree grown by Paul Kearn, of Los Angeles and contains *seventy-five* full grown oranges.

## FARMERS GARDENS.

Having prepared the soil, as indicated in our last article on this subject, and properly enclosed the spot selected for the garden, the next step is

### SELECTING GOOD SEED.

We presume that most farmers will, when they have fairly initiated the garden system in this state, raise and save garden seeds for their own use. It will pay them to do so; provided they understand the true principles of reproduction, and exercise the necessary care and patience to practice upon them.

In the animal kingdom it is a well established rule, and one that is generally understood, especially by stock growers and farmers, that "like begets like." This rule holds equally good and is equally important in the vegetable kingdom. In selecting the vegetables from which seed is to be saved for replanting, care should always be had to choose only the very best samples. For instance if you propose to save beet seed, you should select the best shaped and best grown beet, one possessing all the characteristics of color, form, fineness of grain and all other properties which it may be desired to reproduce.

Then care should be taken to plant the beet in such soil and location as will secure to the seed the best possible chance to grow and mature in the most perfect manner. From the seed thus carefully grown none but the *best* should be saved for planting. The same care should be exercised in regard to producing the seed of all other vegetables. By so doing and by the interchange of seed between different countries and different localities in the same country, all our crops of vegetables and grains may be much improved.

It is the present practice of most of those farmers who cultivate gardens, whether as professional gardeners or only for their own tables, to buy all their seed from the various seeds stores, in the towns and villages. This practice has one advantage. It secures an interchange from one locality to another; but we find that as a general thing those who produce the seeds so sold neglect a strict compliance with the acknowledged rule of reproduction above referred to. Their seeds are sold by the pound and the more pounds the more dollars.

Without desiring to decrease the business of any one enterprising seed man, we would recommend that each farmer, as soon as possible, inaugurate the practice of producing his own seed of all kinds. He may then interchange frequently with his neighbors and friends who exercise the the same care with himself and he may thus improve all his crops from year to year. In the long run we think this will be found the most economical plan as we shall never be subjected to the trouble, expense and vexation, caused by planting dead or poor seed and being under the necessity of replanting and suffering the loss of time thereby.

### TIME FOR PLANTING.

One of the greatest mistakes connected with gardening in this country is in planting many varieties of seed at the wrong time of year. Our winters are so mild in this State, that many varieties of vegetables will grow better and be more tender, juicy and more delicately flavored if grown in the winter or rainy months than if grown in the summer or dry season. The seeds of such kinds should be planted in the fall instead of spring.

Our professional gardeners, especially the Portuguese, Italians and Chinese understand this, and hence we are so often found admiring the luxuriant growth of the vegetation in their gardens when our own gardens are not yet planted; and hence too, the "China vegetable man" takes many a dollar from our pockets for vegetables before ours of the same varieties have made their appearance above ground.

The markets of our cities and towns are supplied with beets, carrots, parsnips, turnips, cabbage, radishes, lettuce, celery, salsify, small onions and other kinds of vegetables, fresh from the grounds of the professional gardeners and in good condition during every month of the winter season. These vegetables are all grown in the open air. The seeds are planted in August and September, while the ground is warm, and with care, and attention and irrigation they are made to germinate and grow until the first rains fall. These rains find the soil warm, and the rains themselves are generally warm, like spring showers. The vegetables thus started grow rapidly and continue to grow during the whole winter. Here we have a lesson for our grain farmers to learn and imitate. From a small piece of land prepared as we have directed and sheltered from the winds, the table of every farmer in our State may be supplied with the greatest abundance of fresh vegetables of all the above varieties from October to May.

From this time on may be added asparagus, rhubarb, early peas, cucumbers, green corn, early beans, squashes, tomatoes, potatoes and other early vegetables. As the season advances the later kinds and other varieties come on, and supply the place of those that are gone by. Add to these luxuries, strawberries, raspberries, currants, grapes, cherries and other and larger fruits in their seasons and we have a continuous supply of the most delicious vegetables and fruits the year round. Then by a little forethought, fresh milk, butter and cream may be provided from two or three good cows pastured in a small field of Chili clover that will keep green the year round.

With these facts before us, all of which may be fully realized by any careful and industrious farmer in this State, we may well exclaim, who can live *better* or *cheaper* and more *independent* than a California farmer! What advantages he may enjoy over his neighbors of the Atlantic States or most any other part of the world!

It seems not to be generally understood that pea vines will stand a pretty heavy frost without much injury—and that peas planted in the month of January or February will grow and make vines and be all ready to blossom and bear peas upon the first appearance of warm spring weather. Such is the fact and if peas are planted in February in good warm soil and in a protected locality they will generally furnish this delicate vegetable for the table before the time it is now generally the custom to plant the seed.

Potato tops are easily checked in their growth by a slight frost; but unless the frost is pretty severe this injury does not reach below the surface of the earth and is but temporary. The roots continue to grow and the tops start up again with renewed vigor.

As a general thing it is safe to plant early varieties in February and by covering the surface with straw or coarse stable manure they may be brought forward very early—so early in fact that no inconvenience will be experienced from the wilting of the old potatoes before the new ones will be large enough to take their place on the table.

It is too generally the received opinion among farmers on the uplands, that potatoes cannot be raised on such soil. If the land be prepared as we have suggested, and the potatoes are planted early, so that they will have the benefit of the late winter and spring rains they will make a good crop, and form a most acceptable dish on the table when fresh dug from the garden.

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HOPS IN ENGLAND.—From the Report of the Department of Agriculture, we learn that there are 60,000 acres devoted to hops in England, according to late estimates. In 1850 the acreage had fallen 43,729, but there has been a gradual increase since that year until the present time. Of the total area, the county of Kent has about 33,000 and Sussex 14,500 acres.

## SUMMER FALLOWING.

All the grain to be sown this season will now soon be in the ground; and if the same system of grain farming that has heretofore prevailed in the State, is to be continued in the future, then the hurry of the plowman will be at an end for the season, and a time of leisure for man and beast is close at hand. If, on the contrary, we are to adopt a better, more certain and more profitable system of grain farming in the future, than we have been practicing in the past, then there is an important work in the way of plowing for our farmers to do yet this season.

We refer to the preparation of the soil for the grain crop of next year by *summer fallowing* the land then to be sown. It is universally agreed that *summer fallowing* is the true system of grain farming in California. Land plowed up in the spring and allowed to remain exposed to the action of the sun and air during the summer, can be sown in the fall before any rain comes, thus giving the grain the benefit of all the rain of the season. If, however, the farmer waits for the rain in the fall to moisten the soil so that he can plow, as a general rule one-half of his grain is not sown till the last of January or first of February. The grain sown on the summer fallowed land has the advantages of being planted in a mellow and well pulverized soil.

Then, too, the ground at that time in the season is warm, and the first rains are generally like growing spring showers. The seed germinates quickly and both top and roots grow vigorously, and the farmer looks on and sees the promise of a liberal reward for his labor with a good degree of hope and satisfaction. On the contrary, land plowed after sufficient rains have fallen to moisten it for plowing, is lumpy and cloddy as a general thing, and the season being more advanced and cold, the seed germinates slowly and its growth is feeble and sickly. The owner of grain so sown, always looks on with feelings of nervous anxiety, and scarcely *dares* to hope for a good crop.

Such has been the experience of our farmers during the first part of the present winter. Those whose ground was summer fallowed and grain sown early have been happy and contented and hopeful all the time, being satisfied that if the season prove unfavorable, they at least had a fair prospect for an average crop and high prices; and if the season should prove favorable, and crops should be generally good and prices low, even then, they had the best of their neighbors; as they were sure to have a greater yield to the acre, and most likely better grain and better prices. But those who have been plowing up the dry soil, and watching the weather and hoping and praying for rain, and *cursing* the country, have had a sorry, discontented and unhappy time of it. Nor are they yet out of danger. For while there is but little doubt now that we shall have a sufficiency of rain to secure good crops on early sown summer fallowed land, we shall require a most extraordinary favorable spring to make good crops of the late sown grain.

The greatest hope of the farmer and of the country is now centered on the early sown grain. *Our hopes* are for the success of all; but we must confess that we still have *fears* for many. There is but one way to avoid this annual epidemic of fear, anxiety and despondency among our grain farmers; and that is to change the system of cultivation; conform to the teachings of nature, reason and experience. Summer fallow the grain lands and secure *good crops*.

There are many advantages in favor of the summer fallow system:—

It is better for the soil to rest and recuperate every other year, and thus keep up its natural fertility and productiveness. It is more economical, since it is less labor and expense to cultivate 100 acres of land than 200; and it will require but half the seed to secure the same amount of product. The yield per acre, on summer fallowed land, taking a succession of seasons, being nearly double that of land cultivated on the old system.

Again, a farmer who summer fallows his land, can, with the same amount of team and help put in much more grain than he who does not. He can commence sowing in the fall whenever he is ready, and thus lengthen out the time for this labor at will; while he who pursues the other system cannot commence until the rains have fallen and softened the soil; and thus all his work of plowing, sowing, and covering must necessarily be done within a limited space of time. In view of the above considerations we urge upon our farmers generally, to keep the plows running until all the land they intend to sow to grain next year has been thoroughly and deeply plowed.

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All in Turn.—In answer to several queries, we would refer to the article on short-horn cattle, on the first page of the present issue. The discussion on this subject will be followed by similar examinations into the characteristics of other classes of horned and other stock. In starting a paper devoted to such an extensive field of enterprise as that of agriculture, in all its branches, it will require much time to even touch upon all subjects in which our numerous and varied readers are more or less interested; but if all will have patience, we venture the promise that no individual will fail to see his particular industry specially treated upon within a reasonable space of time.

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From Sierra Valley.—A correspondent sends us fifteen subscribers from Sierra Valley, and furnishes the following items for publication: "A few weeks ago Stiner & Turney, enterprising and successful dairymen of this Valley, purchased near Oroville three fine imported short-horn calves at an expense of $1,200, which, added to previous stock of full-bloods in their possession makes a fine exhibition and promises ample profits. This firm have become wealthy in five years by this enterprise, and justly deserve it.

The seasons are mild in this valley; the average temperature being much above the fruitful eastern states; but the proximity of snow in the cañons of surrounding peaks, even in mid-summer, greatly discourage fruit-tree planting. We hope, however, that some of those scions of hardy Russian fruits advertised by the Agricultural Department at Washington may find their way into these high valleys."

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Good Words from Santa Cruz.—A lady correspondent writes from Santa Cruz:—"My husband has been in receipt of the Pacific Rural Press, and it is not extravagant to say that we are "jubilant"—satisfied at least, that California's "bone and sinew" has something to be proud of."—Our correspondent sends us No. 1, of "Farm House Chat," which is thankfully received, will appear, next week, notwithstanding "Uncle Toby's Growl."

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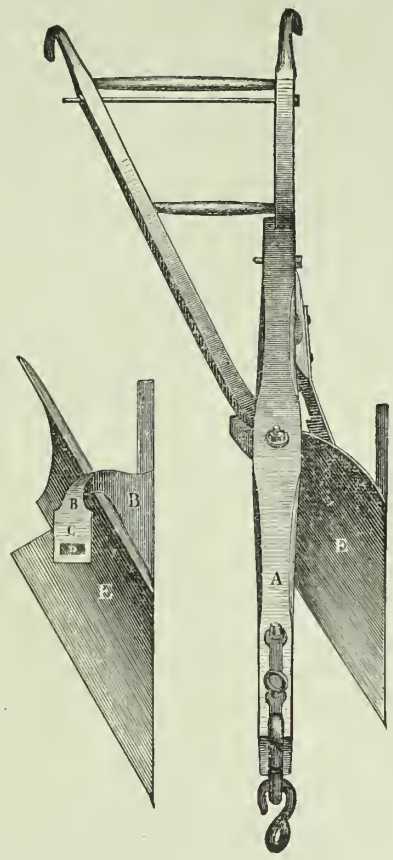
Advertise in the Rural Press.—The advantage of advertising all matters relating to agricultural operations, will be seen by perusing the following extract from a letter from Mr. W. R. Strong, a practical Seed man of Sacramento, and who, with several others in his line of business, advertises in the Rural:—

"I receive and read the Rural Press, regularly. I regard it as a most excellent paper—just what California has long been in need of. As an evidence that it is appreciated by the farmers and is obtaining a wide circulation, I am in receipt of orders refering to my advertisement in the Rural, almost daily from all parts of the coast. You have only to keep it up as you have commenced to accomplish great good.

## The Fulton Plow.

From St. Helena, in Napa County, there comes a new one-horse plow, which has a number of points deserving the attention of the farmer; for the inventor claims for it certain advantages, which, if substantiated, will make it a most useful agricultural implement. In the accompanying illustration, A is the beam, attached to the handle in the ordinary way, and E, the plowshare, connected with the beam in a peculiar manner. For the standard, B is bent, inclined or attached to the plow in such a way that its upper end will be to the right, or away from the land-side. This upper end is provided with a plate, C,




THE FULTON PLOW.

in which is a slot, D, through which passes the bolt securing the standard to the beam. A great variety of forms may be given to the standard, B, and the position of C may be varied according to the requirements of the case. Moreover, the slot, D, may have any length required for the purpose of adjusting and setting the beam at any desired angle.

The peculiar bend or curvature of the standard, B, and its position at or near the perpendicular center of the mold-board, brings the beam, whiffle-tree and handles some distance, say eight inches, to the right of the new furrow. This enables one to plow close up to rows of vines, plants, trees, etc., without interference on the part of horse or plow; allows the horse to walk in the furrow already made, where he naturally tries to walk, and where he is sure to walk in a straight line; and at the same time keeps the beam and line of draft true, causing the plow to run steadily and hold with ease. Moreover, it applies the power of the horse to the best advantage. By having a center draft, it avoids the friction caused by the land-side being crowded up against the soil, and this aids in pulling and in holding.

These points are certainly important, but the inventor makes one more claim. He says that the plow can be run so closely to whatever is cultivated, that the hoe can be entirely dispensed with. On the large farms of the coast, hoeing is a very expensive item, and if a substitute for it can be found, it will be a most important thing for our farmers.

We are disposed to consider this a very meritorious invention. Several agricultural societies have decided in its favor, it having received the first premium at the California State Fair for 1870, and at the Santa Clara Valley and Sonoma County Fairs. It is certainly worth enquiring into, and we refer our readers to the patentee, David Fulton, St. Helena, Napa Co., Cal., or to the manufacturer, A. W. Norton, Napa City, Cal.

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## DEEP VS. SHALLOW PLOWING.

Editors Press:—Probably there is no question which at this time requires so much consideration as the subject of plowing; or one to which so little attention is paid. There seems to be a desire on the part of the farmers to cultivate large tracts of land, no matter how the work is done, so that they accomplish this particular end. Some three or four years ago, I wrote a lengthy article upon this question, in which I stated that if one-half of the land was well plowed, and the same amount of labor put upon it, as was usually expended upon the whole, the results would be beneficial. I contend that when the work is well done it is twice done. No man that plows from two to three acres a day, merely turning the top of the ground can never succeed in farming. Let the farmer take the same team and plow six to eight inches, and he will get his return; but no, he prefers to show to the world a large area of land, that has been skinned over—the stubble just turned under, the seed put in, and left for nature to perform the rest. That kind of work will not answer. The surface of the ground dries out; the roots of the grain are exposed to the rays of the sun and the wind to the great injury or the total loss of the crop; whereas, if the ground was well and deeply plowed, the grain properly imbedded, so that the root could take a firm hold, in the room of 15 to 18 bushels of grain, he would realize 30 to 40 bushels to the acre.

To prove this, I will cite an instance, that came under my own personal observation. A friend of mine had six acres of land which had been the previous season with potatoes, and harvested in July. It was on heavy adobe land. He asked me what I thought would be best for him to do, I said put on a three-horse team, it is dry, but never mind, try it. Well he did so, and plowed it up in large cakes and chunks of soil. I told him not to be uneasy about that; the rains would make it all right. The rains came, the ground all dissolved, and after it had been cross-harrowed was as fine as a vegetable garden.

It was immediately sown in barley, and the story was told when the harvest came; for sixty bushels of grain per acre was taken from that summer plowing. The balance of the 32 acres was all cut for hay, as the old way of plowing 2 to 3 acres three inches deep was followed.

Here your readers have a fair illustration of what can be done by hard work, and deep plowing. The amount of ground plowed per day was 1¼ acres. The system of light plowing was tried upon this island last year. The result was a failure. All the grain that has been put in this season has been plowed two to three times, and the ground thus put in a good condition. All this takes time and labor; but the result always pays, and a fine field of grain, is far preferable to a bad one to look upon. D. L. Perkins.

Sherman Island, Jan. 29th 1871.

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Land Patent Decision.—In the case of an application for a patent for 160 acres of surveyed placer land in Montana, the Land Commissioner has decided that 10-acre lots on surveyed land in mining districts are legal subdivisions, and that such legal subdivisions may be either 10+10 or 5+20 chains, as desired, only the sides cannot run at an angle with the lines of the regular surveys. The commissioner remarks that "to require mining claimants in cases like the present to postpone making applications for patents until adjoining miners are willing to unite in making a joint entry of their respective claims, or to include in their application large areas of worthless land to be paid for at double the minimum price of good agricultural lands would not only be a hardship upon the miners, but inconsistent with the spirit and intention of the statute."

BY OUR LADY EDITORS.

## "A Soft Answer Turneth away Wrath."

BY NELL VAN.

[Written for the PRESS.]

What more pleasing sight than to see a little brother and sister, hand in hand, tripping along to school, chatting together in kindly tones till, lost in the crowd of school children, they separate, and each goes its way to spread peace and good will among those with whom it comes in contact? And how natural the conclusion that such little ones are brought up in an atmosphere of affection, and receive in their homes something more essential to their growth than the mere food and clothes usually considered the only necessary care.

These were my reflections as such a pair emerged from a neighbor's house, one glorious morning last summer, when I was spending a few weeks in the pretty village of N——.

Let us retrace their steps and see if we can discover the secret spring, from whence flows such a wealth of love and harmony. As we approach the house, the shrill voice of a woman, past the meridian of life, is heard saying: "There, now, Hetty, if yon hain't let them children go off to school without so much as asking them to fetch in an armful of wood; and yon on your feet and hard at work from mornin' till night, working your fingers to the bone. Yon won't live out half your days, at the rate you go on; and more'n that, the children will grow up of no account to nobody, and then yon'll wish yon'd hearkened to the voice of your old Aunt Peggy."

"Well, now, Auntie," spoke the tender-hearted mother, "I had not the heart to call upon them to do anything for me, it was so near school time, and they were so bright and cheerful this morning. I can bring in the wood in less than no time, and I promise you I shall not suffer from overwork. I like the children to have a good time when they are young, and then they will have strength and courage to endure hardships and trials when they come to them in after years."

"That's all very fine to talk about," said old Aunt Peggy; "but where's the use of encouragin' them in idleness when you have your hands so full of work that yon never get no time to go into a neighbor's house, nor to look inside the covers of a book?"

"That reminds me, Auntie, that I promised Mrs. Jones I would run over to-day to spend the afternoon and help her on her quilt, and she wants you to come, too, for you are such a capital hand at quilting."

"Well, I'm proper glad you thought on't, Hetty, for I must jest clap on a flat-iron, this blessed minute, to press out them strings to my best cap, for I do admire to quilt above all things; but there's the baby crying. Hetty, shall I take him up while you begin about the dinner? Martin and the boys will be home at sharp twelve, you know, and then we can clear away and fix up ready to go by half after one."

A glance at the clear, hopeful brow of the mother, as she sits in the doorway, preparing the vegetables for dinner, is enough to convince any one of the patient spirit which prompts her, with true womanly tact, to so successfully soothe the irritation of her companion. With a countenance beaming with contentment and peace, the emanations of a rich inner life surround her with an atmosphere so irresistible that all who are in her presence must feel her influence and desire to be like her.

"Come, Hetty, do see what does ail this child; he keeps moaning and twitching his mouth, and a rolling his eyes and straightenin' out so I can scarce hold him. He looks for all the world as if he was a going into a spasm."

"Why, Aunt Peggy, he *is* in a convulsion, sure; help me quick to get him into a warm pepper bath—the dear little fellow," said the terrified mother. It was some time before the child's condition was sufficiently improved for Aunt Peggy to regain her usual flow of speech, and then she burst forth with: "Well, now, did I ever; if there ain't the men folks a coming up, and the meat victuals not on yet; nor the table set neither. It does beat all how the time flies, and I must spin around and get the things a going afore Martin comes in. I was a'most sure we'd be behind hand; what with fussin' over little Tom. Don't it beat all what should have put him into one of them spasms, and set him a twitchin' so? I'm free to confess, it e'en-a-most skeered me out of my wits, and yon was so calm and placid-like. Oh, look at them boys a skirmishin' agin; Jim is always on the fight, and Ben has to take it and no mistake. Them sandy-headed fellows are sure to have such fiery tempers."

"Hello, here, where's dinner? The boys are on hand and we can't spare no time today, standing around," and a tall, stalwart form stood in the doorway. "Where's Hetty, and what's the matter with dinner? What, is the baby sick, and everything standing still? It always happens so when we are driven to death with work. I should think one of you might have seen to the dinner, if baby *was* sick." "But, Martin, said the anxious mother, in pleasing tones, "the darling has just come out of a convulsion, and I want you to bring the doctor to lance his gums, for I'm sure it must be his teeth which are troubling him. Aunt Hetty has been busy helping me bathe him to bring him to himself again, and I have been so frightened. I could not think of dinner nor anything else. But she is going to arrange the table and it will soon be ready."

A pair of broad hands were gently laid upon her shoulders, as she uttered these words, and a kiss was tenderly pressed upon her lips with a softly muttered "Forgive me, Hetty; I was too hasty. And you are always so gentle and kind. Help me to become so too. So the little fellow has been pretty bad, has he? And papa must bring the doctor to help his little teeth find their way into the daylight; well, so he must. Let the boys begin without me, if Aunt Peggy gets things ready before I come back."

The father was no sooner gone than the two boys and the hired man came in, and from the aspect of things it was very evident there had been some altercation. "I say, Ben," exclaimed the elder boy, "you lie! You *did* know where that rake was, and saw me looking for it all around, and wouldn't tell me it was behind the barn door till after I tripped and fell. *I'll* pay you off for it, you young varmint, see if I don't. Take *that* now, and *that*, and see if you can't learn better than to laugh when I'm not fooling with you." At the door he met his mother, with the babe in her arms, who gave him a look of rebuke, and with a soothing voice said: "Take a basin of cool water, my son, and dip your face in it several times, and by the time you have dried it on the towel you will be calmer and more like your nobler self. I would not give a straw for a man without temper; but it must be under control, and you will find it far better to be able to master it than to be mastered by it. Make no more noise now, I beg of you, for dear little brother is quite sick, and father has been obliged to go for the doctor."

Ashamed and rebuked, the young man looked into his mother's face, and seeing the anxious expression there, which always conquered him, said in a gentler tone: "Can I do anything for you, mother? Let me hold baby while you eat dinner."

This is no fancy sketch, dear reader, for nearly every household has its "Aunt Peggy," and its impatient, lawless ones; and let us hope there are no homes without some kindly spirit to breathe forth sunshine in the shady places, and by calling out the noblest part of each one's nature, thus seek to create harmony out of discord, and elevate and ennoble by an example of kindness worthy of imitation.

The heart must be callous, indeed, to be proof against gentle words of counsel offered with love. None are without fault, and let each strive to magnify the better qualities we see in each other, and give the faults a chance to die of neglect. Our lives would be a complete warfare if we devoted all our energies to fighting our faults and noticing only the deficiencies of our neighbors. A far better way must be to cultivate the spirit of kindness and charity toward all; for well we know that "Charity covereth a multitude of sins," and "a soft answer turneth away wrath."

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HUNDREDS of people are dying of starvation in Paris.

## HOUSEWORK FOR GIRLS.

It is the law of God that no human being can have a sound, vigorous body, accomplish much and enjoy long life, without good muscles. Though there are a variety of ways by which exercise may be obtained, yet domestic labor is best adapted to develop and strengthen the whole system. Within a few years much interest has ben awakened upon the subject of physical exercise, particularly as connected with schools and seminaries of learning. Besides the outdoor exercise and games, calisthenics and gymnastics have been introduced inside the school-room, and are becoming a part of the regular exercises in many institutions. This is an improvement in the right direction—and is good as far as it goes—but is entirely inadequate to meet fully the demands of nature. No kind of exercise for girls is so well calculated as household work to develop all the muscles of the body—to do it in early life, and gradually, under circumstances favorable to health generally. The girl and young woman must thus be trained year after year, otherwise she will never obtain that hardihood of constitution, that strength of muscle, that power of endurance; or, in other words, that balance of temperament so essential to good health and happiness in all the social and domestic relations of life. *D. Allyn.*

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HOW TO ARRANGE COLORS.—It is a great art to know exactly what colors go best together. Green looks well with gold, violet or red; pale blue with scarlet, pink with black and white, and grey with scarlet or pink. A gold color generally requires a warm tint to give it life. White and black are usually safe for any complexion. Pink is becoming to some, but not if there is much color in the cheeks or lips. Maize or straw color is particularly becoming to people of dark complexion, with black hair and eyes. Above all, whatever be the color of the dress, the ornaments and trimmings, throughout, should be correspondent one with the other. If all that finishes a dress harmonizes, then the general effect cannot fail of being good.

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WOMEN IN SWEDEN.—In Sweden the principle of woman's rights is making rapid progress. They conduct nearly exclusively the business of saving banks, and are extensively employed in the Postoffice and telegraphic departments. In numerous private establishments they make efficient clerks and book-keepers, and recently, a medical college has been opened at Gottenberg, where ladies not under seventeen years of age are admitted to a complete course of three years, with clinical and anatomical lectures. Sweden is a promising country. Something looking to equality of the sexes does not arouse the ire of the petulant "lords of creation."

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CHASTITY.—Men may be more liberal and just than women, but they very rarely take a woman for wife unless they believe her to be as chaste as ice and as pure as snow. Their sense of purity in respect to the woman they marry is exquisitely delicate. They are not satisfied with the natural purity and goodness of the woman, but her good name must be above reproach. If women were as careful of choosing their husbands, we think there would be fewer marriages, or else a wonderful reformation would be begun. It is presumed that the coming woman will order these things different.

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A ROOM with pictures in it and a room without pictures differs by nearly as much as a room with windows and a room without windows. Nothing, we think, is more melancholy, particularly to a person who has to pass much time in his room, than blank walls, for pictures are loop-holes of escape to the soul, leading it to other scenes and other spheres.

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FEMALE PHYSICIANS.—It is stated that there are now over three hundred graduates of female medical colleges in active practice in the United States, some of whom are in receipt of $10,000 per annum from their profession.

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AFTER DINNER NAPS.—Many persons are in the habit of sleeping for half an hour or an hour immediately after dinner. This is a bad practice. Ten minute's sleep before dinner, is worth more than an hour after. It rests and refreshes and prepares the system for vigorous digestion. If sleep is taken after dinner it should be taken in a sitting posture, as the horizontal position is unfavorable to healthy digestion. Let those who need rest and sleep during the day, take it before dinner instead of after, and they will soon find that they will feel better, and that their digestion will be improved thereby.—*Herald of Health.*

## AROUND THE HEARTH.

Whatever be our earthly lot,
Wherever we may roam,
Still to our hearts the brightest spot
Is round the hearth at home;
The home where we received our birth,
The hearth by which we sat,
No other spot on all the earth,
Will ever be like that.

When Winter, coming in its wrath,
Piled high the drifting snow,
Safe clustered round the cheerful hearth
We catch the firelight glow;
Nor brighter seemed the ruddy flames
Than did our hearts, the while
A loving mother breathed our names,
With sweet approving smile.

When weary with our eager chase
Through many a tangled path,
How sweet the dear accustomed place,
To talk around the hearth;
And still, when by our toil and care
We feel ourselves oppressed,
Our thoughts forever cluster there,
And there alone find rest.

Bright promise of the rest above,
Sweet shelter from the storm.
Home hallowed by a mother's love,
Hearth by that love made warm;
Though widely roared the storm without
What recked we of the cold,
What place for any fear or doubt
Within the loving fold?

And when some little trouble weighed
Upon the childish heart,
Till from our brimming eyes it made
The gushing tear-drops start;
How quick before the genial glow
We feel each sorrow cease.
And back the crystal current flow,
To flood our hearts with peace.

And brighter with the passing years
Seems childhood's sweet employ,
And even sweeter still appears
Each well remembered joy:
Around the cheerful hearth at home,
Where we in childhood sat,
No other spot where'er we roam,
Will ever be like that.

## HAPPY THOUGHTS.

It was a most glorious sunset. The western sky was mantled with clouds of gorgeous hue, upon which little Mary gazed with thoughtful pleasure.

"Papa" she said, "do you know what I think when I see those pretty clouds?"

"No! What do you think, Mary?"

"I always think they are God's veils. Doesn't he have beautiful veils, papa, to hide him from us!"

True enough, thought I; the clouds which veil Him from our sight now are beautiful, There is a rainbow on them, if we will see it; they shine with mercy and truth, and remind us of the time when the veil shall be parted, and He shall come in the clouds, and every eye shall see him.

Mary's happy thought reminds us of another. One morning while our better half was at sea, five years ago, near Aspinwall, she directed the attention of our then four-year-old to a magnificent sunrise, which elicited from him the following:

"Oh! mamma, how beautiful! Is that where all the stars go down and make the sun?"—Ex.

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EARLY INFLUENCES.—There can be no greater blessing than to be born in a cheerful, loving home. It not only insures a happy childhood—if there be good health and a good constitution—but is almost sure to make a virtuous and happy manhood' and a fresh, young heart in old age. I think it every parent's duty to try to make their children's childhood full of love and proper joyousness; and I never see children destitute of them through the poverty, faulty tempers or wrong notions of parents, without a heatache. Not that all the appliances wealth can buy are necessary to the free and happy unfolding of childhood in body or heart—quite otherwise, heaven be thanked! But the children must at least have love in the house, and fresh air and good play, and some good companionship out of it, otherwise young life runs great danger of withering, or growing stunted or sour, or at best prematurely old and turned inward on itself.

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HOW TO TEST FLOUR.—Place a thimbleful in the palm of the hand and rub it gently with the finger. If the flour smooths down, feeling gentle and slippery, it is of inferior quality, though of fancy brand, high priced, and white as the virgin snowdrift, and will never make good, light, wholesome bread; but if the flour rubs rough in the hand, feeling like fine sand, and has no orange tint, purchase confidently. It will not disappoint you. Such flour, whatever may be its branded reputation, though its price be at the lowest figure, will make good, light, nutritious bread.

# HOUSEHOLD READING.

## How to Bone a Turkey.

Clean the turkey; remove the intestines; cut off the first joints of the legs; cut down the backbone; very carefully raise the meat from the backbone on each side; unjoint the wings, leaving the small part of the wing bone; raise the meat carefully from the breast, using a sharp knife with a narrow blade. The meat being now detached from the bones, and those unjointed, draw out the frame; only the merrythought will remain, which can be easily cut out. Break up the bones; put them in a stew-pan; cover them with cold water, and stew while the turkey is being stuffed with a rich force-meat. First sew up the slit and any holes that may have been accidentally made, making the stitches on the inner side. The force-meat may be of well-seasoned sausage meat, or veal, minced fine, and seasoned with spices to taste, or with mace only, or use sweet herbs. After it is stuffed, so as to look as before the bones were removed, put it in a large stew-pan, that will just hold it without cramping; strain over the gravy from the bones. If this does not cover the fowl, add warm water; add any vegetable or sweet herbs liked, several slices of cold boiled bacon, and a few slices of veal. It will require from an hour to two hours gentle stewing. Let it cool in the liquor; take up the fowl; scrape off the gravy; melt and strain the gravy. Season it to taste, if not already sufficiently seasoned; boil it down to a jelly. Strain over the fowl, or serve around it, upon the dish.

VEGETABLES.—Vegetables intended for dinner should be gathered early in the morning. A few only can be kept twelve hours without detriment. "When fresh-gathered they are plump and firm, and have a fragrant freshness no art can give them again when they have lost it by long keeping, though it will refresh them a little to put them into cold water before cooking." A little soda in the water they are cooked in will help to preserve the color of those that are green. They lose their good appearance and flavor if cooked too long, and are indigestible if not cooked enough; close attention and good judgment are necessary to know the proper time to take them up. Always drain the water from them well before sending to table; have the dishes hot upon which they are placed, and never send them to table until the meats are served; when sent too soon, and often uncovered, they become chilled and unfit for use. Always put vegetables to boil in hot water.

VALUABLE RECIPES.—The Boston Journal of Chemistry gives the following recipes for the benefit of those—and they are legion—who are troubled with harassing and annoying coughs that frequently accompany many acute diseases, and arising from nervous irritation of the larynx, pharynx, palate or other parts of the throat;

| | |
|---|---|
| Sulph. Morphia | gr. j. |
| Dil. Sulph. Acid | dr. j. |
| Simple Syrup | oz. ij. |

Mix. Half a teaspoonful to be given upon the tongue, and swallowed slowly. The persistent hackings of bronchial difficulties, and even of consumption, are often speedily relieved by it.

An excellent cough mixture, for constant use in the office or family is this:

| | |
|---|---|
| Syrup Tolu | oz. j. |
| Syrup Peru | oz. j. |
| Syrup Sanguinaria | oz. j. |
| Syrup Lobelia | oz. j. |
| Tr. Wintergreen | dr. j. |

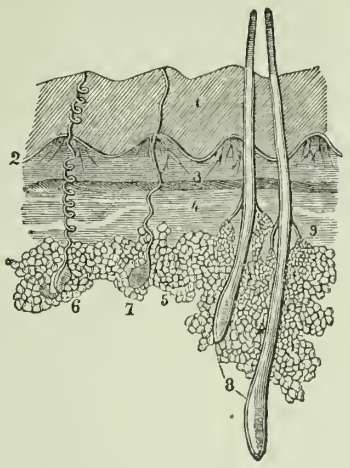
Dose,—half a teaspoonful three or four times daily, or whenever indicated. Cut these recipes out and preserve them. When needed present them to a druggist to be put up.

TO MAKE IODINE COLORLESS.—Tincture of iodine, so extensively used as a local application for swellings, etc., may be rendered colorless, without, its strength being impaired, by adding to it a little hyposulphite of soda. This is a most desirable discovery since it is often necessary, apply it to the face, neck and hands, where the ordinary brown preparation would make the patient present an uninvitable appearance.

HINTS TO HOUSEKEEPERS.—Rise early in the morning, or you will not get a fair start with your business. Rise earlier on Sunday morning than on any other day, that the children may be at Sunday-school in time; and domestics have time to arrange their necessary business as to be able to attend divine service.

## The Skin and its Functions.

In concluding the article commenced last week, on the the functions of the skin, and referring to the illustration here again given, 6 and 7 are the perspiratory glands and ducts, which are so exceedingly small that, according to calculations of Wilson, the standard authority on the anatomy of the skin, there are twenty-eight hundred to every square inch of the body. The number of square inches in a man of ordinary stature is about twenty-five hundred, so that the number of glands and tubes would be about seven millions, and the length of tubing through the skin about twenty-eight miles. By this delicate and complicated apparatus are performed some of the most important functions of the system. The amount of liquid carried off through this apparatus, in insensible perspiration, and the effects of it in removing the impuri-




1. Cuticle, or Scarfskin.
2. Rete Mucosum, or Mucous Web.
3. Corpus Papillæ.
4. True Skin.
5. Cellular Membrane, or Fat Cells.
6 and 7. Perspiration, Glands and Ducts.
8. Roots of Hairs.
9. Oil Follicles.

ties from the blood and in regulating the temperature, is very important. It is estimated to be, on an average, eleven grains every minute. The amount of course varies very greatly according to the dryness of the atmosphere, the degree of activity of the circulation, the temperature to which the body is exposed, the amount of liquids previously taken, &c.

Besides this function of elimating perspiration, and with it the impurities of the blood, the skin secretes an oil, which lubricates the hair, &c., as seen in the little glands at 9, and also secretes in different parts of the body odor peculiar to each individual.

The distinctive odor is not in many instances sufficiently strong to be recognized by human olfactories; but the dog, whose olfactories are much more acute, can recognize his master and follow him through a crowded city, by the effluvia which is transmitted through the leather of his boot to the sidewalk,—a fact that would seem incredible, but is nevertheless well known.

By the aid of the cut and description, we shell be able to understand the importance of friction and ablution. The scarf-skin is made up of laminæ, which are constantly falling off to make room for new laminæ underneath. They are placed obliquely on each other, like shingles on a roof, and serve as valves to prevent the access of air to the sensitive papillæ and skin underneath, and when contracted by cold, or when the interstices are filled with concreted and dried effete matters from within; or dust and dirt from without, the mouths of the delicate ducts through which the perspiration is evolved are filled, and thus the important process of perspiration described is obstructed.

To keep the skin in good condition, friction and bathing are indispensible. A crash towel and flesh brush will serve as instruments for friction. Let any one who has never enjoyed the luxurious sensation of a thorough friction of every part of the skin, try it some night, when he comes home tired and dusty, and the pleasurable glow of health and the refreshing sleep that will follow, will make him wonder that he has so long neglected a duty, and one that so manifestly adds to his comfort. Everybody curries his horse, and knows that neither oats, nor corn, nor hay, nor all together will keep him in good condition without that operation. Can he give a good reason why he should not curry himself?

## Domestic Receipts.

VOLTAIR'S RECEIPT FOR DYSPEPSIA.—Take no other nourishment than the yolk of eggs, beat up with the flour of potatoes and water.

SIR JOHN SINCLAIR'S RECEIPT FOR DYSPEPSIA.—Beat an egg in a bowl, then add six table spoonsful of cold water mixing the whole well together; then add two table spoonsful of the farina of potatoes, to be mixed thoroughly with the liquor in the bowl; then pour in as much boiling water as will convert the whole into a jelly, and mix well. It may be taken either alone or with the addition of a little milk and moist good, pulverized sugar, not only for breakfast, but, in cases of great stomach debility or in consumptive disorders at the other meals. The dish is light, easily digested, extremely wholesome and nourishing. Bread or biscuit can be taken with it, as the stomach gets stronger. Potato starch and farina are one and the same.

CLEANSING VARNISHED PAINT.—In cleansing paint which has been varnished, there is nothing better than weak tea. All the tea leaves from several drawings should be saved and boiled over early in the morning of the paint-cleansing day. If boiled in an old tin pail or pan, the tea can easily be strained off for use. Wet a flannel in it and wipe off the oak-grained paint and you will be surprised at its brightness. No soap is needed, no milk; the tea is the most capital detergent ever invented. Wipe the paint dry with a soft cloth; you will find that very little elbow grease is needful. White varnished paint is cleansed as rapidly with it as the grained.

TO PREVENT BLISTERS,—Tannic acid can be obtained cheaply of any apothecary and is said to be an admirable remedy for perspiration of the feet and against blisters. It transforms the skin into leather and still permits perspiration to pass, but absorbs the ammonia and other bad odor of the feet. The skin being rendered tough by the tannin there is less danger of the formation of blisters.

RICE FLOUR CEMENT.—Mix the flour (as much as is needed) with cold water; pour into boiling water; let it simmer until a transparent paste is formed. When cold use it.

## Mechanical Hints.

CEMENT FOR FASTENING INSTRUMENTS IN HANDLES.—A material for fastening knives or forks into their handles, when they have become loosened by use, is a much-needed article. The best cement for this purpose consists of one pound of colophony (purchasable at the druggists) and eight ounces of sulphur, which are to be melted together and either kept in bars or reduced to powder. One part of the powder is to be mixed with half a quart of iron filings, fine sand, or brick dust, and the cavity of the handle is then to be filled with this mixture. The stem of the knife or fork is then to be heated and inserted into the cavity; and when cold it will be found fixed in its place with great tenacity.

BLACK COATING FOR ZINC ORNAMENTS.—*Dingler's Polytechnic Journal* states that M. Neumann has instituted a series of experiments to point out the best materials to produce upon statuary or ornamental subjects made of zinc a pleasing, blackish coating, without impairing the effect of the natural color of the metal, as would be the case where an oil paint or varnish is used. The best results were obtained when nitrate of protoxide of manganese was employed. This salt, on being heated, is decomposed, yielding black peroxide of manganese, and the degree of heat required is not so high as to affect the surface of the zinc. The best solution for this purpose is fifty-four grammes of the salt in one litre of water.

TO TAKE BRUISES OUT OF FURNITURE.—Wet the part with warm water; double a piece of brown paper five or six times, soak it in the warm water and lay it on the place; apply on that a warm, but not hot flat iron till the moisture is evaporated. If the bruise be not gone, repeat the process. After two or three applications, the dent or bruise will be raised to the surface. If the bruise be small merely soak it with warm water, and hold a red-hot iron near the surface, keeping the surface continually wet—the bruise will soon disappear.

TO CLEAN AND RESTORE THE ELASTICITY OF CANE CHAIR BOTTOMS, COUCHES, ETC.—Turn up the chair bottom, and with hot water and a sponge wash the cane-work, so that it may be thoroughly soaked. Should it be dirty, use a little soap. Let it dry in the air, and it will be as tight and firm as when new, provided the cane be not broken.

## Life Thoughts.

THE greatest truths are the simplest, and so are the greatest men.

THE body—that is dust; the soul, 'tis a bud of eternity.

HE who buys too many superfluities may be obliged to sell his necessaries.

TOWERS are measured by their shadows, and great men by their calumniators.

WORK is the weapon of honor, and he who lacks the weapon will never triumph.

LET thy actions prove that thou art indeed a man in the highest and holiest sense of the exalted name.

SOUND ADVICE.—Never owe any man more than you are able to pay, and allow no man to owe you more than you are able to lose.

MANY person who appear to repent, are like sailors, who throw their goods overboard in a storm, and wish for them in a calm.

NECESSITY is the mother of invention and encouragement the nurse of it; what is brought forth by the one, should be propagated by the other.

TRUE piety is not a morose, but a cheerful thing; whilst it makes me joyful it delivers me from frivolity, yet it causes me to be pleasant and glad.

IF you wish to know a man's character, wait till some misfortune or disgrace happens to him; and you will soon see all his greatness or all his weakness.

A LADY once asked a minister whether a person might not be fond of dress and ornaments without being proud. The minister replied: "When you see the fox's tail peeping out of the hole, you may be sure the fox is within."

## Whining.

There is a class of persons in this world, by no means small, whose prominent peculiarity is whining. They whine because they are poor, or if rich, because they have no health to enjoy their riches, they whine because it is too shiny; they whine because its too rainy; they whine because they have "no luck" and others' prosperity exceeds theirs; they whine because some friends have died and they are still living; they whine because they have aches and pains, and have aches and pains because they whine, and they whine; and they whine no one can tell why. Now, we would like to say a word to these whining persons:

First. Stop whining that is no use, this everlasting complaining, fretting, scolding, fault-finding and whining. Why you are the most deluded set of creatures that ever lived. Do you not know that it is a well settled principle of physiology and common sense, that these habits are more exhaustive of nervous vitality than almost any other violation of physiological law? And do you know that life is pretty much as you take it and make it? You can make it bright, sunshiny, or you can make it dark, shadowy. This life is meant only to be disciplinary—to fit us for a higher and purer state of being. Then stop whining and fretting, and "go on your way rejoicing."

THE HUMAN HEART is like an artist's studio. You can tell what the artist is doing, not so much by his completed pictures, for they are mostly scattered at once, but by the half-finished sketches and designs which are hanging on his wall. And so you can tell the course of a man's life, not so much by his well-defined purposes, as by the half-formed plans—the faint day-dreams which are hung in the chambers of his heart.

LAZINESS grows on people; it begins in cobwebs, and ends in iron chains. The more business a man has, the more he is able to do; for he learns to save his time.

THE looking forward to enjoyment don't pay. From what I know of it, I would as soon chase butterflies for a living or bottle moonshine for a cloudy night. The only way to be happy is to take the drops of happiness as God gives them to us every day of our lives.

DARK HOURS.—To every man there are many, many dark hours, when he feels inclined to abandon his best enterprises,—when his heart's dearest hopes appear delusive,—when he feels unequal to his burdens,—when all his aspirations seem worthless. Let no one think he alone has dark hours. They are the common lot of humanity. They are the touch-stones to try whether we are current coin or not.

# LAND MATTERS.

## SWAMP LAND TITLES AND LEGISLATION REVIEWED.

(Continued from page 77.)

### The Sierra Valley Memorial.

This memorial has served as a text for so many Jeremiads, and has been so generally misunderstood, that we cannot well pass it without further notice. The valley lies in the counties Sierra and Plumas. It was surveyed by the United States in 1863. Portions of it are claimed as overflowed, and have been sold as such by the State. Some of these sales were made in the latter part of 1869 and the first of 1870. A portion of these are contested by parties now in possession of the land. During the summer of 1870, the United States Surveyor-General was called upon to take evidence as to the character of the land in dispute. An order was procured from the Commissioner of the General Land Office in Washington, stopping this investigation. This order was over-ruled by the Secretary of the Interior, as being in violation of law; but the investigation has not yet been made. A memorial from parties contesting the State title was sent to Washington, printed, and circulated among the members of Congress, to invigorate the Julian bill, then languishing and now deceased.

This memorial was gotten up by a man from Sacramento, by the name of Walker, who, visiting Sierra Valley for this purpose, took a Notary along with him, drew up the affidavits, and paid the Notarial fees. This philanthropic individual visited Colusa, Yolo, and various other portions of the State on the same errand, achieving in some instances a success as remarkable as that of the lawyer who so feelingly pictured the indignities heaped upon his client, that the latter, bursting into tears, sobbingly ejaculated, "I didn't know how I had been abused before!" As the getter up of a first-class newspaper and swamp land sensation, he has been a decided success; as the abrogator of the swamp land grant he will not be known.

Much of the land described in the affidavits accompanying this memorial, is not claimed by the State. In several instances different parties swear themselves to be in possession of the same land. They contest the State title to 2,880 acres. And this is made the pretext for disturbing the title to something like 2,000,000 acres in this State, and unknown millions elsewhere.

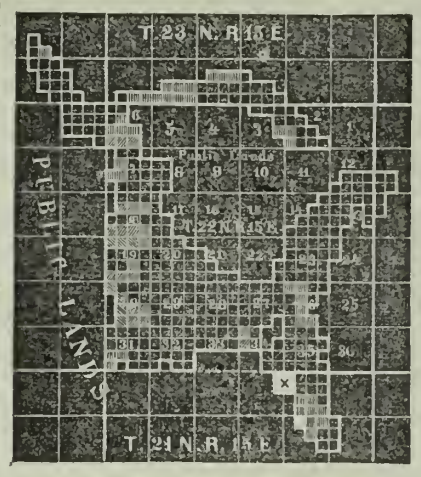
It has transpired, moreover, that this memorial and one or two others, were gotten up on account of the Julian bill, instead of the converse, as has generally been supposed. One-fourth of the land in contest, according to the affidavits, has been taken possession of by the contestants, since it was sold by the State. Some of these affiants make a showing which if sustained, would have given them the land, had the investigation proceeded. Some of them give good ground for supposing the lands they describe to be included in the grant. Nearly all admit the fact of overflow. Some claim that the waters subside in season to raise a crop, *if* the frost keeps off long enough for it to ripen. Most of them are silent or ambiguous on the decisive point. Some testify that they have raised grain on lands claimed to be swamp, and others that they live on such land. But as the whole of any forty-acre tract is included in the grant when more than one-half is swamp, while the whole is excluded therefrom if less than one-half is swamp, it follows that there may be public land which will float a steamboat, and adjoining it there may be technical "swamp land" where a deep "well" would be required to reach water.

Some testify that they are married, comfortably well off, and that their farms require irrigation. This is not unlikely; but their land is not claimed by the State, Others testify that they are married, and that some of the land claimed by them is claimed by the State. Why the fact of their marriage should be thought a misfortune likely to excite the commiseration of Congress, we cannot tell. Failing of this, still these gentlemen have the satisfaction of knowing that through Walker's forethought, they have been proven to be living with respectable women.

Another swears he is fifty years old, and *unmarried*. This is very sad. We hope Congress will not overlook this melancholy fact in the final settlement of the question. We are glad to find, as we read on that he is well off, and that the State makes no claim to his land. All these affiants, testify that the land requires irrigation. This, paradoxical as it may seem, confirms the idea of its being overflowed land, the soil of which is seldom well adapted to the retention of moisture. Sherman Island has lately been reclaimed at an expense of about $14 per acre. Yet this land requires irrigation, though previous to its reclamation, some portions were three feet under water in the dryest season.

The parties contesting the State title appear to be living upon the edge of the upland, and by laying their claim in forty-acre tracts, all in line, in some instances run one mile into the swamp.

Government Townships are six miles square, and are divided into thirty-six sections one mile square each. These are sub-divided into quarter sections one-half mile square, containing 160 acres; these latter into quarter quarter sections or forty-acre tracts. Each settler is allowed to preempt four of these forty-acre tracts or one quarter section of 160 acres. In the annexed diagram of the




Swamp Land in Sierra Valley,

the small quarter quarter or forty-acre squares, represent the swamp or overflowed land claimed by the State. For the 160 acres marked × in the south east corner, also claimed by the State, a United States patent has been issued. This and the shaded portions show the lands in contest.

Were it not for the memorial, we should infer from the affidavits, that some of the land in dispute was upland. But the memorial asks for the passage of an Act "*to exclude*" these lands from the grant. This in connection with the stoppage of the investigation, is a virtual acknowledgement that they are now included *in* the grant. If they are, Congress can by no means help it. If they are not, an investigation will give to the occupants, the land in dispute. The sooner they find out whether it is theirs or not, the better for them. We think they can make a better showing before the Surveyor General, than they have in the memorial, though in this particular instance, we know nothing of what can be said on the other side of the question, except what we gather from that document. We say to them: You who are not "married" *get* married as quick as you can. Put not your trust in politicians, and allow no unconstitutional law, if passed, to get you into unnecessary litigation.

### Large Locations.

Poor human nature is wofully given to exageration, and we must accept with many grains of allowance, the sensational stories concerning large quantities of swamp land located by speculators. An examination of the cases given as instances of swamp land speculation shows the greater part to be land held under Mexican Grants, and Sioux Scrip and College Scrip locations, made through the U. S. Land Office, upon public land, and not under the State laws so much complained of. There are a few large swamp land locations of which we will speak hereafter.

The desire to own land seems almost universal. Yet, to get people upon these overflowed lands, it was necessary to offer extraordinary inducements. To give them the land was not sufficient, for the public domain, was virtually inexhaustible, the choicest portions of which could always be obtained for a dollar and a quarter per acre, and latterly by simply entering it as a homestead. The only additional inducement that could be offered by the State, was to permit the location of swamp land in larger quantities than was allowed on the public domain. For eighteen years from the date of the grant, the limit was fixed at six hundred and forty acres.

The choicest and driest portions were soon located, leveed and occupied. Yet every few years, the floods would sweep away the levees, sometimes the houses, inundate the land, and ruin hundreds of industrious men. The work of reclamation was found to be a serious matter, for the most part, utterly beyond the ability of men of moderate means; while the amount that could be entered by a single individual, was insufficient to induce capitalists to invest. The impossibility of getting large numbers of small owners to agree upon a plan of reclamation, and to assent to the levying of a tax for carrying on the work, was more disheartening than all the rest, and abandoned locations become once more the property of the State, only to be re-located and abandoned for like causes again and again. Probably one-third of all this land has been located and abandoned from one to five times. And this process is still going on, the locators forfeiting whatever payment or reclamation they have made upon the land. The writer has twice given up choice locations for the reason last mentioned alone. Similar lands under similar circumstances, remained unreclaimed in Lombardy for more than five hundred years, and were reclaimed at last only by concentrating the title in the hands of large capitalists.

The same process is going on here. Many persons having already acquired large tracts by purchase from discouraged owners.

It was thought by W. L. Greene, of Colusa, that moneyed men might be induced to purchase and reclaim these abandoned locations if permitted to enter them in large tracts; and the restriction as to quantity, was repealed in the Act introduced by him in 1868. The result justified his expectations. The lands were purchased, and several hundred thousand dollars have already been expended in their reclamation, while an immense impetus has been given to the whole work of reclamation throughout the State. But there are few things without their drawbacks. It was found that a few choice tracts were still unsold. Some of these were entered in larger locations than would have been sufficient to secure their reclamation. They were located mostly for companies, however, and do not cut up into such large tracts, as was at first supposed. Unfortunately, there is in this world no unmixed good—no general rule without its exception. While this Act has done much to stimulate the reclamation of our waste places, it has undoubtedly wrought some hardships; and, so far as swamp lands are concerned, Congress cannot remedy them.

A. B. BOWERS, C. E.

## NOTES OF TRAVEL IN MONTEREY COUNTY.

MESSRS. EDITORS—At your request I send you a few "Notes of Travel" through a portion of Monterey County. The stage road runs from Natividad through Salinas city and along a moderately level but narrow valley, varying in width from a quarter to half a mile. For the space of fifteen miles nothing can be seen save tha hills on each side; nor is the traveler permitted to obtain a long view up or down the valley, the trees growing just thick enough to obstruct it, the growth being sycamore, live oak and scrub. The soil, which is pretty fair at the entrance of the valley, becomes lighter and drier the further you go up. The land belongs chiefly to Spanish grant holders who use or lease it for grazing purposes; this at any rate until you come to the dividing ridge about six miles from the crossing place on the Salinas river. Between that point and Monterey there are two or three squatters on government land, just struggling through poor land, hard times and rainless seasons, the first and last places in the valley being by far the best, viz., Mr. J., with his well managed dairy ranch, but unfortunately hampered by leasehold evils from accomplishing what his own sense and energy would urge him to do were it his own; and a person with whose name I am not acquainted who owns the last ranch toward Monterey.

Passing on from this valley we soon reach the town of Monterey, and from thence to

CARMEL VALLEY,

Which is another long, narrow valley, watered by the Carmel river. The soil is good, and one farm at the mouth of the river has done pretty well for its late proprietor, even under a loose and careless system of farming; but the present one seems to understand how to make the most of it. The rest of the valley with one exception is occupied by dairy ranches. These are large, and consequently the houses are few and far between. The upper part is pretty and the land good, what there is of it.

Crossing the hills again, we make a short cut and reach the Salinas, crossing in about 10 miles. From thence my course lay in a zig-zag direction. The land generally

IN THE SALINAS VALLEY

Is good, some is of as fine a quality as it would be possible to get, varying in quality from the river side right up to the foothills. Sometimes two neighboring fields differ considerably. Its general character is that of an alluvial deposit; this again, near the river, has been covered to the depth of from three to five inches with a sandy deposit by the late overflows; but deep plowing can reach the black mold underneath, when necessary.

Towards the foot-hills the soil is lighter and drier, more fit for barley than wheat—these two grains being the staple produce of the valley. Some portions of it are what is termed adobe land; but it is nothing more than the ordinary soil with a large proportion of clay mixed with it. It is not so well appreciated by the farmers on account of the greater amount of labor required to work it; but it is a soil which will retain its richness when the other is exhausted.

There is scarcely a portion of the valley unoccupied by leasehold farmers. Notwithstanding the two bad years they have had, the land is such that with abundance of rain and exemption from rust they are bound to do well. They have worked for the last two years for nothing, and it can easily be imagined how anxiously they are looking for rain this year. Hitherto the fall of rain has only just been sufficient to put the soil in good working condition.

The farmers here have both natural and artificial evils to contend against. The natural ones are the uncertainty of rain and the chance of rust, through the heavy summer fogs; the artificial ones, which affect both them and the large landowners, are the short terms for which leases are granted and high rates per acre. The latter evil would not be so great were the leases granted for longer terms.

BAD POLICY OF THE LAND OWNERS.

The land, with very few exceptions, is held by large Spanish grants, and the owners are following a most suicidal rental policy; for of course the farmers are not going to improve the land when they may have to turn off at any moment; they will not spend one dollar more on their houses and out-buildings than is absolutely necessary; they will not plant any orchards or make any gardens, and yet they would do all this could they feel themselves secure. They have no encouragement to form a home; they do their best to get all they can out of the land, but will not put anything in; they just keep enough straw to feed their horses and cows, the rest is burnt. This will go on until the land is worn out and valueless, unless the land owners adopt a different policy.

It is a well known fact, in old established farming districts, that it is next to impossible for a farmer to make all the manure he requires; he has to buy artificial manures. Let it be granted that some of this land does not at present require manure, yet there are other portions which require far more than the farmers can make; it can be made at a very slight expense by littering it down in the yards, and now is the time to use it; it will only cover the land slightly and yet sufficiently to keep up its strength; it is far easier to do so than to restore it when gone. That they will not take any trouble to recruit the soil under existing circumstances is a certain fact, nor are they to blame on that account. Other crops have been tried on a small scale, and sugar beets grow splendidly in some places. A rotation of crops would not only benefit the soil but the farmers also, it is a great mistake to keep on putting in the same crops on the same land, year after year. I have been informed that some of this land *has* produced over 100 bushels of barley per acre, and nearly that amount of wheat in a good year. For the present I must conclude.

ERRATICUS.

## SANTA CRUZ FARMER'S CLUB.

### Diseases and Poisoning of Sheep.

At the meeting of the Santa Cruz Farmer's Club, held Jan. 21st, the question of diseases and poisoning of stock formed one of the principle subjects of discussion. It was generally admitted that wild-parsnip will not poison, in the small quantity usually eaten.

Mr. Monteith said he had lost cattle, poisoned be eating what is called red-root, or pig-weed.

Dr. Anderson said it was not pig-weed, and that he knew of but one plant here that would poison stock, and that was a species of *cicuta* (cowbane).

The President said he had known cattle to be killed by eating simply corn-meal without any coarser fodder.

Mr. Locke read from "Flint's Milch Cows and Dairy Farming," the symptoms of milk-fever, and said he believed the cows lost by Messrs. Daken and Monteith (spoken of in last report) died of this disease, or of common fever. He further asserted the probability that during the season of scant pasturage, nine cattle die of what they don't eat where one dies of what it does eat.

With these he includes all those forced by hunger to eat what is unsuitable if not actually poisonous. They are driven into thickets and wet places for what will just keep them alive, when they ought to be housed and fed. The loss of one valuable animal would buy hay enough to carry ten or perhaps twenty through the season of rough weather and short forage.

RAISING CALVES.

Mr. Mattison gave his method of raising calves. He takes them away immediately, and learns them to drink,—giving first three days, milk fresh from the mother. He then stands the milk twelve hours, removes the cream and warms the milk for the calves, continuing this until they are two weeks old. Then stands the milk twenty-four hours, until they are three months old, when any milk can be given until they are old enough to be weaned.

Dr. Anderson inquired his reasons for taking them away so soon.

Because they will learn to drink sooner; a cow is not near so liable to have sore teats, and, not getting attached to her calf, will not fret and worry as when she has had it even two or three days.

Messrs. Sawin and Daken said they had practiced the same method successfully with their calves.

## METEOROLOGICAL OBSERVATIONS

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D., Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF Barometer Corrected. | Temp. Air. | Rel. Hmdty. Saturat'n 100. | Force of Vapor. | Amount of Cloudiness. | TSER* Maximum. | Minimum. | Range. | WIND. Direction f'm which it moves, and the Forces. | | R'N† Gauge 30 ft. above surface |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JANUARY & FEBY. | INHS. | DEG. F. | ℞ C. | INHS. | 0-10 | DEG. | DEG. | DEG. | DIR-TION. | F'CE. 0-10 | INHS |
| Sunday.. | 29 | 30.290 | 48 | .52 | .172 | 0 | 58 | 36 | 22 | N. | 3 | ..... |
| Monday. | 30 | 30.339 | 47 | 65 | .208 | 2 | 55 | 38 | 17 | S. | 1 | ..... |
| Tuesday. | 31 | 30.208 | 49 | 69 | .255 | 0 | 60 | 38 | 22 | S. E. | 2 | ..... |
| Wedn.... | 1 | 30.082 | 52 | 59 | .229 | 0 | 64 | 38 | 26 | N. W. | 4 | .... |
| Thurs.... | 2 | 30.171 | 51 | 62 | .241 | 1 | 64 | 37 | 27 | N. | 1 | ..... |
| Friday. | 3 | 30.050 | 52 | 64 | .257 | 0 | 65 | 37 | 28 | S. | 1 | ..... |
| Satu'day | 4 | 30.076 | 50 | 70 | .247 | 10 | 60 | 36 | 24 | S. E. | 3 | 0.130 |

*Thermometrograph. †Rain.

REMARKS.—The weather during the week continued pleasant and genial until Saturday, when, after the fall in the Barometer, a light rain commenced about 10 A. M.,—measuring at 9 p. m. 0.130 inches—from which time it became heavier, and measured 0.270 plus the next morning. These amounts added to the sum reported last week, makea the total for the season thus far foot up 3.850 inches.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., P. M., Feb. 9th.

FLOUR—The market for flour, during the past week, has been active, for shipment but light for local trade, and at declining rates. Standard Oregon brands are quotable at $5.62@6.00; extra, $7.00@7.25; local brands—superfine, $6.00@6.25; extra, $7.12½@7.25. Transactions include 2,000 bbls. Cal. extra, 1,600 bbls. Cal. superfine, and 1,500 bbls. Oregon extra.

WHEAT—The market for the past week has been almost at a stand and prices have declined. For nearly a week no vessel has been loading with wheat at this port, a circumstance that has not occurred before since the incoming of the crop. Only two cargoes have been cleared during the month. The shipments for the month of January, including flour, were very light, aggregating only 257,700 centals. The surplus in the market at the present time is estimated all the way from 500,000 to 1,000,000 centals. The last figure is no doubt much nearer the truth. The shipments for the first seven months of the current harvest year, including flour, was 3,502,000 centals. Sales include 20,000 sacks, ordinary to choice, at from $2.20@2.45.

We quote at the close, ordinary to fair $2.15@2.30: good to choice $2.35@2.45, the latter for strictly choice milling. Liverpool quotations were telegraphed yesterday at 11s. 10d.@12s. New York rates continue at $1.70@1.75 per bushel.

BARLEY—Is still in fair demand, and prices remain about the same as last week. We quote $1.37@1.47, from fair to choice. Sales 15,000 sacks.

OATS—We note a limited demand for oats. Fair to good may be quoted at $1.45@1.70. Sales about 5,000 sacks.

CORN—Quotable at $1.42½@1.50.

BUCKWHEAT—Nominal at $3.25@3.50. A lot of 400 sacks is reported as having arrived and been sold to a miller on private terms.

RYE—In limited demand. The latest sale is reported at $2.62½.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $27.50@28.50; MIDDLINGS, $35 for feed, and $37@40 per ton for fine; OIL CAKE MEAL $30.

HAY—The receipts have been fair since our last, and prices about the same. We quote ordinary wild oat to choice wheat at $12.50@16 50 ₱ ton.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, $12@16, and Potter's, 2 ℔ do, at $4 ₱ dozen.

POTATOES——Market has declined during the week. We quote Humboldt 1.75@1.80; other kinds $1.50@1.70.

HOPS—This year's crop is quotable at 8@12½c.

HIDES—We quote Dry, slaughterer's stock, 17@18½ c; Salted; 8@8½c. Sales during the week 1,920 Cal. dry.

WOOL—We quote good shipping, at 15@17½c; very choice, 18½c; burry, 10@12½c; slightly do, 13@14c. A few scattering lots only are coming forward.

TALLOW—Quotable at 7@7½c, from ordinary to choice.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c.

BEANS—Quiet at the following rates. Bayo at $2.50@2.62½; butter, $2.25; small white, $1.90; pink, $2; red, $2@2.25; pea, $2@$2.25 per 100 pounds.

FRESH MEAT—The market is firm and quotations little changed. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 9@10c ₱ ℔.
Do 2d do 8@ 9c ₱ ℔.
Do 3d do 7@ 8c ₱ ℔.

VEAL—Scarce and firm at 12@12½c.

MUTTON—Steady at 8@10c. ₱ ℔.

LAMB—Several have come to hand during the week, which were sold at 11c.

PORK—Undressed at 5@6c; dressed, 10@11½.

POULTRY, ETC.—In good supply, and prices remain unchanged. Young Chickens $7@8; Hens $7@8.50; Roosters $7.00@7.50; Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame, $2.50@$3 ₱ pair; live turkeys, 20c ₱ ℔; Hare, $1.50@2.50 per doz; Doves, 50c do; Quail, $1.25@1.50.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 45@50c; Packed rolls, 32@37½c. Oregon firkin, 20@22½c; Eastern do, 25@35c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California, new, 10@14c., Eastern, 16@17c.

EGGS—California fresh, 30½@35c; Oregon, 30c; California Lard, 11-℔ tins, 14@14½c; Oregon, 14½@15½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $1.00@$2.00; Oregon, $1@$2.00; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $40@$50; Lemons, per box, $16; Pears, scarce.

CASE GOODS—In 2 ℔ cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this department rather more quiet; stocks of all kinds are complete, and prices rule low.

BAGS AND BAGGING—Are in moderate request only, and will so be until the approach of the coming season. We quote wool bags at 65@67½c. Oat Sacks 23x40, 12½c; 28x35, 18c; Potato Sacks, 17½c.; imitation Dundees, 18@19 c. Standard burlaps, 22x36, 12½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5½c; Oregon do, 6½c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ₱ ℔; Raisins, layer, $4.25@5.00; Currants, Zante, 11½@12½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 16@16½c; Lard, California, 12½@13¼c; Oregon do, in kegs, 13@14½c ₱ ℔.

## San Francisco Market Rates.

**Wholesale Prices.**

FRIDAY, February 10, 1871.

| | | | |
|---|---|---|---|
| Sugar, crushed, ₱ ℔ | 14½ | @ | 15 |
| Do. Hawaiian | 9 | @ | 12 |
| Coffee, Costa Rica, ₱ ℔ | 21½ | @ | 22 |
| Do. Rio | 19½ | @ | |
| Tea, Japan, ₱ ℔ | 65 | @ | 1 00 |
| Do. Green | 60 | @ | 1 00 |
| Hawaiian Rice, ₱ ℔ | 8 | @ | 9 |
| China Rice, ₱ ℔ | 7 | @ | 8 |
| Coal Oil, ₱ gallon | 50 | @ | 60 |
| Candles, ₱ ℔ | 14 | @ | 18 |
| Overland Butter | 30 | @ | 55 |
| Ranch Butter, ₱ ℔ | 40 | @ | 45 |
| Isthmus Butter, ₱ ℔ | 25 | @ | 35 |
| Cheese, California, ₱ ℔ | 9 | @ | 15 |
| Eggs, ₱ dozen | 30 | @ | 32½ |
| Lard, ₱ ℔ | 12½ | @ | 13½ |
| Ham and Bacon, ₱ ℔ | 15 | @ | 17 |
| Shoulders, ₱ ℔ | 9 | @ | 10 |
| **Retail Prices.** | | | |
| Butter, California, fresh, ₱ ℔ | 50 | @ | 60 |
| do. pickled, ₱ ℔ | 40 | @ | 50 |
| do. Oregon, ₱ ℔ | | @ | 25 |
| Cheese, ₱ ℔ | 20 | @ | 25 |
| Honey, ₱ ℔ | 25 | @ | 30 |
| Eggs, ₱ dozen | 40 | @ | 45 |
| Lard, ₱ ℔ | 18 | @ | 20 |
| Hams and Bacon, ₱ ℔ | 22 | @ | 25 |
| Cranberries, ₱ gallon | 75 | @ | 1 00 |
| Potatoes, ₱ ℔ | 2 | @ | 3 |
| Potatoes, Sweet, ₱ ℔ | — | @ | 2 |
| Tomatoes, ₱ ℔ | 2 | @ | 3 |
| Onions, ₱ ℔ | 2 | @ | 3 |
| Apples, No. 1, ₱ ℔ | 4 | @ | 5 |
| Pears, Table, ₱ ℔ | 5 | @ | |
| Plums, dried, ₱ ℔ | 10 | @ | 12 |
| Peaches, dried, ₱ ℔ | 10 | @ | 15 |
| Oranges, ₱ dozen | 50 | @ | 75 |
| Lemons, ₱ dozen | 50 | @ | 75 |
| Chickens, apiece | 75 | @ | 1 00 |
| Turkeys, ₱ ℔ | — | @ | 25 |
| Soap, Pale and C. O | 10 | @ | 15 |
| Soap, Castile, ₱ ℔ | 18 | @ | 20 |
| PRODUCE, ETC. | | | |
| Flour, Extra, ₱ bbl | 7 00 | @ | $7 75 |
| Do. Superfine | 6 00 | @ | 6 75 |
| Corn Meal, ₱ 100 lbs | 2 25 | @ | 2 50 |
| Wheat, ₱ 100 lbs | 2 25 | @ | 2 45 |
| Oats, ₱ 100 lbs | 1 40 | @ | 1 50 |
| Barley, ₱ 100 lbs | 1 35 | @ | 1 45 |
| Beans, ₱ 100 lbs | 1 87½ | @ | 2 50 |
| Potatoes, ₱ 100 lbs | 1 00 | @ | 1 75 |
| Hay, ₱ ton | 10 00 | @ | 15 00 |
| Live Oak Wood, ₱ cord | 10 00 | @ | 12 00 |
| Beef, extra, dressed, ₱ ℔ | 8 | @ | 12 |
| Sheep, on foot | 2 00 | @ | 2 50 |
| Hogs, on foot, ₱ ℔ | 6 | @ | 6½ |
| Hogs, dressed, ₱ ℔ | 7½ | @ | 8 |

## Leather Market Report.

[Correeted weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, Feb. 9.

SOLE LEATHER.—Shipments to the east still continue large, and several tanners have advanced their price one cent per lb.

| | | |
|---|---|---|
| City Tanned | .26 | @29 |
| Santa Cruz | .26 | @31 |
| Country | .25 | @28 |

CALF AND KIP SKINS.—There is no change in French stock, the exportation being extremely light. Domestic skins continue firm, with a tendancy to advance.

| | | | |
|---|---|---|---|
| Best French Calf Skins, ₱ doz | 75 00 | @100 | 00 |
| Common French Calf Skins, ₱ doz | 35 00 | @ 75 | 00 |
| French Kips, ₱ ℔ | 1 00 | @ 1 | 30 |
| California Kip, ₱ doz | 60 00 | @ 75 | 00 |
| California Calf, ₱ ℔ | 1 00 | @ 1 | 25 |
| Eastern Wheel Stuffed Calf, ₱ ℔ | 80 | @ 1 | 00 |
| Eastern Bench Stuffed Calf, ₱ ℔ | 1 10 | @ 1 | 25 |
| Eastern Calf for Backs, per ℔ | 1 15 | @ 1 | 25 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50 | @ 13 | 00 |
| Sheep Roans for linings, ₱ doz | 5 50 | @ 10 | 50 |
| California Russet Sheep Linings | 1 75 | @ 5 | 50 |
| HARNESS LEATHER, ₱ ℔ | | 30@ | 37 |
| Fair Bridle, ₱ ℔ | | 33@ | 40 |
| Skirting, ₱ side | 4 50 | @ 4 | 75 |
| Welt Leather, ₱ doz | 30 00 | @ 50 | 00 |
| Buff Leather, ₱ foot | | 22@ | 26 |

### Gold and Legal Tender Rates.

San Francisco, Wednesday, Feb. 8, 1871.—Legal Tender buying @90; selling @90¾. Gold in New York to-day 111¾.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

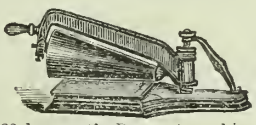
FRIDAY, Feb. 10, 1871.

| | | | |
|---|---|---|---|
| IRON.—Duty: Pig, $7 per ton; Railroad, 60c ₱ 100 lbs.; Bar, 1@1½c ₱ ℔; Sheet, polished, 3c ₱ ℔; common, 1½@1¾c ₱ ℔; Plate, 1½c ₱ ℔; Pipe, 1½c ₱ ℔; Galvanized, 2½c ₱ ℔. | | | |
| Scotch and Eng. Pig Iron, ₱ ton | $34 | @ | $35 50 |
| White Pig, ₱ ton | 32 | @ | 33 00 |
| Refined Bar, had assortment, ₱ ℔ | — 03 | @ | — — |
| Refined Bar, good assortment, ₱ ℔ | — 04 | @ | — — |
| Boiler, No. 1 to 4 | — 04¾ | @ | — — |
| Plate, No. 5 to 9 | — — | @ | — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ | — 05 |
| Sheet, No. 14 to 20 | — 05 | @ | — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ | — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ ℔; Pig and Bar, 2½c ₱ ℔. | | | |
| Sheathing, ₱ ℔ | — — | @ | — 26 |
| Sheathing, Yellow | — 20 | @ | — 21 |
| Sheathing, Old Yellow | — 10 | @ | — 11 |
| Composition Nails | — 21 | @ | — 22 |
| Composition Bolts | — 21 | @ | — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | | |
| Plates, Charcoal, IX, ₱ box | 12 00 | @ | — — |
| Plates, I C Charcoal | 10 00 | @ | 10 50 |
| Roofing Plates | 10 00 | @ | 10 50 |
| Banca Tin, Slabs, ₱ ℔ | — — | @ | — 42 |
| STEEL.—English Cast Steel, ₱ ℔ | — — | @ | — 15 |
| QUICKSILVER.—₱ ℔ | — — | @ | — 90 |
| LEAD.—Pig, ₱ ℔ | — 6 | @ | — 7 |
| Sheet | — 9 | @ | — — |
| Pipe | — 10 | @ | 11 — |
| Bar | — 8 | @ | — 9 |
| ZINC.—Sheets, ₱ ℔ | — 10½ | @ | — 11 |
| BORAX | — 35 | @ | — 28 |

MARIPOSA, DEC. 27th, 1870.—Messrs. Dewey & Co. Patent Agents:—*Gentlemen:*—Allow me herewith to tender you my sincere thanks for the efficient assistance you have tendered me in securing my patent and other papers, as well as the promptness and energy displayed by you in our business transactions.

Very Respectfully Yours, JAY. R. PALMER.


## To Amateur Printers:



We have for sale in the PRESS office, one of Lowe's cheap hand Presses, which we will sell for $25, one half cash down, and the balance to be paid in 30 days, or the Press returned in good order. A handy article for a country office, which has no small job press.

## HOPE VINEYARD, NAPA.

20.000 Cuttings of the best varieties of Foreign Grape Vines for sale by the undersigned, 3½ miles west of Napa.

R. S. THOMPSON.

N. B. Orders left with BROCAS, PERKINS & FRANK, 516 & 518 Sansome street, San Francisco, will receive prompt attention. 5v1-1mr


## Stolen Land Warrant.

Notice is hereby given, that the undersigned will apply to the Commissioner of Pensions, as the law directs, for the re-issue of Military Bounty Land Warrant, No. 90,783, for one hundred and twenty acres of Land, issued April 28, 1857, to Annie Farnsworth, widow of James Farnsworth, private in the New York Militia, war of 1812; and which said warrant was stolen from the undersigned, in the city of San Francisco; on the nineteenth day of November, 1864; and all persons are cautioned against using or purchasing said stolen Warrant, as such purchase or use will be considered void.

T. HART HYATT.

Dated San Francisco, Cal., Jan. 21, 1871. 4v1-6wr


## THE MASONIC MIRROR

Is the only Masonic Publication on the Pacific Coast. The Second Volume is published weekly, in the popular and beautiful form of a

QUARTO-MEDIUM SIXTEEN PAGE PAPER

AND IS A FIRST CLASS

Literary and Family Newspaper,

AS WELL AS THE

**Organ of the Masonic Fraternity on the Pacific Coast.**

ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

**TO ADVERTISERS.**

The MIRROR presents the best Advertising medium on the Pacific Coast, as it circulates in every town and hamlet, and among a class of citizens that it will be of advantage to advertisers to reach.

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## New Patent Law.

The New U. S. Patent Act of 1870 will be sent **FREE** on receipt of postage stamp to inventors and patentees, by DEWEY & Co., publishers, patent agents and engravers, San Francisco.

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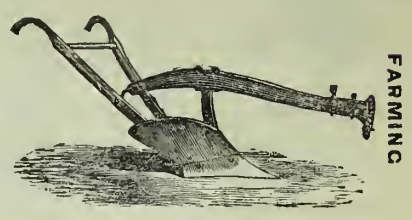

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**IT EXCELS**

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**Any other Spring Bed Ever Invented.**

Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

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Also all the leading and favorite

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ROSES AND CLIMBING PLANTS.

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**BEST VARIETIES;**

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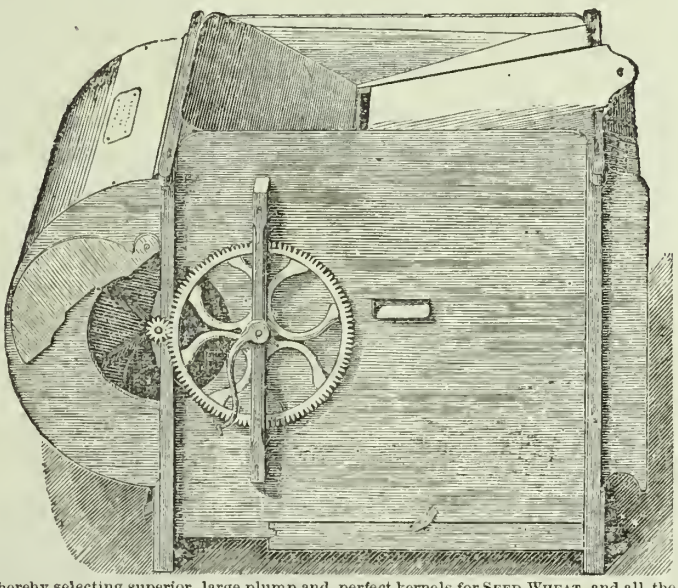

THE undersigned having purchased of the Patentees, WIRTS & SWIFT of Hudson, Michigan, their right to this mill, Patented June 22d, 1869, for California, Oregon, Washington Territory, Montana, Utah, New Mexico and Arizona, wishes to call the attention of FARMERS, MILLERS AND GRAIN DEALERS to one of THE GREATEST IMPROVEMENTS OF THE AGE for cleaning and separating grain. While it combines all the essential qualities of a first-class FANNING MILL, it also far excels anything that has ever been invented for the separation of grain. It has been thoroughly tested on all the different kinds of mixed grain, separating all the different seeds in almost a magical manner, placing them in their different compartments in the mill arranged for their reception, at the same time taking out all the *Mustard, Grass Seed, Barley and Oats*, and making two distinct qualities of wheat if desired, thereby selecting superior, large plump and perfect kernels for SEED WHEAT, and all the small and cut kernals, such as merchantable wheat, is deposited in another compartment. By the use of this Mill a great quantity of wheat usually sown that has been cleaned in the common mills will be saved to the farmer, as the cut or shrunken kernals will never germinate.

The above mentioned Novelty Mill is the only mill known to possess all these superior qualifications, and was exhibited and tested at the last Michigan State Fair held at Jackson, Michigan, September 21, 22, and 23, 1869, and bore away the palm over some thirty other different mills from all parts of the United States, including the famous Dicky Mill of Racine, Wisconsin. All who have witnessed here the operations of the NOVELTY MILL, declare it perfection, and the most beneficial invention to the Farmers, Millers, and Grain Dealers ever introduced on the Pacific Coast. The farmers in Santa Clara County, are loud in its praise, and also in other parts of the State where it is being introduced. No. 1 Mill, complete, is capable of cleaning 25 tons of grain per day; No. 2 Mill, 15 tons; No. 3. Mill, 8 tons. A large number of recommendations and certificates of the practical working of the mill will be furnished, Circulars containing references sent free by mail N. B. Town, County, or State Rights for sale on favorable terms. For further particulars apply to
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For description of the PLOW, see article in the second number of the RURAL PRESS,

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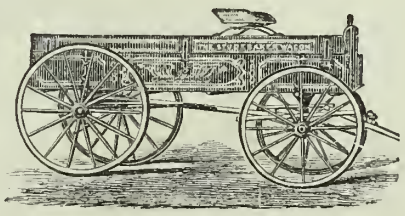

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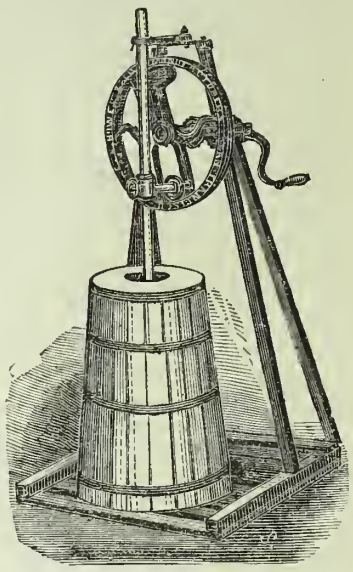

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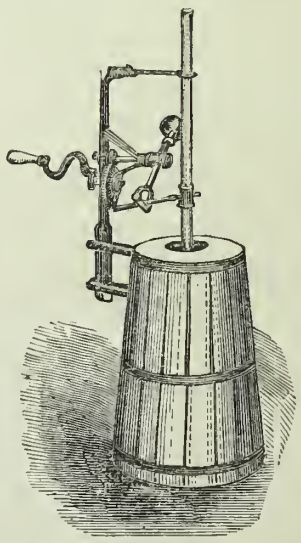

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SUCCESS IN BUSINESS.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALD'S BUSINESS COLLEGE, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and HEALD'S COLLEGE JOURNAL, which will be sent free upon application. Address, E. P. HEALD, President, business College, San Francisco, Cal. 1v1-3msnr

### Our Correspondents.

We are authorized to name the following, among the well known writers on this coast, who will write regularly or occasionally for the columns of the PRESS.

Prof. Ezra Carr, of the University of California; Dr. J. R. Thomas, Vacaville; I. N. Hoag, W. Wadsworth, T. M. Logan M. D., Rev. O. C. Wheeler, and J. S. Harbison, Sacramento; E. S. Holden, M. D., Stockton; S. H. Herring; Dr. Anderson, Santa Cruz; G. N. Swezy, Esq., Marysville; and others whom we may be at liberty to mention hereafter.

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**Mr. S. H. Herring,**

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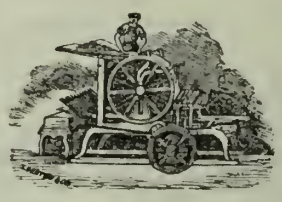

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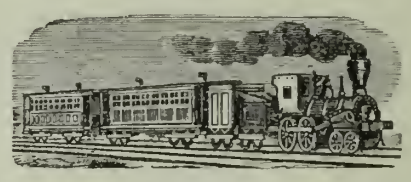

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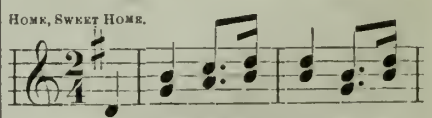

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PACIFIC RURAL PRESS

Number 7.] SAN FRANCISCO, SATURDAY, FEBRUARY 18, 1871. [Volume I.

## ORANGE CULTURE.

The success that has attended the occasional and mostly fancy cultivation of the orange in various parts of the central portions of the State, has suggested the possibility of its cultivation for profit in many of those localities. Experience seems to show that oranges may be successfully raised as far north as Marysville. The oranges grown upon the Vallejo place, this last season, large quantities of which have been sold in this city, were pronounced very superior in quality. They were large, delicate, juicy, of fine flavor, and commanded a good price and ready sale.

The orange is much more hardy than many have supposed. The Visalia *Delta*, of a late date, says that the hoar frosts which have recently visited that section of the State have had no injurious effect whatever upon the orange trees. The same word reaches us from all directions. If the tree will stand such heavy frosts as we had during the latter part of December and nearly the whole of January, it may be said to be perfectly safe here.

Again, there is scarcely any tree more hardy than the orange in recovering from the effects of removal. It is said that trees ten and twelve years old may be successfully removed, with bare roots. If well trimmed and kept watered for two seasons after removal, it will fruit quite as well as though it had continued to stand in its original location. The greatest danger arises from the liability of the bark to adhere to the wood, when it is exposed to the direct heat of the sun, during the first season after removal. Of course, a little care will fully guard against any such danger.

The orange seldom bears any considerable quantity of fruit until it reaches its eighth year, at which time it begins to bear bountifully, seldom producing less than 1,000 oranges the first year, and thence gradually increasing in number until 3,000 and sometimes 4,000 are produced upon a single tree. A fair, average crop for matured trees is 2,000 for each. An acre will accommodate fully 100 trees; at which rate the product of a single acre would be 200,000 oranges; which at $20 per thousand—a low average value in this city by the quantity—would give $4,000 as the product of a single acre! The cost of cultivation would not exceed $25; while the expense of picking, packing, and transportation from any locality near the line of the principal river or railroad routes would absorb but a mere moiety of the gross proceeds.

The great profit of tropical fruit is found chiefly in the small amount of labor and money required for the cultivation of the trees, in proportion to the price at its market value; scarcely any of the varieties requiring any more care than a common apple or peach. We have already an immense number of young orange trees in the various nurseries throughout the State —sufficient if planted out in orangeries, to more than treble the present yield. Those who desire to raise oranges should buy trees of from two to three years' growth, as the earlier production of the fruit is much more of an object than the greater cost over that of starting them from the seed. A light sandy soil is that best suited to the orange, and when planted out as standards, they should stand fully 20 feet apart. Plant diamond shape, instead of in squares. We propose to give two or three articles in addition to the present on the subject of orange culture, as we find time to prepare them and space for their insertion.

### Our Illustration.

Heretofore the greater portion of the oranges raised in our State have been produced in the vicinity of Los Angeles, where this fruit certainly thrives in great perfection. As an evidence of the thriftiness of the orange trees there we have had an engraving made, as annexed, of a branch, plucked a few days since from a tree in the garden belonging to Mr. Paul Kern, and standing within the limits of the city of Los Angeles. It was brought to this city by Mr. D. McLaren, photographed by Bradley & Rulofson, and afterwards placed on exhibition at the Odd Fellows' Library, where it was examined by great numbers of our citizens.

A "BOQUET" OF CALIFORNIA ORANGES.

The branch is about two feet long, and something less than an inch in diameter, where it was taken from the tree. It contained, when taken off, 75 oranges, five having dropped off after they were matured, but before the branch was removed from the tree. Thirty-seven, only, are seen in the engraving, the balance being concealed by the foliage, or fruit in front. When looking up, directly underneath the branch, the eye rests upon a perfect mass of fruit, much as it would appear if packed in a basket. We doubt if a more prolific growth could be produced in any part of the world.

The tree from which the branch was taken is about 13 years old, and bore in all about 2,000 oranges.

## CROP PROSPECTS.

We fear that the prophetic utterances of well-wishers pronounce upon the coming harvest prematurely. No amount of February rains secures a crop. Even ordinary March rains are insufficient. It is expected that the rains will soak the subsoil, lest the roots, going down to dry and hard soil refuse to give the needed nourishment in flowering time, that the grain may set and mature. On most of our wheat-lands, a strong rain in April is necessary to get a crop worth harvesting. At present, the irrigation has not penetrated more than plow-deep; and there is reason to fear that the law of the rainfall, for this season, has been revealed:—viz. light showers and no down-pour.

It is in no desire to make distrust that we thus review the law of agriculture and meteorology on this coast. We simply wish to check the unsafe exhileration that follows every little shower in February. If our harvest may not be remunerative, the sooner we weigh probabilities, the better for us.

Some argue that because of the light rains up to mid February, we are likely to have the compensation of unusually heavy rains in March and April. California is a country of exceptions and this may be an exceptional year. The average rain, in 17 years' observation, by Dr. Gibbons, has been 20¾ inches. Nov., Dec. and Jan., have supplied 12½ inches, of this, say three-fifths; February has averaged 3 inches, March 2¾ inches, April 1¾ inches. This season we have had at San Francisco Nov., Dec., Jan., and to Feb. 15 say 8 inches; at Sacramento 5 inches. We should have seven inches more in the balance of Feb., and in all March and April. This quantity has fallen in those three months, in 6 out of 17 years, so there is hope, but hardly an approach to certainty; while the doctrine of chances is so far on the unfavorable side, as to check sanguine expectations.

## THINGS TO BE REMEMBERED ON THE FARM.

To take time by the foretop in every thing that relates to gardening or farming and never omit what ought and can be done to-day till to-morrow. It is hard to catch up when once behind.

To select the best seeds to be had, even at a higher price.

Never to buy *cheap* seeds because they cost less. They may be the *dearest* in the end.

To select and buy the *best* implements, brand them with your name and never let them get rusty. When done using them put them away in their place; and have a place for everything. Never to work the ground when it is wet and heavy. It renders it compact and heavy during the whole season and does it a permanent injury.

To stir the soil in your garden or about your corn, small trees, etc., often during the spring and summer, to prepare it more readily to receive and retain moisture from the atmosphere, and to prevent the plants and trees from being checked and stunted in growth.

To perform every thing in the best manner, and complete one operation before commencing another.

An Artesian Well in the Tules.—Mr. John Reagan, of the California Restaurant, on Montgomery street, who has recently been engaged in reclaiming a tract of some 400 acres of salt marsh and tule lands, near Lakeville, being desirous to procure fresh water for irrigating a small orchard on a portion of this ground, recently tried the experiment of sinking an artesian well. He struck a flow of fresh water at a depth of 198 feet, which though quite large was not sufficient for his purpose. He is now going deeper, with a good prospect of getting an eight-inch head. The cost of boring is about $4 per foot. The success of this experiment will be considered very interesting and important to the owners of similar lands in other portions of the State.

Millet has been grown for hay on Sherman Island, and proved a decided success.

## MECHANICAL PROGRESS.

WEIGHT AND SHORT STROKE FOR HIGH SPEED.—The *Engineering and Mining Journal* prints a paper, read by Chas. T. Porter at a late meeting of the Polytechnic Club of the American Institute, which attracted much attention. He took the ground that the reciprocating parts of an engine, at the instant when the direction of their motion is reversed, exert a force which is precisely the same centrifugal force that would be exerted by them continually if they were revolving with the crank. Therefore, by combining rapid speed and short stroke with considerable weight in these parts, their centrifugal force may be developed to whatever extent we choose, and, if it is in excess of the force of the steam, the engine with the steam turned on, becomes in effect a rotary engine. We have not space for Mr. Porter's demonstration, but give his conclusion:—"The crank passes the centers under a strain not wholly relieved; the force of the steam does not reach the crank at these points, but is absorbed in the mass, and is afterwards gradually imparted to the crank during the stroke. The value of this action it is difficult to estimate too highly. By means of it the shock of the steam on the centers is avoided wholly or in a degree, the excessively intermittent pressure caused by working steam at a high grade of expansion is transformed, as by magic, into a steady and uniform rotative pressure on the crank, the fly-wheel is relieved of its most trying offices, the shaft from the excessive torsion in alternate directions that is produced by its action, and a smooth and gliding movement is attained, with a closer approximation to uniform motion than the crank has been supposed to be capable of giving. It is curious to observe how exactly opposite to the truth all the engineering traditions on this subject turn out to be. We have been taught that the reciprocating parts of an engine were passive on the centers, that the great difficulty encountered in the attempt to employ high speed was the necessity of reversing their motion, that they should therefore be made as light as possible, and long strokes should be employed, so that the changes in the direction of their motion might be as few as possible. Now we know that their centrifugal action on the centers is all important to a high speed engine, and that to render this most serviceable we must employ considerable weight and a short stroke. The field is a large one; I limit myself to the fundamental principle which I have endeavored to explain. This being established, all theoretical objection to the employment of high speed vanishes. When the dead center is stripped of its imaginary terrors, we must perceive the dawn of a new day in the history of the steam engine."

STEEL TIRES UNDER BRAKES.—It has always been understood in Prussia, that cast-steel tires should not be applied to wheels running under brakes. "The cast-steel tires, when checked by the brake and skidding upon the railway, get very hot by friction; in pulling up in a pool of water, a heap of snow, or even in a keen draught of wind, a cast- steel tire may, under such circumstances, get a hard chill or brittle temper, and, being so injured and deprived of elasticity, it may break at any time, either while running free or under a brake, and that without giving previous sign of existing danger." So says a correspondent of the London *Engineer*.

CHLORAL HYDRATE IN PHOTOGRAPHY.—The *Photographische Archiv* mentions, that to freshly prepared and slightly colored collodion (iodo-bromized) one per cent. of chloral hydrate was added. With a neutral silver bath it gave a good white film. The developer consisted of sulphate of iron and acetic acid. The plates were considerably more sensitive than those prepared without the chloral hydrate. The plates worked very clean.

IMPROVEMENTS IN PROJECTILES.—"An English device consists in appplying the projective force by means of an annular cartridge approximately to the center of gravity of a hollow cylindrical or tubular projectile, instead of, as is usual, at the base; a rotary motion being, if desired, imparted to the projectile by rifling it externally and internally. The projectile or shot is in the form of a hollow cylinder, thus destroying the vacuum in the rear of the shot, and is of the same internal diameter throughout its length and for part of its length, such part being the rear end of the shot, of the same thickness."—*Sci. American.*

PROGRESS IN IRON SMELTING.—The following is a condensed extract from an article in *Engineering* for Jan. 6, under the head "Engineering Progress, 1866–70":—"A few years ago the experience of iron smelters seemed to indicate a tendency to an almost unlimited increase of sizes of blast furnaces and temperature of blast. With a view to economy of fuel, furnaces exceeding 100 ft. in hight have been built in the Cleveland district, and hot blast stoves have been set to work, which are capable of sending a blast of 1200 degrees and more into the furnace. The researches of Mr. Isaac Lowthian Bell have thrown a new light upon this subject, and the blast furnace has become an object of investigations, which will probably effect a beneficial change from routine to scientific management in iron smelting works. Mr. Bell has pointed out that there are certain limits to the sizes of furnaces and temperature of blast, which cannot be exceeded with beneficial results as regards economy of fuel. Mr. Bell's researches are still in progress, and they promise to become the foundation for a new and complete theory of the blast furnace, hitherto the least understood of all metallurgical branches. The records of the Patent Office show an entirely new train of thought underlying a great number of recent specifications referring to metallurgical inventions. The reductive influence of carbonic oxide and other gases which form the internal atmosphere of a blast furnace, is applied to the reduction of iron ores in many ways hitherto unattempted. Experiments are being conducted to bring these ideas to a practical test, and a new road of progress is being vigorously followed as a consequence of the new theories recently propounded. The researches above referred to are confined to the question of economy of manufacture, and principally economy of fuel."

UTILIZING WASTE HEAT FROM STEAM BOILERS.—A Vermonter has patented a method which consists in having a second boiler, filled with bisulphide of carbon,—which boils at about 110 Fah.,—and heated by the exhaust steam from the first boiler. The vapor of the bisulphide of carbon was condensed in a short copper coil immersed in a tank of water, and pumped back into its boiler with no perceptible loss. To each boiler is attached an engine. The *Scientific American* notes a trial as follows: "The pressure in the steam boiler having been raised to 45 pounds, the steam engine was started, raising with the derrick a weight of 500 pounds. In five minutes after, the pressure in the bisulphide boiler went from 0 to 30 pounds to the inch. At this time the second or bisulphide engine was started, geared to a derrick, and commenced raising a weight of 500 pounds in the same manner that the steam engine was doing. The two engines were kept running simultaneously two hours, and during this time the steam engine made 38,000 revolutions, and raised 500 pounds 456 feet, while the bisulphide engine made 44,000 revolutions, and raised 500 pounds 528 feet. The pressure in the steam boiler ranged from 30 to 70 pounds to the inch, averaging about 45 pounds, and the pressure in the bisulphide boiler ranged from 30 to 60 pounds, averaging about the same as that of the steam boiler."

PEAT—THE OTHER SIDE.—It is but fair that we now quote a single word on the negative side of the question. The *Boston Journal of Chemistry* for February, says: "Dry compressed peat affords less than one half the heat afforded by anthracite coal of equal weight; and it has the disadvantages of giving off an exceedingly unpleasant odor, and leaving a huge mass of light and troublesome ash. It cannot be dug out, dried, and compressed for any sum that will bring it into competition with coal, and therefore it is preposterous to give the matter any further attention. There has been lost by victims of the peat delusion, in New England alone, nearly *a million of dollars*, and this has gone into the pockets of the owners of "patent peat machines," and speculators interested in keeping up the excitement."

TOUGH IRON.—The spathic iron furnaces in Plymouth, which draw from the only large mine of this peculiar ore in the United States, make iron so tough that a hundred sledge hammer blows are required to break a bar of the pig, while ordinary iron can be broken by half a dozen. They use this year nine thousand cords of hard wood in charcoal, and make six tons of iron a day.—*W. S. R. R. Register, Dec. 24th.*

## SCIENTIFIC PROGRESS.

DARWIN'S LATEST.—Appleton & Co. give extracts from advance-sheets of Darwin's new work on "The Descent of Man" &c. We quote: "The early progenitors of man were no doubt once covered with hair, both sexes having beards; their ears were pointed and capable of movement; and their bodies were provided with a tail, having the proper muscles. Their limbs and bodies were also acted on by many muscles which now only occasionally reappear, but are normally present in the Quadrumana. * * The most ancient progenitors in the kingdom of the Vertebrata, at which we are able to obtain an obscure glance, apparently consisted of a group of marine animals, resembling the larvæ of existing Ascidians. These animals probably gave rise to a group of fishes, as lowly organized as the lancelet: and from these the Ganoids, and other fishes like the Lepidosiren, must have been developed. From such fish a very small advance would carry us on to the amphibians. We have seen that birds and reptiles were once intimately connected together; and the Monotremata now, in a slight degree, connect mammals with reptiles. But no one can at present say by what line of descent the three higher and related classes, namely, mammals, birds, and reptiles, were derived from either of the two lower vertebrate classes, namely, amphibians and fishes. In the class of mammals the steps are not difficult to conceive which led from the ancient Monotremata to the ancient Marsupials; and from these to the early progenitors of the placental mammals. We may thus ascend to the Lemuridæ; and the interval is not wide from these to the Simiadæ. The Simiadæ then branched off into two great stems, the New World and Old World monkeys; and from the latter, at a remote period, Man, the wonder and glory of the Universe, proceeded."

TUBERCLE GERMS.—We take the following from an article by Lionel S. Beale, F. R. S., which we find in the *Bowdoin Scientific Review*:—"There is reason to think that particles of living growing tubercle exist sufficiently minute to be supported by the atmosphere and carried long distances; while there are many facts which are considered by some sufficiently conclusive to justify the opinion that tubercular disease of the lungs is at least in some instances *contagious*. And it is certain that the most recent observations in connection with the subject of the nature and mode of propagation of tubercle, so far from militating against this view, tend rather to support it."

FUSION OF IRIDOSMINE.—The following is one of the items of scientific news presented at a late meeting of the Polytechnic Club of the American Institute:—Mr. M. G. Farmer, of Boston, has succeeded in fusing iridosmine by a current of voltaic electricity from sixty large Bunsen cells. Grains of the mineral were placed in a groove made in charcoal, each end of which was connected with a large platinum wire. The temperature of fusion was estimated at about 10,000° Fahrenheit. His object was to obtain a pure alloy of iridium and osmium, to be used in electric illumination. On bringing one square inch of the alloy to near the fusing point, by means of an electric current, he found the light emanating from its surface equal to 2,800 candles. This new light threw shadows at midday, and had sufficient actinic power to produce excellent photographs.

GLYCERINE EXTRACT OF PEPSIN.—A short time ago Von Wittich published in *Pfluger's Archiv* some interesting results of an attempt to isolate, by means of concentrated glycerine, pepsin and other so-called ferments found in animal and vegetable bodies. The mucus membrane of a pig's stomach, washed and freed as much as possible from water, was finely minced and bruised, and then covered with pure glycerine. After standing twenty-four hours, a few drops of the glycerine, diluted with acidulated water, digested fibrin with remarkable rapidity. After pouring off the whole of the glycerine, a second, third, and even fourth glycerine extract could be made, all manifesting strong peptic powers. On treating, after filtration, these glycerine extracts with a large excess of alcohol, a slight precipitate was obtained, which, separated by filtration and re-dissolved in acidulated water, though giving only the faintest proteid reaction, was strongly peptic. In a similar manner salivary gland and pancreas gave up to glycerine a starch-converting ferment; and almonds a ferment capable of acting on amygdalin.—M. Foster says, in *Nature*, "We certainly have in glycerine a new means of working out the intricate problems of these so-called ferments. The means hitherto adopted of preparing the so-called pepsin for medicinal purposes are confessedly clumsy and inefficient. By glycerine we can now extract, without any trouble whatever, a pure palateable peptic liquid, one which apparently will last any length of time."

FRANKLAND ON SPONTANEOUS GENERATION.—In *Nature* of Jan. 19th, Dr. E. Frankland details some experiments recently undertaken by him to refute the arguments of Dr. Bastian, who maintained that he had seen living organisms generated from non-organized matter, while Prof. Huxley considered that such a conclusion was not admissible, and declared that the motion of the particles was not proof of life. Prof. F. half filled four glass tubes with a liquid consisting of carbonate of ammonia 15 grs., phosphate of soda 5 grs., and distilled water 1 oz. The tubes were then hermetically sealed and exposed for four hours to a temperature of 155° to 160° C., in a digester; then cooled, and plunged, two of them into concentrated sulphuric acid, and the other two into a saturated solution of carbolic acid. This was to prevent the possible admission of atmospheric germs through invisible cracks in the glass. On Dec. 24th, five months after, during which the cylinders containing the immersed tubes were kept at a temperature of 60° to 70° F., two of the tubes, one from each liquid, were opened in the presence of Prof. Huxley and Mr. Busk, and the contents examined with the greatest care under the microscope. Particles such as Dr. Bastian saw were seen in active movement: and his language is in fact quoted by Dr. Frankland in description thereof. "But," says Dr. F., —"the movement of the particles which we observed was obviously mere Brownian motion; and many of the particles were evidently minute splinters of glass. There was not the slightest evidence of life in any of the particles. The water on the slide containing these solid matters was evaporated off, and they were treated with hot concentrated sulphuric acid, the temperature of the slide being raised to about 100° C. There was no blackening, and the rounded and dendritic bodies remained as entirely unaltered as the glass splinters. Indeed, some of the larger spheroidal bodies were evidently rounded particles of glass which had become detached from the inner walls of the tube by the corrosive action of the enclosed liquid at the high temperature to which it had been exposed in the digester."

PROF. YOUNG'S ECLIPSE OBSERVATIONS. Prof. C. A. Young, who observed from Jerez, Spain, writes:— * * "But the most interesting spectroscopic observation of the eclipse appears to me to be the ascertaining at the base of the chromosphere, and of course, in immediate contact with the photosphere, of a thin layer in whose spectrum the dark lines of the ordinary solar spectrum are all reversed. Just previous to totality, I had carefully adjusted the slit tangential to the sun's limb at the point where the second contact would take place, and was watching the gradual brightening of 1474 and the magnesium lines. As the crescent grew narrower, I noticed a fading out, so to speak, of all the dark lines in the field of view, but was not at all prepared for the beautiful phenomenon which presented itself when the moon finally covered the whole photosphere. Then the whole field was at once filled with brilliant lines, which suddenly flashed into brightness and then gradually faded away until, in less than two seconds, nothing remained but the lines I had been watching. The slit was very close, and the definition perfect.— * * This observation is a confirmation of Secchi's continuous spectrum at the edge of the sun, and I think tends to make tenable the original theory of Kirchoff as to the constitution of the sun and the origin of the dark lines in the ordinary solar spectrum."

THE YALE ROCKY MOUNTAIN EXPEDITION.—Sillman's *Journal* for February, says: "The expedition was as a whole very successful, and the large collections made will be placed in the Peabody Museum of Yale College. The more important scientific results will soon be published."

# CORRESPONDENCE.

## Notes of Travel in Merced County.

[Written for the PRESS.]

### Snelling.

Snelling, the county seat of this county, is situated on the north side of Merced river where the foot hills set in, about 65 miles from Stockton. Its population is about 650. There is a strip of country about 10 miles wide and extending north to the Tuolumne river, that was segregated as mineral land by the original government surveyors, but has since been surveyed and approved by the general government, and the land is now open to pre-emption and homestead. This land was thought to be worthless for anything except grazing until last year. Two years ago this spring, Mr. A. B. Anderson (who is the proprietor of the Galt House, Snelling) as an experiment, summer-fallowed 100 acres of this land, and in the Fall following sowed it in barley, from which, at the last harvest, he gathered 2,300 bushels; and he has just now completed sowing 800 acres of the same kind of land in barley.

From a high point on his land (which I visited), can be seen 20 distinct settlements, nearly all of which have been put up within the last 8 months. Mr. A. gives it as his opinion that this is the surest land for a crop of cereals of any land in the San Joaquin valley, from the fact that it always rains more here than on the level plains. He has sowed, as an experiment, this season, about an acre of the celebrated Norway Oats, and promises that you shall hear the result.

### Complicated Fine Ranch.

H. F. Buckley & Bro's. ranch, situated 7 miles south-west from Snelling, and about 1½ miles from Hopeton, is one of the finest I have visited this side of San Joaquin county. It is known as the *Merced Stock Farm*. It contains 1,654, acres, and cost its present proprietors $27,500. There are 12,000, grape vines, 1,500 peach trees and 2,000 apple trees upon the ranch. Last year, 300 acres of corn were sown, producing 60 bushels to the acre. In good seasons it has produced, and will again produce, 100 bushels per acre.

It is stocked with about 4,000 head of Cotswold sheep, about a quarter of which are thorough-bred, and the remainder is made up of ¼, ½, and ¾ thorough-bred. They expect this year to increase the number to 10,000 head by importation and increase. To go into the pedigrees of even some of this large band, would take more room than the space you allow me for this communication. Suffice it to say that the progenitors of this band have been imported by these gentlemen at great expense, and to those wishing to purchase thorough-bred Cotswold sheep, they need look no further than this ranch.

These gentlemen, together with Mr. J. M. Strong, proprietor of Coulter's hotel, Snelling, and John L. Strong, of Anaheim, Los Angeles county, (and late of Memphis, Tenn.,) will put in 300 acres upon this farm this season in cotton. As the latter named gentleman is thoroughly posted upon this subject, and is furnishing you with intelligent articles upon the matter, I shall not attempt to argue the cotton question, except to explain a few terms used, and answer a few questions as they have been given me.

### Objections to Cotton Culture Answered.

My answers to objections will simply be quotations from published statistics of cotton raisers south. The first objection is, it cannot be raised here at all on account of the cold nights, and early frosts. In answer to this, it has been raised here by Mr. J. M. Strong, of Snelling, for three successive years, producing last year at the rate of over two bales per acre (a bale, Liverpool standard, is 443 lbs). While the nights are sometimes cool here, the ground is always warm. As to early frosts, in the Cotton States the average killing frost is about the 10th of October, while here we seldom have any until some time in Dec.; and, again, it is necessary for the killing of the leaves, where the cotton grows very rank, so as to give the bolls a chance to ripen.

The remaining objections are, that the yield is not sufficient here, nor the staple as long, or the fibre as fine. Cotton pretenders in this country assert, when asked what an average yield is in the south, "about a bale to the acre." Now, the convention of cotton raisers at Memphis, Tenn., in May, 1869, (which was represented by over 1,000 cotton raisers from all the states south), said that it requires three acres on the average to produce a bale of cotton. The average staple (which is the length of fibre) in the south, according to the same authority, is ⅝ of an inch. I have measured it here from a variety of bolls, and it runs from ¾ of an inch to 1¼ inches. Lastly, as to the fineness of fibre, from promiscuous specimens sent from here, cotton commission merchants south pronounce it full middlings. A lot of 1,200 lbs. sent from here to your Oakland manufactory, was stated to be superior to anything they had ever worked, except one lot from the upper Sacramento river, although they were importing from half a dozen countries.

Mr. John Ruddle owns and cultivates some 400 or 500 acres of very fine land situated between Hopeton and Snelling. Next adjoining him on the N. E., is the ranch of Silas March, containing nearly 1,000 acres. From the looks of his fine residence, he intends to make it his future home. J. J. Montgomery, Esq., is probably the largest land owner in the county. One of his fields is several miles square, all under fence. His speciality is cattle. Skelton, Turner & Co., and Simon Jacobs & Co. are the principal merchants here in Snelling.

### Freaks in Nature.

Louis Hadlich, farmer and stock raiser, residing one mile west from Hornitos, in the adjoining county, had a ewe sheep that a few weeks since gave birth to a mammoth lamb weighing 20 lbs. The mother and lamb both died in a few moments afterwards.

J. M. Strong, of Snelling, has just been presented with a chicken, which I shall denominate a hermaphrodite, in the absence of a better term. This fowl is complete in both sexes. It has the comb, and spurs of a rooster, and crows like one; it also lays eggs as regularly as a hen but by trial it has been found that the eggs will not hatch. Please to set your scientific men after this extraordinary fowl.

### Merced Falls Woolen Factory.

Merced Falls, 5¼ miles from Snelling, on the Mariposa road, is quite a lively little place, and is where the Merced Falls woolen factory is situated. The capital stock of this company, paid up, is $75,000, all held within the vicinity, except about $1,500. A. Ingolsby is President and manager. The mill is run by water, from the Merced river. The manufacturing department is superintended by Messrs. Rector & Torr; 36 men and women are regularly employed; some by the day, the balance by the piece. It has been in operation, under its present management, but about 5 months. For the month of Jan. they manufactured 4,161 yds. of flannel, which will wholesale for about 45 cts. per yard; also 4,433 yards of cassimeres, which will wholesale about $1.00 per yard; and 328 pairs of blankets, worth $7.50 per pair. When running in their capacity, about 33 per cent. more can be manufactured.

L. P. Mc.

## A Huge Manufactory.

[Written for the PRESS.]

### How it Looks and What it Contains.

EDITORS PRESS—Thinking that a few lines concerning the great glass and iron manufacturing center, Pittsburgh, Pa.,—said to be the second city in wealth in the Union,—would be of interest to many readers of your valuable paper, I send you a short account of matters and things as seen through the "optics" of your humble servant.

On last Monday I beheld the noted "Smoky City" for the first time in ten years, and as I had just come from the rural districts of "way down East," my ideas of its cleanliness were not as elevated as they might be. As it was midnight when I arrived, I fully realized the saying of a Boston journalist—James Parton—on seeing the city by night, that it "looked like hell with the lid off." Surely it is a novel and interesting sight, and its like perhaps is not to be seen elsewhere in the United States; and the Bostonian may be pardoned for his trite saying when he beheld around him the lurid flames leaping from hundreds of stacks and chimneys, and heard the puffing of immense engines, the clanking of powerful machinery and the thud and pounding of ponderous hammers,—hammers capable of striking a blow so light that a watch placed on the anvil might have the crystal broken without injuring the works, or a blow which has the crushing effect of ten or twenty tons, if desired.

To the observant stranger, Pittsburgh presents many things of a curious and interesting character, and no sensible person can look upon them without feeling that he is a wiser if not a better man. Here may be seen rolling mills, glass houses, old forts, a new city hall, handsome bridges, bridges worthy of antediluvian fame, coal pits vertical, and coal mines horizontal, foundries for big guns, a big depot and a bigger elevator, boat houses and celebrated boatmen, sporting men, good and bad, and a penitentiary warranted to reform the most hardened of sinners. It is often styled the Birmingham of America, and I think justly so. It will be remembered that here was cast the largest guns used in the rebellion, such as the Floyd, the Union, the Swamp Angel, and many others. Here also is the great Southern depot for the supply of coal.

### Coal—Polished Iron.

Besides the coal used by the different manufactories that have their own coal mines, there was shipped, during the last year, the enormous amount of sixty millions of bushels. The mines being worked at present are those in which the veins of coal run horizontal, from the fact that they can be worked at much less expense than those vertical. Along the sides of the hills, on either side of the river, may be seen queer-looking holes, entrances to these subterranean caverns from which these "black diamonds" are taken. Incline planes are run from the mouths of the pits to the river below, and, as a consequence, boats are loaded with ease and at small expense. I cannot give statistics of the amount of iron, steel and glass manufactured, but they are, I am assured, quite large. One manufactory—the American Iron Works, of Ormsby Borough, valued at some five millions of dollars,—is capable of turning out, annually, about 50,000 tons of finished iron and nails. If we reduce this to a lesser denomination, it presents the startling amount of one hundred millions of pounds. Connected with this establishment is a machine shop, 450 feet in length by 150 feet in breadth, where one of the specialties of the works,—polished iron,—is manufactured in all its branches. It is secured by letters patent, and has already proven to be of immense value. The old process of polishing iron was by the slow and costly way of hand-power, while by this method everything is done by machinery at fully one-fifth the cost, and, it is claimed, of a superior character. The process is simply immersing the iron in a steam acid bath, and then rolling it between heavy rolls, the same as when hot, a few minutes only being required to polish a heavy bar to the brilliancy of a mirror. It is said that rolling the iron cold improves its texture, making it closer and stronger. These works employ about three thousand men, and their pay-roll often reaches $200,000 monthly.

### Glass—Queer Stories.

In the manufacture of glass,—window and flint ware,—McKee Bros. returned last year $500,000, and McCully & Co. a like amount. Hussey, Wells & Co., steel works, make a showing of one million dollars; and in copper, C. G. Hussey & Co. foot up a like amount.

This city claims the honor of being the first in this country to erect works for the manufacture of glass, steel and copper; and for the manufacture of these great staples of commerce, including iron, I have not seen, in the many thousands of miles that I have traveled, any other place approaching a comparison.

Many queer stories are told regarding the dirt and smoke of this place, such as, "at noonday, looking at the sun, it appears like a patch of red paint;" and "when a woman loses her child upon the street, in searching for it, if she finds a stray urchin, she has to wash the little one to know whether it is her own or some other person's." These stories have arisen from the fact that there is constantly hanging over the city a dense cloud of smoke, arising from the bituminous coal used by the manufactories, and also that everything outdoors is blackened and begrimed, to a greater or less extent, for the same reason.

J. H. DAVIS.

Pittsburgh, Jan. 18th, 1871.

## A Remarkable Body of Water.

Prof. T. P. Stelle gives the following interesting description (in the *Am. Jour. of Microscopy*) of what he saw in the water of a lake in Central Florida.

I turned my attention to the water, and was soon convinced that I had, undoubtedly, met with a phenomenon, for it was so clear, so very transparent, that I could see through it in every direction with as much apparent ease as if it had been the atmosphere itself. Presently I saw one of the inhabitants hinted at, a little creature of a light brown color, looking, as it glided here and there, through the pure element, not unlike a common chimney swallow. Then came another, and another, and another, until all the waters of the lake seemed to be thickly swarming with them. They were very busy and very swift in their motions, darting, whirling, and angling with the greatest ease and the most charming grace; the guide said that like birds of the air they were in quest of their prey, feeding upon animals too small to be seen by us from our standpoint.

Suddenly, while I was gazing in wonder upon these strange creatures, a new actor appeared in the person of a larger animal, about the size, shape, and color of a huge muskmelon. He was quite transparent, so much so that I could see through and through him as plainly as if he had been a glass jar; and as he moved leisurely about I noticed that he was catching and devouring the little "swallows" without mercy. His interior, which seemed to be a huge cavity—nothing more—was literally filled with them, some still alive and swimming about in their strange prison. The entire mass held within his gigantic stomach kept up a rapid whirling round and round in one direction, from which I inferred that he had no regular digestive organs, but simply *wore* out his food; that is, reduced it by friction to a proper condition for his sustenance.

Scarcely had I got fairly interested in this extraordinary animal, when along came something which looked, with its slim, arching neck, very much like a swan. Its course was so directed that ere long it was brought into contact with the "musk melon," and a fight was the consequence. It was a short fight, however, for neither of the parties seemed to relish the business, so they separated and struck off in opposite directions. A little distance, and the "swan" met another of its own kind, and they commenced billing and cooing like two mated doves; but their pleasures were destined to be of short duration, for just at that instant a large and hideous looking creature, with great horns and glaring eyes, pounced upon them from a covert hard by, seizing them both. A terrible struggle ensued, in the course of which one of the "swans" made its escape, but the monster gripped the other fiercely by its slender neck until it ceased to struggle, after which he settled down with it to the bottom of the lake, and very quietly began converting it into a meal.

About this time I noticed a second monster, equally as frightful in appearance as the one just referred to, though evidently of a different species. He was moving along on the bottom of the lake, and, unless his course were changed, would pass very near the other. The first monster's treatment of the "swans" had made me his enemy, so I was well pleased with the turn affairs showed a prospect of taking; I desired that his banqueting should be disturbed. And it was. The new comer found him, and went in for a share of the prey. A battle, the most frightful that I had ever before witnessed between two living creatures, immediately commenced. They seized each other and rolled over and over in a real death struggle, for several minutes, in the course of which they actually tore each other limb from limb. Finally, one of them yielded up and died, after which the other, with but two legs left out of six, dragged itself slowly away. And another installment of animals, some like gigantic leeches, and others like Oriental turbans, and all effecting locomotion by stretching and pulling themselves into every conceivable shape, settled down and fell to regaling themselves upon the carcasses. They were, doubtless, the vultures of this remarkable body of water.

A NEW TUNNEL MACHINE, built at the Fulton Iron Works, has just been completed. It is of large size with four drills. It was designed by the Diamond Drilling Machine Company for work on the Blue Gravel Company's tunnel near Smartsville. A trial last week was most satisfactory. We shall speak of it again at greater length.

# HOME AND FARM.

## SHORT PAPERS ON AGRICULTURE.

### NO. 3.

[For the PRESS, by Dr. J. R. THOMAS.]

### State of Agriculture Among the Ancient Romans.

The Romans were in a marked degree a utilitarian people. They were eminently distinguished for the arts of peace, as well as for the art of war. Although for a long period of their history, the whole of Italy was one vast military camp, yet the Romans never lost sight of those humanizing arts, which always accompany advancing civilization; while at the same time they were not indifferent to those useful arts, which augment the means of physical comfort, and which are necessary, in supplying the sinews of war. Among the latter, agriculture was held to be of paramount importance.

### Their Methods of Encouragement.

The free-hold privilege, among the Romans, was a subject of specific legislation. During the earlier periods of their history, the area of their territory was confined within narrow limits, which circumstance would, naturally, restrain the avarice of individual men, who might be ambitious of extended ownership in real estate. In order to make this check the more effectual, it was provided by law, that the right of free-hold should be restricted to an area of seven acres, and the Roman acre was a fraction smaller than our own.

The object of the law was two-fold, in its bearings upon agricultural progress:—First. By this provision the land was more generally distributed; thereby bringing into requisition the agricultural labor and skill of the masses of their population. Second. It also stimulated the farmer's industry and skill, by clothing him with the right of ownership in the soil; and at the same time, by restricting that ownership within such narrow limits, that it would require his utmost efforts to make his annual products supply his annual wants. This method of distributing their lands into small farms, warrants the inference that the Romans appreciated the importance of thorough, careful cultivation.

Another method of stimulating progress, in the art of tillage, is to be found in the honor or high consideration that was bestowed upon those who were skilled in this branch of human industry. By a Roman citizen, it was deemed glory enough for him to be distinguished as an expert farmer.

The effect of a public sentiment of this sort, was that of a constant appeal made to personal pride of character, operating as a stimulus, supplemental to the motives, derived from sources, which we have before enumerated.

### Other Favoring Influences.

In addition to these means of encouraging husbandry, leading statesman, poets, orators and military captains honored this department of industry by a personal participation in its labors and its profits.

"Cincinnatus the ploughman" is as familiar to us, as household words. When Rome was in imminent danger from the combined armies of the Ædui and Volsci—all eyes were turned to Cincinnatus, who, in the retirement of rural life, was pursuing his daily occupation as a farmer. When the official messengers found him, he was driving his team in the field. They told him his country needed his services. Leaving his villa and his farm to the care of others, he took the field at the head of a small army, and executed his commission with so much despatch, that at the end of fourteen days he had captured, by masterly tactics, the two large hostile armies without a pitched battle; and was again at his farm, driving his team as if nothing had happened. A second time he was called out under similar circumstances, and with the same result. In both instances, he promptly resigned his power, when his work was done, desiring no other reward than the consciousness of having done his duty; and of having saved his country.

### Some Queries—Tendency of Farming Pursuits Morally.

1st. Does God ever make such men as Cincinnatus, now-a-days! Men who can use power so well and resign it so gracefully—men whose modesty and whose love of peace incline them to home duties, in the retirement of a rural occupation, rather than to the prominence and excitement of public life—and yet, men who have the patriotism and the pluck to sacrifice their partialities and their domestic interest, whenever their country may need their services?

2d. Was Cincinnatus what he was, because he was a *farmer*, or did he choose this noble occupation because he was *Cincinnatus*?

Perhaps both are true. The tendency of agricultural pursuits, instruct the excellent by daily observation, to improve the moral feelings by constant communion with Nature, which is God, operating through second causes; and to strengthen the sentiment of patriotism, by identifying the personal fortunes of the parties more fully with the fate of the country, in which they live. All of the association of rural life are, relatively, favorable to virtue. They have a tendency to fasten and cherish the social element, because they are attended with less of absorbing, brain-wasting care, than many other pursuits; and also, because the business of farming necessitates, less than any other businesss, the condition of conflicting interests between the members of its own fraternity. It also inspires a feeling of wholesome independence which is a valuable element in the character of a good citizen.

### Other Prominent men of Rome take Interest in Agriculture.

Cato, the Censor, who was distinguished as an orator, statesman and general, wrote extensively on husbandry; and received a formal vote of thanks from the Roman people, for having conferred upon the nation so signal a favor. In that treatise he expresses the opinion, that it is a "grand point in agriculture, *to hold but little land, and to cultivate it thoroughly.*"

Virgil, and Varro, and Pliny, all devoted attention to this branch of industrial literature. Every school boy who has studied the ancient classics, is familiar with the inimitable "Georgics" of virgil, and he well remembers, how he was charmed with his inimitable description of rural life, generally; as well as with his easy and natural enumeration of the maxims and duties of farm economy. He says: "The farmer may *praise* large estates, but let him *cultivate* small ones."

Pliny tells us that 340 stalks of wheat were sent to Nero, from Byzantium, with the following inscription. "The land on which this was raised was so stiff and dry, that the stoutest oxen could not plough it; but after a rain, I have seen it opened with a share, drawn by a wretched ass on one side, and an old woman on the other."

I should think that this soil was not very unlike some of our California adobe-soil. I am happy to be able to state, however, that I have seen nothing, in the shape of a team on this coast, that bears the slightest resemblance to the one described; although according to the opinion of the facetious Dr. South, the team which ploughed the wet land, was a superior motive power to the one which ploughed the dry.

This witty prelate, in a sermon which he preached on the parable of the nobleman's feast which sets forth the excuses of the invited guests—after descanting upon the several excuses founded upon their having bought one, a "piece of land," and another "five yoke of oxen," finally came to the one who had "married a wife;" whereupon, after an emphatic pause, he exclaimed: "My brethren, I will tell you what is the fact—one woman can out-pull forty-yoke of cattle!"

By order of government the extensive works of agriculture among the Carthagenians, was translated into the Latin language for the benefit of the Roman people.

We infer from the amount of agricultural literature among the ancient Romans, as well as from other historical facts before stated, that field-tillage was honored and cherished, among them, as a most vital interest.

### Their Modes of Culture Comparatively Defective.

During their earlier history, as already stated, their limited territory and small population restricted farmers to small patches; which circumstance, while it stimulated thorough culture, according to their means and their rude ideas, operated as a barrier against anything like a liberal system of progress; because no one individual farmer could command the means necessary to risk anything on experiments; or to procure improved machinery, by which the boundaries of agricultural knowledge could be extended. During the later periods of Roman history, it is true, the area of landed estate allowed to a single farmer was increased to 50 acres, and in some instances, to 500 acres. Yet, at this period the Roman people had introduced slavery, as a part of their social system and their bondmen, almost exclusively, was committed the management of their farming operations. This had the same effect in the Roman, as in the Grecian States; that of lowering the estimate formerly set upon farming as a vocation; and, in several ways tended to check progress in agricultural science and industry.

In a future article I propose to present a few interesting facts in the history of agriculture, in more modern times.

Vacaville, Feb. 1871.

## FARM HOUSE CHAT.

### NO. 1.

### The Rural Press Appreciated.

EDITORS RURAL:—A hungry man is thankful for any food; but how if he come upon all his favorite dishes freshly served and "done to a turn?" His very soul warms with grateful delight; no words are equal to the offering of thanks.

Even so we welcome and devour the weekly "RURAL" feast that comes "hot and hot" with intelligent zeal, cheerful good sense and abounding good-will. We look in each others eyes with silent satisfaction; we beam with a sort of holiday fullness, and audible adjectives are made in vain.

The arrival of "No. 1" was as good as a surprise party that comes in at the back door, and surreptitiously fills the pantry with sweet-cakes and all sorts of goodies. I passed it along to my Uncle Toby with the comfortable assurance that Christmas chimes could not be more harmonious than he with this new journal of "just what we seem to need the most."

Soon to my horror, I heard an ominous growl, followed by a hitch of his chair that was well nigh fatal to its hind legs. (The unlucky man had opened straight upon the illustration of "One of our Parks") "Woodwards Garden, the Central Park of the Pacific!" That is the way we Californians make ourselves ridiculous. We "slop over" with conceit; invite disparagement; and then wince at well derserved criticism. Why, I might as well compare our modest, babbling Beau Creek, to the world-renowned Niagara!

San Francisco has reason to be proud indeed of a citizen so public spirited as Mr. Woodward; and if she will follow his good example *may* some day have a Park that need not suffer from comparison with other great Parks of the world, and—"by this time my uncle Toby had subsided;—voice and chair had resumed the ordinary level, and his shining glasses were peering through four wide-awake columns, seeking "whom they might eat somebody." But from that time to this there has been never a growl. Words of hearty praise instead, and an often expressed desire to help on so worthy an enterprise. Possibly it may help you a little to know that my uncle Toby thinks you are on the right track: gives you a rousing "slap-o'-the-shoulder," and bids you "go-ahead and deserve well of your country." You have a correspondent

### "Along the Coast,"

who possibly may visit and "write up" Santa Cruz; but if he gets spooney (as I always do) over her right-royal heritage of beauty, his pen will have little time or inclination to wander among us farmers; so I will just tell you that we have nothing special to grumble at, as we generally cherish the fond delusion that for agricultural purposes, Santa Cruz is the very "*creme de la creme*" of California counties.

Provided we are willing to knuckle down to a reasonable amount of hard work, we can raise everything here that is good for man or beast; and when you come to the wine-growing interest, we are perhaps in danger of expressing and imbibing altogether too much of a good thing; at least, so affirms my uncle Toby from the depths of his growlery, and silently and mournfully "I concur."

Those warm, dry weeks between the early and later rains were so well improved by our farmers that the welcome January showers found everything in apple-pie order; millions of waiting seeds ready to spring forth to life, beauty and usefulness.

### Our Farmers Club,

is now more than a year old; but somewhat timid as yet, hesitating to admit as members any but straight-up-and-down farmers. Meetings are held twice a month in the Court House; and really those brain-weary lawyers ought to be allowed, if they wish, to refresh their souls occasionally with the homely original wisdom that springs from contact with mother earth. Even lawyers are sometimes "knowing" on a variety of topics. Some of them actually engaged in horticulture, tree-culture and various innocent pursuits; so if any apply for admittance to "our" club, I would gladly plead his cause without fee or other hope of reward than to see him soon and soundly converted into a thorough-going farmer.

And the doctors—wont I speak a good word for them? My heart quite warms as I think of what some of them—God bless their noble souls—have done for the farming interests of this state. Even to speak their names is as good as a "cattle show," for any farmer well posted on agricultural topics; and plenty of our Doctors would be glad to throw physic to the dogs, and turn farmers at once if they only knew how. What better way to learn than among discussions upon "how to grow crops," and "how to feed them;" how to prevent damage from water courses"; "how to raise calves;" how, in short, to improve and manage everything wisely and well.

I cannot tell what malign influence is feared, or what objection may be urged against the admittance of any man possessing intelligence, with or without a garden to experiment upon. Contact with wide-awake minds is good for us all, whether it tend to grain-culture or brain-culture.

It has occurred to me that a very occasional

### Club For Farmers' Wives

might yield a fair amount of pleasure and profit. "Rights" are the fashionable thing just now, and most fervently all will agree that we have a right to improve ourselves, our homes, our method of cooking and other house-duties. Even the dressing of babies calls loudly for improvement, as all nervous mothers have *heard;* and I hope they will follow the common-sense directions given by "L. P. J." in the RURAL.

When reading Dr. Bellows "Philosophy of Eating" and "How not to be Sick," I was moved by the spirit almost to the point of declaring that "I too have a Mission." Not for suffrage—alas! I would fain be excused from that threatened supplement to womanly duties: but my labor of love should be the preaching of an amended "Gospel of Graham," viz:—The cooking of plain, wholesome food in such variety and excellence that the palate should always be satisfied, and the stomach never outraged; while brain, adipose, bone and muscle should each have due supply of congenial nutriments; to be end that all may jog merrily onward to the utmost limit of serene, healthful old age.

But my charity begins at home, and I am delighted to learn of new methods and discoverses in this line. RURAL PRESS, No. 1, gave me a new idea—thanks to the lucky miner who prospected for a

### New kind of Corn Bread,

And "panning out" a success, imparted it to his neighbors, in generous miner fashion. I told my uncle Toby what I had found, adding the wish that exact directions had been given.

"Nonsense, child; if a miner made it, there was no *bother* about it, "you bet." When you hit upon the easiest way, that is sure to be *his* way."

So I took, say one part mush, beat it smoothly with buttermilk; (sour milk will do) added the two parts corn meal, a spoonful of brown sugar, tea-spoonful of salt and tea-spoonful of soda dissolved in water and enough more buttermilk to make a thickish batter. This, baked in a hot oven, was simply delicious, and the children asked "when will you have some more mush johnny-cake?" Old housekeepers and miners can cook by "guess"; but remembering the tearful perplexities of the days "when I was green," I have written out my way for the benefit of new beginners. MARY MOUNTAIN.

Springvale Farm, Santa Cruz.

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"LOTS of timber and little fruit." Trees that are allowed to go almost entirely to limbs can produce but little first-rate fruit, besides the ground is so encumbered that it is hard to cultivate near the trees.

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A FARMERS' CLUB.—Mr. Brown, of Massachusetts, senior editor of the New England *Farmer*, recently stated at the New Hampshire Farmers' Convention, that the result of the action of the farmers, club in his town has been: "A decided increase in the crops, at a less cost than heretofore, and education to the members which the best schools could not give, and more interest and satisfaction in the employment.

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THE TEHUANTEPEC RAILROAD.—The commencement of this work was inaugurated on the 9th of January, with imposing ceremonies.

# The Dairy.

## DAIRYING IN SANTA CRUZ.

The Santa Cruz *Sentinel*, after going at length into the causes of the poor quality of the butter and cheese which has heretofore been made in this State, arrives at the conclusion that things in that respect, have very much changed, of late, and that the most delicious butter and cheese is now made here, which commands prices in proportion. Dairymen are getting rich hand over hand. Their cows are of the best breeds and feed upon a thousand hills. Only heifer calves of the choicest cows are saved for milkers; the poorer ones being converted into veal. The most extensive dairying at this time is carried on in Marin county; and butter from that section of the State, has steadily, until quite lately, commanded a premium. The *Sentinel*, however, claims that Santa Cruz is now taking a stand by the side of Marin. That paper speaks as follows of the present and prospective value of this interest in that county:—

What can we say for that portion of Santa Cruz county lying between Steigleman's Half-Way House, Watsonville road, and the Peseadero line, including the San Lorenzo Valley? We can say that it is a portion of the best grass land in the State. Further, that the Santa Cruz butter and cheese to-day commands a premium in San Francisco, and that the most of the dairy land is as yet unoccupied for dairy purposes. The grass of the San Lorenzo river is sufficient for a large dairy, and would be an interest-paying investment if thus employed. There are one thousand acres of the M. A. Meader Rancho, unoccupied, we believe for sale or rent, that would make a large first-class dairy. There is the Major Rancho of sixteen hundred acres that would make two dairies of eight hundred acres each. There is the Castro Rancho of eight hundred acres that would make a desirable dairy.

That portion of the Meader Rancho known as the Harte Place, two thousand acres, is leased for five years and occupied by Halley & Perry, with three hundred cows. These gentlemen commenced butter-making here October 17th, 1870. They are experienced dairymen from Point Reyes. During last month, far from being a good one, they made two thousand four hundred and forty-nine pounds of butter, milking on an average less than one hundred cows. The butter sold for from sixty to seventy-two cents, gold, in San Francisco. At this time Halley & Perry are milking one hundred and thirty cows, and making a daily average of one hundred and ten pounds of butter. It is really a sight-seeing to view their hundreds of pans of milk as they are racked up on either side, rich in golden cream; their patent churn that changes cream into butter in fourteen minutes; their patent turn-table for pressing the whey out of the butter after it leaves the churn, without touching it with hand or finger; their tables and stands that glide around on castors, empty or loaded with cans of cream.

Everything is as neat as a pin—so clean that it shines. The butter is as sweet and palatable as any we ever tasted. Seven hands are here employed. The butter is shipped from the Santa Cruz wharves in large boxes, having first been put up in four and one-quarter pound lumps, securely wrapped. Halley & Porter inform us that they are very much encouraged with their success here, that their butter is as good as the Point Reyes, that the feed is as abundant and lasting, and that they have every reason to believe that this county is soon to be famed for its butter and cheese; that land for dairying can be purchased or leased at reasonable prices, and that the "fog belt" coast range is *the* place for making butter. The manufacture of cheese is no part of their business.

The portion of the Meader Rancho now devoted to dairying furnishes employment for some twenty hands, which is an increase of at least fifteen on what was employed two years ago.

Mr. Wm. Bradley has leased the Horr, and nearly all the Moore Rancho, with one hundred cows, for twenty-six hundred dollars a year, and is preparing to commence the manufacture of butter.

Pasquel & Co., have leased one thousand acres of the Meader Rancho, and have commenced dairying with seventy cows.

Taking this statement of our present and future dairies as mainly correct, we have reason to feel encouraged as to the future wealth of Santa Cruz county; and although clouds seem to hang heavy over the immediate future of business and laboring interests, we feel safe in predicting that the time is not far distant when all will be aglow with the encouraging rays of sunshine and prosperity.

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Tule Land Reclamation.—Josiah Poole, of Rio Vista, who has cultivated tule lands for a period of eighteen years, has invented a machine which it is said materialy reduces the work of reclamation. The machine is termed the Rotary Sod Cutter, and consists of a substantial wooden framework, arranged after the harrow style, with small iron wheels. In a line between the two wheels, are seven circular knives. These knives are fourteen inches in diameter, seven inches apart, and cut to a depth of seven inches. The framework is raised by a simple brake application, when the knives are not in use, and can then be drawn about as easily as a cart. The cutter is said to work to a charm, and to be far superior to the plow. The machine is on exhibition at Baker & Hamilton's, Front street, near Market.

Experience has fully shown that the tule lands when reclaimed by levees, and properly broken up for cultivation, form some of the richest and most valuable farm lands in the State; and every device calculated to reduce the labor and cost of their reclamation should be hailed as a public benefaction. With this view we would recommend to all interested a careful examination of the machine above alluded to.

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Agricultural Exhibition in Sidney.—The Secretary of the Agricultural Society of Sidney, New South Wales, in a letter addressed to a gentleman of this city, expresses a great desire to exchange information with gentlemen in California, engaged in experimental agriculture. He says; "Like you, we have attempted successfully the culture of the ramie plant, silk, rice, cotton, sugar (from beet, sorghum and cane), etc., etc. All these industries, however, are as yet in their infancy.

"I perceive that you are preparing for an Industrial Exhibition for the ensuing year. * * * We intend going in for an Intercolonial display, once every three or five years. We shall hold an agricultural show in August next. I shall be glad to reserve a court for your produce."

Communications should be directed to the Secretary Agricultural Society, Sydney, N. S. W.

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Monthly Agricultural Report.—We are in receipt of the monthly report of the Department of Agriculture for January, 1871, containing a statement of the yield and home prices of farm products tabulated and condensed from the January statistical returns of country correspondents, with notes upon certain crops, and extracts from correspondence. The report also contains a paper on American Desert Flora, memoranda upon the cultivation of the plains, and recent scientific notes bearing upon rural economy, with items from various sources, and monthly meteorological tables. The report contains a vast amount of highly interesting matter from which we propose hereafter to extract those portions of interest to our readers.

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Communications Received.—"Jottings in Monterey Co.;" "A Visit to the Devil's Gate in Winter;" "The Needs of Agricultural Communities," No. 4; "Neuralgia;" and "Sore Eyes" for our Health Department; "Up Country Letters," No. 4; another communication from "Nell Van," and the paper elsewhere alluded to on "The New Zealand Flax."

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Water for Napa.—We understand (says the Napa *Register*) that a company composed of gentlemen of means, residents of San Francisco, has been formed for the purpose of supplying our city with fresh water. The preliminary surveys are being made for the route to bring the waters of Milliken cañon and some other streams east of this place, into the city, and it may be to extend their supply pipes to Vallejo.

## POTATOES ON SHERMAN ISLAND.

The finest potatoes raised in the central portions of the State are from Sherman Island, from whence large quantities are received at this market, and quite late in the season. The light rains which fall there, compared with the rain fall in many other portions of the State, allows them to remain in the ground until very late in the season—until after the first light rains, whereby they are kept fresh and in good condition for the market. Hundreds of acres still remained in the ground, there until towards if not quite to the middle of last month. The natural moisture in the soil, kept near the surface by the high water in the river during the spring and early summer, promotes a rapid growth of all kinds of vegetation on these lands. The top soil gets the benefit of the warmth of the sun, while the proper moisture is at the same time being greatly and abundantly supplied to the roots of the plants.

Potatoes on this Island yield about 125 bushels, or $108 per acre. While one crop is being dug, another is being planted. Two per year can easily be raised. The early rose, pick eye and early Goodrich seed are planted in the winter for the spring crop and Humboldt seed in the summer for fall crop. The land of Sherman Island is immensely rich and productive, but there are many thousands of acres on the banks of the San Joaquin and Sacramento rivers which will be found of equal value as soon as the tules have been eradicated therefrom.

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New Zealand Flax.—Considerable interest is being manifested in some portions of the State with regard to the introduction here of what is known as "New Zealand Flax," a plant which probably yields the strongest vegetable fibre known. We have been furnished with a full description of this plant, with all necessary particulars with regard to its history, cultivation and preparation for the market, the publication of which will be commenced next week. The gentleman who has thus favored us has a practical acquaintance with the cultivation and preparation of the fibre; having obtained his experience in New Zealand. The plant is easily raised, and cheaply prepared for the market—the machinery for its preparation being within the reach of almost any farmer of ordinary means. It is adapted (in its different varieties) to almost every class of soil, from that which is submerged a large portion of the year, to the driest up-land. Its introduction into this State will furnish us with an abundant and cheap material for bagging and other coarse goods.

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The Levees upon Sherman Island are nearly completed. One hundred Chinamen are kept busy upon them. It is stated that 7,000 acres on this island will be put in grain this season, mostly in wheat; 4,000 in potatoes, and twenty acres each in flax, canary seed and broom corn. Among all the various experimental crops that are to be tried this season, we do not hear of any one who proposes to experiment with rice.

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Mr. Schnell's Tea Plantation.—We are pleased to notice that Mr. Sargent has introduced a bill into the House of Representatives, which was passed by a unanimous vote, allowing Mr. Schnell to purchase the 640 acres of land which he occupies, at Government price. Mr. S. has already possessory right; but this action admits of his securing a permanent title, such as will warrant the extensive improvements which his enterprise requires.

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One Locomotive a Day.—In one of the large Philadelphia factories, eighteen hundred men make a locomotive engine in one day—boiler, cylinder, frame, driving wheels, truck, stack, cab, pilot and tender complete.

## CALIFORNIA AGRICULTURAL NOTES.

Sugar Beet on Grand Island.—The Yolo *Mail* of the 9th inst. has the following concerning sugar-beet culture on Grand Island. "We are informed that a company of capitalists have made partial arrangements to enter extensively into the cultivation of the sugar-beet on Grand Island, or rather on a large quantity of the land reclaimed by the Swamp Land Reclamation Company. This land is particularly adapted to the beet, as it is of a swampy nature, and retains moisture nearly all the year round. The intention is to make the experiment of cultivating large quantities, and if successful, to procure machinery and erect works for the manufacture of sugar.

A new machine for taking off the hide of dead cattle will shortly be tried at Buenos Ayres. The operation is short, sharp, and decisive, requiring only a minute for each hide. Cold air is forced by a pump between the flesh and the hide, and the thing is done.

The people of Anaheim have had twelve years' experience in irrigation, and are not tired of it yet.

About 50,000 acres will be the aggregate of land sown in grain in the vicinity of Hollister, Monterey County, this year.

Ramie in Chico.—Geo. F. Nourse is cultivating upon his farm, near Chico, two acres of ramie plant; if successful, he will, next season, give extended attention to its growth.

Agriculture in San Luis Obispo.—We have always said, and still say, says the San Luis Obispo *Standard*, that we have as good an agricultural county as there is in the State. The more we examine its products and compare them with products of portions of California that we know can't be excelled, the more convinced we are of of the truth of the above statement.

A Cow belonging to J. H. Tilton, of the Geiger Grade toll-road, Virginia, recently became the mother of four calves. All but two of the lot are alive and doing well.

Flax in Oregon.—It is said that 5,000 acres of land will be sown in flax, in Lane county, Oregon, this season.

Shade Trees.—The Santa Rosa *Democrat* says that many of the citizens of that place have commenced beautifying their residences, by setting out shade trees and ornamental shrubbery. This shows excellent taste on the part of the Santa Rosaites; the citizens of other towns may profit by their example.

A Winter Blooming Almond Tree.—At the residence of the editor of the *Stars and Stripes*, in Auburn, over 1,300 feet above the sea level, there is a large almond tree upon which there were fully blown blossoms on the 30th of January, and at the date of this writing—February 7th—the crown of the tree is a literal mass of buds and blossoms.

Oranges and Cork Oak.—The Visalia *Delta* says there is a region along the margin of the foothills much more free from frost than the valley around Visalia, and there can be no doubt but that that region is as well adapted to the production of the orange as any portion of the State. A few specimens of cork oak have been planted, are healthy, and have made a growth quite equal to that of our native live oak.

Flax vs. Tule.—Prof. Bolander suggests that New England flax be tried upon tule land, as an exterminator of the tule. This flax produces a valuable fibre, does well on wet land, and the Professor thinks it might possibly kill out the useless tule.

## Eastern Agricultural Notes.

It is estimated that 5,000,000 trees are planted annually in the State of Iowa, two farmers in Grundy having set 26,000 this spring.

Cheese for England.—A New York cheese factory made 75 large cheeses for the English Christmas market. The average weight was about 300 pounds each.

Some Pumpkins.—A firm at Portsmouth, New Hampshire, has entered into a contract to furnish 200,000 pumpkins, to be delivered at Portland within the next twelve months. The purchasers propose to can them.

A Beet Harvester.—A person in France has constructed a plow which lifts beets and turnips from the ground, and throws them aside from the swinging mold board. The plants are then topped by women who follow the plow. One of these plows, worked by a man and a pair of horses, will take out two and one-half acres of bulbs or roots in a day.

# INDUSTRIAL MISCELLANY.

THE HOPE FOR CALIFORNIA.—The Gilroy *Advocate* very truly says that the hope for California, lies in the establishment of manufactories throughout the State, wherever material can be provided for them, and motive power can be supplied. When we shall manufacture our own sugar, instead of buying it abroad; when we shall fabricate our own cloth from our own wool and possibly, cotton, instead of paying England to do it for us, expending immense sums for freight both ways; when, in short, the money now sent abroad for manufactured articles will be kept at home to enliven every business relation, then will have dawned the day of prosperity for our State.

CHEESE MAKING IN CALIFORNIA.—Our cheese-men, says the San Jose *Mercury*, have finally succeeded in filling the market with their productions, so there is no immediate necessity for any further importations in that line. Home made cheese equal to the best Eastern manufacture, is now a drug in the hands of the producers. We have been a long time in reaching this result, and many have been the fortunes realized by California dairymen; and we trust they will now turn their attention to butter-making—a branch of the dairy business that has heretofore been confined almost exclusively to small farmers, and widely scattered owners of five cows. It is about time that the importation of dairy products, eggs, hams, or provisions of any kind into this State should cease. With our vast extent of the finest pasture land in the world, if we cannot make our own butter, we ought to be starved into the necessity of eating our bread plain.

POTATOES FOR MILK.—Recent experiments by dairymen in England, seem to show that potatoes fed to milch cows are equal to turnips, carrots or beets, for milk production. We do not know but this will prove to be the case, but we have serious doubts about it. Let some of our readers try the experiment.

THE BEST COW THE CHEAPEST.—One cow that will make two pounds of butter a day is more economical than to keep two and get only three pounds; yet how few farmers act as if they believed such to be the case.

TROUBLE IN CHURNING.—In the process of churning it is often noticed that the cream foams up and over the churn, and will not come to butter. A dairyman in Champaigne, Ill., remedies this evil as follows: Put a kettle of water on the fire and heat the water to one hundred degrees, Fahrenheit. Then set your crock of cream in the water and let it remain until it has a temperature of sixty degrees, stirring it constantly while warming. Then put it in the churn and churn it, and you will not fail to get good butter.

BUTTER POOR AND SCARCE.—The severe and continuous frosts of the early portion of the season nipped the tender grass, then just starting, as fast as it grew, thus leaving the stock nothing to eat, when farmers had neglected to provide for such a contingency, and as a consequence we have been annoyed, more than usual, this season, with poor butter—and scarce at that. This lesson should warn those farmers who burned their straw, last season, not to repeat the folly again. With no outside pasturage and empty barns stock does and will continue to suffer, while the provident few realize a handsome income from the stack fed cows. We hope another season will set forth a different order of things.

EXTENSIVE UNDERTAKING.—The San Jose *Mercury* says that a wealthy company of Eastern men are arranging to come to California for the purpose of engaging in fruit culture on a large scale. They have contracted with Mr. G. W. McGrew, of Santa Clara county, to plant them a nursery of from thirty to fifty thousand each of almond and orange trees, raisin grapes, and a variety of other fruits that will thrive in this country. We learn that Mr. McGrew has commenced operations by securing a tract of land of Judge Archer, near this city, for his nursery, and will immediately proceed to the work of planting.

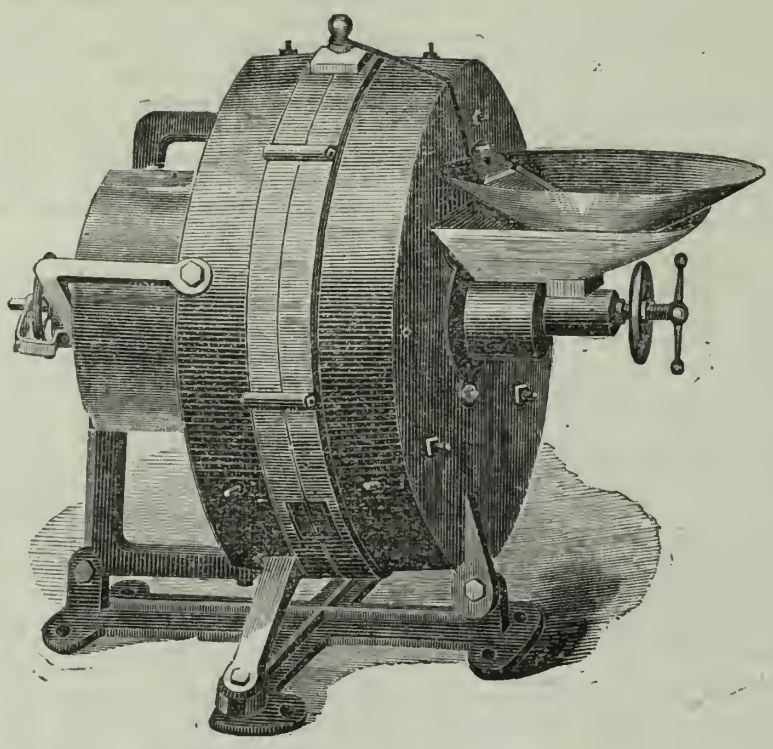
SAN JOSE WOOLEN MILL is now working forty-five hands—on cassimeres mainly,—but making a few gray blankets. It is turning out an excellent quality of goods. Their cloths find a ready sale in the San Francisco market—all that they do not disposed of at home.

## An Improved Flour Mill.

In our great wheat-producing state, any device which has to do with the production or treatment of this important staple is of interest. There is a gentleman, who thinks that he has an invention which will be particularly valuable to our farmers, as well as to others who need grinding machinery. An illustration of this invention is here given. It is called the "Iron-Clad" mill, and is constructed with a view to simplicity and efficiency. It has comparatively few pieces, small weight and great strength; and is said to grind better and faster than the common kinds.

As to its work, we give one example. We have a letter from Mr. M. A. Gee, of the North-Western Flour mills, at Milwaukee, and this we publish with a few unimportant alterations. The gentlemen writes:

After a trial of four months, notwithstanding my strong prejudice at the beginning, I am delighted with the Iron Clad. We tested it by running it by the side of a *very choice* 4-foot buhr, both on the same wheat. We would try first the one and then the other. The facts are simply these: We can flour in the 4-foot buhr 15 bushels of No. 1 spring wheat per hour; with the Iron Clad we can flour 20 bushels of the same. This is with a full head of water. When the water gets so low that we cannot run the 4-foot stone, we can take it off, throw on the 30-inch Iron Clad, and run all day and night, making 1 bbl. of flour per hour; and the flour seems to be just as good as when running full head.



FORSMAN'S "IRON CLAD" FLOURING MILL.

We have taken samples of flour to our regular Chamber of Commerce Flour Inspectors from both the 4-foot and the Iron Clad, and in every case the choice has been that of the latter. Not to stop here, we have taken the flour to the Board of Arbitrators appointed by the Chamber for *their* decision, with the same result. And as a still further test, we have had the flour from each stone baked by some of our most experienced bakers, and the Iron Clad is still ahead,

From 3 to 7½ lbs. less wheat are required to the barrel of flour with the Iron Clad, than with the 4-foot stone. This is a very important item, as every man accustomed to running a flour mill will readily see.

These experiments have not been made in a hasty manner, but the facts given are the results of very careful and very fair tests, giving the 4-foot stone all the opportunity possible. Again, it has not been for a day or a week, but right along every day.

To keep the Iron Clad in order does not require one-half the attention which is necessary with the ordinary mill. It runs equally well when grinding 5 bushels and when grinding 20 bushels per hour; this is not the case with any other mill I ever knew. In regard to grinding middlings it cannot be beat in the U. S. When we get ahead on middlings, we open the spout and let them down, and when run out, shut up the spout and let the mill run empty for hours, don't meddle with the lighter screw, and yet get no dull stone. I consider this remarkable. Aagain, the motion being rapid, it bleaches out the middlings and makes them whiter than does any other stone I ever saw.

We shall be very glad to see any one who wishes to see the Iron Clad in operation, and will take pleasure in answering any questions in reference to it.

Mr. Geo. Littlefield, miller, witnesses to the correctness of these statements. The agent for the mill, who may be addressed for any further particulars, is Mr. J. A. Forsman, 70 South Canal street, Chicago.

## Melon Sugar Making.

EDITORS PRESS:—The success of the Alvarado beet sugar works in placing upon the market an excellent grade of white, granulated sugar, at a cost that successfully competes with the sugars of the refiners, very naturally tends to awaken a lively interest as to the future of this great industry—Whether the five millions of dollars that are now paid annually for sugars to supply our wants, shall continue to flow away from us, to foreign countries; or whether within three years from this, California will be the producer of all she consumes and a large supply for a vast country east of the Sierras.

The works at Alvarado conclusively show that with the use of a large capital, ranging from $100,000 to $200,000, white sugar, equal to the best of the refiners' goods, is made and sold at a large profit. But the large capital required to make sugar upon this plan, entirely precludes the possibility of sugar making becoming that general industry that it would, if it could be prosecuted upon a capital within the scope of the small farmer's means, or an association of a few for that purpose.

One great item of cost in operating a beet sugary, is the transportation of the beets from the fields where grown, unless in close proximity to the sugary. Companies should always own land to the extent of six hundred or a thousand acres, in the immediate vicinity of their sugary. This almost necessarily involves the use of large capital to operate beet sugaries successfully.

It is not so with sugar from melons. An establishment for melon-sugar making need not cost more than $10,000; but if it is proposed to enlarge the works after the first year, provided it proves a success, it would be far better that the original first investment be $20,000; because, in the first place, the enterprise is sure to succeed, and then a better expenditure of the money can be made in using the $20,000, in a whole and perfect apparatus from the start, than in the use of the half first, and then adding the other half to the inadequate machinery of the first year.

What the country wants, is a way by which the small farmer, with his own melon patch, can make all the sugar he consumes, if only brown sugar, and have a surplus to dispose of.

These brown sugars could be collected by the refiners and converted into the best white sugars. Then all interests would be subserved, and a new and exceedingly profitable industry introduced, that would soon tell upon the prosperity and wealth of the state.

Farmers can even make their brown sugars from melons at an expenditure of $1,000 or less for equipment; but they must know how to make it; how to obtain the juice free from the rind and pulp; how to defecate the juice by the use of lime; and then how to take the lime from the concentrated juice, without the use of costly apparatus for carbonic acid, necessary in beet sugar making by the Alvarado process.

A melon sugar establishment upon some of our reclaimed lands, as, for instance Sherman Island, at a cost of $20,000, would not only demonstrate the complete practicability of an extension of similar enterprises all along the alluviums of our valleys; but would also pay two and a half per cent. per month upon the entire cost, including land, the first year, and better than that in years following.

I am ready to put money and my whole time into an enterprise of this kind, should there be others who will unite with me:—First, to promote our own pecuniary interests, and then, indirectly, the prosperity of the whole state.

I would have it a model sugary; a sugary of interest and instruction to all desirous of extending successfully this new and important industry. W. WADSWORTH.

Sacramento, Feb. 1870.

A GOPHER HOLE.—A gopher burrowed his way through the massive embankment of the new reservoir of the San Jose Water Company, and as a consequence the water commenced to find its way through the hole. The leak was discovered and the gopher killed, but he had already done his work. The great pressure of the water in the reservoir soon enlarged the small aperture to the size of a man's body, and the reservoir was soon emptied and all the land below it flooded. Several weeks time will be required to make repairs and fill up the "gopher hole." In the mean time, however, the city will receive its regular supply of water from the reservoir.

VEGETABLE PROFITS IN MASSACHUSETTS.—A correspondent of the Boston *Cultivator* reports his success in raising vegetables, four miles from a village. The two requisites adhered to were good soil and thorough cultivation. The entire grounds were a few acres, and a small part was occupied.—Half an acre of peas gave seventy-eight bushels (in pod of course) at $1.90 per bushel, or $148.20. Sweet corn amounted to $70 from half an acre. Two hundred hills of pole beans gave $50. Over $300 were received in less than three months.

AMERICAN MECHANICS may feel a bit proud over the fact that some of our gun manufactures are now filling large orders for Russia, and that fifty Yankee mechanics have just departed for that country to take charge of government shops. England also sends over heavy orders for the Gatling gun, and Prussia and France are drawing constantly on the inventive genius of our craftsmen.—*Sac. Bee.*

CHEESE IN NEW YORK.—Cheese manufacture in New York State is growing to stupendous proportions; 1,200 factories are already in operation.

CENTRAL CITY, Colorado, is taking measures for a water-supply. It is estimated that an adequate supply can be obtained at at expense of about $3,000.

# POPULAR LECTURES.

## Vaporization and Elastic Force of Steam.

[Prof. JOHN LECONTE before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

### Heat and Work.

LECT. V., Feb. 11.—In my last lecture, said the Professor, I stated that heat was convertible into work and work into heat. It is of importance to find out how much work is necessary to generate a certain amount of heat, or how much heat is required to perform a certain amount of work. The most accurate experiments to determine this were made by J. P. Joule, of Manchester, England, who was engaged from 1843 to 1849 in these researches. Before speaking of these, I must say something about what the units of heat and work are. If we measure anything, we must have a unit to refer to. Thus, for distances we have a unit of length; for weights a unit of weight, etc.

All units are necessarily arbitrary, and unfortunately different nations have chosen different units. The English unit of work is that required to raise one pound one foot high, or, as it is called, one "foot-pound." The French unit is a meterkilogramme, raising one kilogramme one meter. The English unit of heat is the amount of heat necessary to raise the temperature of one pound of water from 32° to 33°, Fah. The French unit is the amount required to raise the temperature of one kilogramme of water from zero to 1°, Cel.

Joule sought to ascertain the relation of heat and work by means of the apparatus here shown. In a copper vessel, A, were sixteen metallic paddles, *a*, eight in a horizontal row, attached to a shaft, *d*, and revolving between eight strips of metal, *c*, which were fastened to the sides of the vessel. The vessel was filled with water and the peddles made to revolve by the weights, B and D, which sank down a distance of 63 inches. When these touched the ground, the pin, *o*, connecting the shaft and the cylinder around which was wound the cords, was taken out, the weights wound up without moving the paddles, the pin replaced and the operation continued. When the weights had sunk 20 times, the temperature of the water was taken and the heat generated by the motion of the paddles thus found, and the mechanical work of the weights was calculated. The experiments were repeated with mercury and an iron vessel; also by rubbing two metals together. In each instance the increase of heat was found and the work performed; thus was obtained the relation of the heat developed and the work done. Then he calculated how much work was equivalent to the unit of heat.

### Result of Experiment—Heat and Motion.

Joule's experiments established two things: 1st. The quantity of heat produced by the friction of bodies is always proportional to the work performed and is independent of the surfaces employed. 2d. The mechanical equivalent of a unit of heat is 772 foot pounds. That is, the work necessary to raise 772 lbs. one foot, or one pound 772 feet, is sufficient to generate heat enough to raise one pound of water one degree. Or, in other words, 772 lbs. falling one foot, or one pound falling 772 feet, would suffice to generate the same heat. The experiments of Joule's are regarded as most delicate and the results most accurate, the probable error being not over 1-300 of the figure given.

We can reduce this to horse-power. As one horse-power is taken as 33,000 foot pounds per minute, it is therefore equal to 42.75 lbs. of water heated 1° (Fah.) per minute.

The principle of the convertibility of heat and motion leads us to interesting conclusions. If a mass of lead weighing 38.6 lbs. fall 100 feet, this would be sufficient to heat one foot of water 5 degrees. For

$$\frac{33.6 \times 100}{772} = 5 \text{ units of heat.}$$

If the motion is horizontal the case is the same. If a cannon ball strikes a target, heat is generated, and we can easily calculate the amount of heat. In firing a lead ball against an iron (or other hard) target, we often get heat enough to *melt the ball*, as has been proved. Fairbarn says that at Shoeburyness, England, where experiments have been made with the Whitworth and the Armstrong cannon, he has seen, even in daylight, a broad sheet of flame when the balls struck the target.

### Best Possible Work of Steam Engines.

If we compare the mechanical effect obtained by our steam engines with the heat used, we find that only a small portion of the mechanical equivalent of the heat is obtained. It has been claimed that some of the best Cornish engines have given 20 per cent. or one-fifth; but this statement is doubted. The ratio varies from 1-50 to 1-5, the former being exceedingly low and the latter very high; we may say for ordinary cases from 1-25 to 1-8.

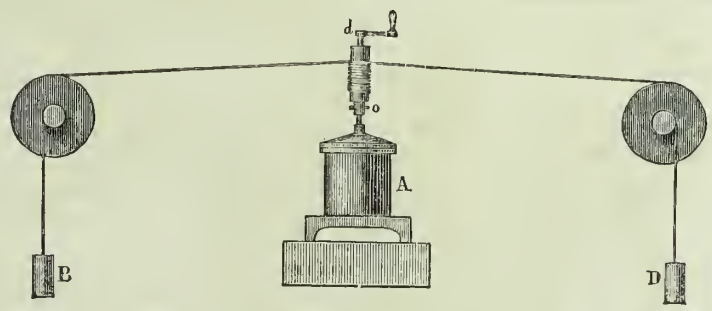
The total heat produced by the combustion of our fuel is expended in producing the following effects:

1. The waste heat of the furnace; say, all the way from 15 to 60 per ct.
2. The necessarily rejected heat used up in internal work.
3. The heat wasted by the engine, by conduction, etc.
4. The useless work of the engine, as in overcoming friction, etc.
5. The useful work performed.

Now in regard to points 1, 3 and 4, the mechanic can do much, but in regard to point 2, the case is different. If we had an engine of absolute perfect theoretical construction, with no waste heat, friction, or other imperfection, it would give only a partial return of the heat produced by combustion of the fuel. The amount of this necessarily rejected heat has been reckoned. The following formula gives the maximum work possible with a perfect engine:

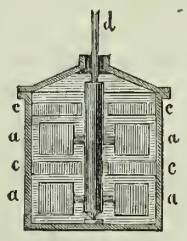
$$\text{Maximum Work} = H \times \frac{a-a'}{a} = H\left(1 - \frac{a'}{a}\right)$$

Here H is the whole heat going into the engine, *a* is the absolute temperature of the boiler, and *a'*, that of the condensor.




By the absolute heat, we mean the heat reduced to the absolute zero of the gas thermometer; that is, to the point where the gas loses all elastic force, viz. at about 273° below zero, Celsius.

Now if the temperature of the boiler = 152° (Cel), and therefore its absolute heat




= 152 + 273 = 425°; and the temperature of the condenser = 30°, or absolute temp. = 30 + 273 = 303°,—the maximum effect will be

$$H \times \frac{425-303}{425} = H \times \frac{122}{425} = 0.28\tfrac{1}{2}\,H, \textit{ i. e.}$$

the maximum effect can be only 28½ per cent. of the whole amount of heat used. If the temperatures were 180° and 30°, it would be about 33 per cent. If they were 202° and 30°, it would be about 36 per cent. If they were 134° and 30°, as is about the case with Cornish boilers, it would be about 25½ per cent. If they were 400° and 100°, it would be 44 per cent.

Now there are several ways in which we can reduce this amount of necessarily rejected heat used in internal work, and thus hope to better our engines. One is by keeping the boiler and also the condenser at fixed temperatures, which is already pretty well accomplished. Another, as is obvious from the formula, is by having the greatest difference between the temperature of the boiler and that of the condenser (*a* and *a'*). This may be accomplished in two ways: by making the condenser very cold or the boiler very hot. But we cannot practically very well cool down the condenser below the temperature of its surroundings, the air etc. Hence the only way left is to make the boiler very hot.

But so far as saturated steam (steam generated and heated in the presence of water) is concerned, we have already nearly reached the limits of safety. Hence we are forced to look to the use of super-heated steam (not in the presence of water) for an advancement. Or we may look to some gas or vapor. To obviate the loss incurred in the manner just treated of, Ericsson has attempted to use heated air, and his "caloric engine" will be remembered by many. If the mechanical difficulties thereby incurred can be overcome, hot air may play an important part in this way.

### In What is Energy Stored Up?

The stores from which man derives energy may be reduced to the following:

1. Food of Animals. The food is *burned up*, and thus is obtained the heat necessary for existence and also for work. If we reckon the mechanical equivalent of the heat thus produced, we find that the horse-machine or the man-machine is far more perfect than the steam engine. [A ton of hay will produce much more work if eaten by a horse than if burned under a boiler.]
2. Solid matter in elevated positons. This is limited in amount.
3. Natural motion of water and air.
4. Natural combustibles, as wood, coal, etc.
5. Artificial combustibles, as prepared chemicals. Limited.
6. Natural heat.

Now we can trace all the energy accumulated in these stores to three sources:

A. Solar heat and light.

B. Motion of Earth; action of moon and sun.

C. Terrestrial sources; hot springs, native sulphur.

As far as man is concerned, we may say that all his energy is derived from the sun. His food is vegetable; either directly, or derived through animals. Now the vegetables grow exclusively through the influence of solar light and heat. Their leaves are the laboratories in which these agencies work with tremendous force, decomposing carbonic acid and storing up the carbon. This force come again into play when man, by eating, burns up this carbon. So with the combustibles, coal and wood, etc. So with water-power; the sun has heated and evaporated the water, which is condensed and falls in high places to again return to the sea. With tides, it is different. Yet nearly all energy may be referred to the sun.

### The Sun's Heat—Man Condensed Sunlight.

Is this supply of power (in the sun) sufficient for all these purposes? Pouillet has calculated that the heat expended on each square meter of surface every minute is equal to about 0.4 horse power, or a total of 211,000,000,000,000 horse-power per minute. If we estimate the amount of water evaporated by the rain-fall, this is sufficient to form a stratum five feet deep, while this heat of the sun would be able to evaporate a stratum 12¾ feet deep. Hence we have heat enough to evaporate a stratum of water 7¾ feet deep left to sustain the growth of vegetables, give rise to winds, etc., etc. It would seem, however, only a question of time as to how long this source of energy will exist.

Looking from this point of view, it does not seem so strange that the Orientals should have worshipped the sun, although they knew not how much they were indebted to it. In one sense, men can be called merely condensed sunlight. The monarch and the peasant are but children of the sun; but to this brotherhood belong just as much the Icthyosaurus, the Trilobite, the spider and the fly.

You will remember how Gulliver in his travels came across a certain set of abstract philosophers who were engaged in extracting sunbeams from cucumbers. After what has been said, this does not appear altogether so ridiculous; the sun's light and heat can be obtained in part therefrom. The proverb says that "love-sick swains and languishing maids feed on moonbeams;" and philosophers show that the moon's feeble light does do something for the growth of vegetables, and therefore may be converted into the energy expended in a sentimental serenade or a long-drawn sigh.

In concluding his remarks, the lecturer expressed the opinion that of all the discoveries of the century, that of the correlation of forces will be hereafter esteemed the greatest. He dwelt on the importance of this and the great influence it has on other subjects. This lecture finished Prof. John LeConte's series. E. S. Carr, Professor of Agriculture and Agricultural Chemistry, will deliver the next course.

## Ice-Boats and Fast Trains.

The Dutch amusement of steel-runner boat-sailing on the ice has been introduced upon the Hudson. There is a club at Poughkeepsie which owns a number of such boats, two of which are called the Zephyr and the Icicle. A short time ago these boats had a race with the Chicago Express train on the Hudson River Railroad. The race is thus described by a correspondent of the New York *Times*.

On the day named, the wind blew hard from the southwest, striking the boats on the quarter. Both vessels were on the ice north of the Whale Dock, and at a standstill within one hundred feet of the east shore, when the whistle of the locomotive of the train with which they were to race sounded. This to the tiller-men of the Zephyr and Icicle was a starting signal. In an instant they were in their boats lying at full length, when they "down stick" and put their crafts on the wind. Then came the race. The passengers on the cars raised the windows and waved their hats and handkerchiefs; the engineer blew tantalizing whistles as his train thundered through the rock-cuts and over bridges, leaving the ice-boats gradually way astern.

Suddenly the breeze freshened. The canvas on the boats swelled out, the rigging tightened, the steel runners commenced humming over the clear, smooth, black ice, and then the tiller-men of the boats knew they had their iron-bound adversary. The Zephyr rapidly overhauled the lightning train with "bow dead to the north," and then the excitement all over the train, from the engineer to the hind brakeman, was of the liveliest nature. Close behind the Zephyr followed the Icicle, boats flying along with lightning rapidity. Again the waving of handkerchiefs and hats and the blowing of the locomotive whistle added excitement to the scene. Soon the novel craft had passed the fast train and were far ahead, slipping over the ice at the rate of a mile a minute. Never was there a prettier race and never was a railroad train, and a fast train at that, so very badly beaten. Running into the poor ice district the victors whirled about like a flash and headed down the river, again giving the engineer of the train as it came along a parting wave, the latter sending whistling shrieks from his machine in response, and the passengers also giving farewell waves of hats and handkerchiefs.

The winter has been unusually favorable for such sport. Reports from all points east and north, on Sunday last, showed intensely cold weather. The Hudson was frozen up again above Peekskill. At Montreal the thermometer marked 26° below zero, and at Toronto 17°.

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THE LOWEST TYPE OF HUMANITY.—On the Island of Borneo there has been found a certain race of wild creatures, of which kindred varieties have been discovered in the Philippine Islands, in Terra del Fuego, and in South America. They walked unusually, almost erect on two legs, and in that attitude measure above four feet in height. They are dark, wrinkled and hairy. They construct no habitations, form no families, scarcely associate together, sleep in caves or trees, feed on snakes and vermin, on ants, eggs, and on each other. They cannot be tamed or forced to any labor, and are hunted and shot among the trees like the great gorilla, of which they are a stunted copy. When they are captured alive, one finds with surprise that their uncouth jabbering sounds like articulate language. They turn up a human face to gaze at their captors, and females show instincts of modesty; and in fine, these wretched beings are men.—*Atlantic Monthly.*

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WALKING.—A scientific lecturer on walking says his experiments show that one side of the body always tends to outwalk the other side. It is not possible when the eyes are shut to walk in a straight line for any length of time, and it will be found where persons lose their way, that they almost invariably wander off to the right rather than to the left.

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**Take Your Choice.**—Since its first issue we have sent this paper to the subscribers of the farming edition of the SCIENTIFIC PRESS. If we have thus transferred the names of any who prefer the SCIENTIFIC PRESS, we will return their names to the list for that paper, and send back numbers, if notified in season.

SAN FRANCISCO:

Saturday, February 18, 1871.

## OUR WEEKLY CROP.

We have hung up a magnificent Bunch of Oranges at the entrance of our ranch. They are from Los Angeles, and the specimen is one of the finest we have ever seen, heard of, or read about. Our visitors are welcome to help themselves. By the side of the oranges, we have pasted up, on the gate posts, a list of Things to be Remembered on the Farm, although the list is incomplete; and while receiving our friends we make a few introductory remarks on the Weather and the Crops.

We look over, as usual, the library of Mechanical and Scientific Progress, and then we read our letters. These come from very different parts of the country,—one from Merced County; one from Pennsylvania; and from Florida we have a description of a Remarkable Body of Water.

We have a very interesting talk with Dr. Thomas on Ancient Agriculture, and a cheerful Farm-House Chat with a Santa Cruz lady. Santa Cruz calls our attention again to its flourishing Dairy Business; and we get a collection of miscellaneous facts from various quarters.

Our flour mill has in operation a new grinder, the "Iron Clad," some of the results of the working of which may be seen. We propose starting a small sugary on our farm, and Mr. Wadsworth has given us some very interesting facts in the matter, having particular reference to Melon Sugar Making. In our sugary we shall need the aid of steam, and consequently we are glad to have Prof. Le Conte tell us about Heat and Motion and the Best Possible Work our engines can perform, and other matters bearing on the point. We adjourn from the lecture to witness (from a far distance) a Race between Ice-Boats and Fast Trains.

We have received a specimen of Orchilla, a valuable substance which is described and much talked about just now. After examining it, please come to the Vineyard and hear how we Plant our Grape Vines. Then to our Flower Garden, to see the "Little Pelican," and then to a hill whence we can examine the extensive Projects of Mr. Brannan.

If you'll "walk into our parlor," the Home Circle will be found as pleasant as usual, and Household Reading holds its place. Then our health department lectur[illegible] on Cancer, and, as a contrast, some one [illegible] morons. With a laugh, we part [illegible]

Fr[illegible] California
P[illegible] engaged
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## THE ORCHILLA.

The discovery of this valuable "weed" or lichen on the coast of Lower California, near the new settlement at Magdalena Bay, seems to be creating considerable excitement among certain parties in this city. Quite a number of small vessels have already gone thither to gather the moss, and other parties are making preparations to follow. A question of "right" seems also to have arisen; a certain company claiming the exclusive privilege to gather the moss within the limits of the Lower California Company's territory, warns off all others as trespassers. Should this matter of right be persisted in, it is feared that trouble may grow out of the interference by outside parties; especially as the location is at a very long distance from any well-established civil power.

The orchilla (which seems to be the correct spelling, rather than "orchella") was originally obtained chiefly from the Canary Islands. The average annual imports into England for 1840-1-2 were only 6,050 pounds. Since that time its use and imports have greatly increased. There are some twelve or more varieties of these plants which are largely employed for obtaining coloring matter. Those which grow upon trees are generally considered preferable to those taken from rocks.

The plant is collected, pressed in bales and taken to Europe, where it is properly manipulated or manufactured. This process is conducted variously to produce different dyes, some of which rival even that from the cochineal, although the general principle of the treatment is the same, and substantially as follows:—The plant is carefully cleaned and ground into pulp with water; an ammoniacal liquor is from time to time added, and the mass constantly stirred. Peculiar substances existing in the plants are, during this process, so changed as to generate the coloring matter, which is subsequently pressed out, and gypsum, chalk or some similar substance added to give it consistency; it is then prepared for the market in the form of cakes, called cudbur or lipmus. When first introduced, some of the choice varieties were sold as high as $1,500 per ton. The general price is now about $300; but any large supply, like that predicted from Lower California, if the variety should prove a valuable one, would glut the market and greatly reduce the price.

We have before us a portion of a very valuable and exhaustive paper on the dyeing properties of the lichens, and formulæ for determining the same, which was read before the Botanical Society of London, in 1852, by Dr. W. L. Lindley, from which we collate as follows:—

But little is yet known of the value of lichens for dyeing purposes. The varieties of the plant are almost innumerable, and they are found on almost every part of the globe, from the tropics to the verge of eternal snows. He thought that careful examinations would introduce many new varieties for choice dyes; while almost all might be more or less employed for furnishing cheap dyes. He inferred from specimens which had been taken to England from the Pacific Coast, that choice varieties would yet be found in great abundance on the coast and islands of the Pacific. No plants can be more easily collected and preserved. They merely require to be roughly cleaned, [illegible]ried and packed, and transported to any [illegible]en point, when their coloring matter be collected in the manner already [illegible]d to.

[illegible]rea over which the variety now Lower California is found, is said [illegible]arge, and might no doubt be [illegible]ond the limits of the Magda[illegible]on Society.

[illegible] be well for some of our [illegible]ghly examine the mosses of this State for their value in this direction, as dyeing materials; both for the more costly and the cheaper kinds will soon become of important use here, especially if we enter largely, as we propose to do, into the manufacture of silk and wool. It would be far preferable to manufacture the dyes here, than to send the same material abroad to be returned to us increased ten or twenty-fold in value, at the cost of a slight and simple manipulation.

## PLANTING VINEYARDS.

There are three principle modes of planting vineyards, each of which has its advantages and its advocates.

First:—by cuttings. This mode is where the canes are severed from the original vine and cut up into pieces and planted out where it is intended they shall remain until they become bearing vines and constitute the permanent vineyard.

Second:—by roots. This mode differs from the first in this: That when the cuttings have been made from the canes, they are planted in trenches, close together, to remain until they have formed roots, and thus converted into what are termed young vines. They are generally allowed to remain in this form for one year, when they are taken up and planted out in the vineyard form for permanent growth.

Third:—by layers. By this mode the canes are not severed from the original vine until separate roots have been formed for the young vine. By this last mode the manner of proceeding is about as follows: The land designed for the vineyard is laid off in the same manner as though it was intended to plant at once, all to vines or cuttings, say four feet apart. Vines are then planted in rows say twelve feet apart leaving a space for a row on each side of the original rows.

When the canes on these vines, so planted, have become of sufficient length one cane is extended each way at right angles with the row and at a point four feet from the original root, the whole cane being buried in a trench to that point, a slit is cut in the cane on the under side and the end of the cane turned up out of the ground exposing one or two buds above the surface. This is done in the winter or spring before the buds of the vines have started. At the point where the slit is cut the cane thus covered will form roots and the buds above the surface throw out shoots, and thus is formed the new vine, and the whole round is filled and the vineyard is complete.

It is claimed that this last plan is more economical, and allows the operator to extend his vineyard by degrees as his time and means will admit. But as it requires about two or three years before the side rows can be formed for the original ones, and as the land between the original rows cannot be used to advantage for the cultivation of other crops, it is doubtful if it will realize the advantages claimed for it. Then the vines in the vineyard thus formed, would be of two or three different ages, and would require different treatment, according to age, until all were in full bearing. In consequence of these objections this latter mode of propagating the vine has not been generally adopted in this country. Although advocated by some authors of standing, it is regarded by practical vineyardists as better on paper than on the ground.

### The Best Mode of Planting.

There still exists a considerable difference of opinion among vineyardists as to which is the better mode of planting a vineyard, by cuttings or by roots. Some contend that cuttings planted out in the trench, crowded as they are, make but little growth the first year, and that transplanting them at the end of that time checks their growth so much that very little of anything is gained by this method. It is even contended by many that good, vigorous cuttings, planted in the vineyard form where they can receive good care and cultivation, and where they have a plenty of room, will make a vigorous bearing vineyard sooner than one year old rooted-vines planted at the same time and on the same kind of soil. While the cutting of the grape takes root and grows as readily as the cutting of most any other variety of vine or tree, the root is certainly a very delicate plant to remove and transplant. The roots are generally composed of very fine and delicate fibers which are very liable to serious injury by handling. The mode by cuttings has been most generally adopted in this country and it is believed to be the most direct and economical mode, where large vineyards are to be planted. Hence we will consider the.

### Preparation of Cuttings.

Where there are so many varieties of soils and climates, as in California, and where the conditions of those soils and climates differ so much in different years at the time of planting, it is not strange that there should exist a great diversity of opinions and practices in regard to the preparation and planting of grape cuttings. Some contend that cuttings should be at least three feet long, while others say from 12 to 15 inches is plenty long enough. We do not believe that much if any advantage is gained by putting cuttings deeper in the ground than the heat of the sun and the enlivening influence of the warm air can penetrate. The only advantage that could accrue would be in the absorption of dampness to feed the vine with sap to elaborate its rootlets and buds near the surface.

The dampness taken up from such a distance below the surface, in the spring of the year, must be very cold and of but little use in helping the growth of the plant. However, we think the length of cuttings should be regulated mainly by the character of soil in which they are to be planted; but as a general rule we think from 12 to 15 inches a very good length.

In preparing cuttings, the upper end should always be cut off a very little above a good strong bud, so that the sap in its natural flow upward will feed this bud and cause it to make a strong and vigorous growth. It is also better that the wood extend down some distance below the lower bud, as the end will sooner heal over and throw out rootlets, and thus the sooner the cutting will become a vine containing all the parts and performing all the functions of a complete plant.

Cuttings may be taken from the vine as soon in the fall as the sap has descended; but the proper time, for the good of the vines from which they are to be taken, is when those vines, taking into consideration the nature of the soil in which they grow, should be pruned. We shall speak of this point hereafter, under the head of pruning. They may be planted immediately, if the ground is clean and of a light and airy nature; but if the ground is weedy or inclined to pack closely by the winter rains, it is better that they should not be planted till the heavy rains have past and the spring sun enlivens up the soil. In keeping the cuttings they should be buried in their natural position in the ground—a sandy, lively soil would be better, as then the lower end will heal over with a tender bark preparatory to throwing out roots. Some recommend soaking the lower ends in water some days before planting but we, think if they are exposed to the natural effects of the weather while buried as above, directed, this is unnecessary. While planting however they should not be exposed to the drying influences of the air or sun, but should be carried in vessels containing water or damp sand, to prevent injury to the new and tender bark covering the bottom, or to the fine rootlets that may have started.

### Planting the Cuttings.

Before the cuttings are planted, the soil should be well prepared and pulverized. In plowing however, the soil should not be turned over with the common plow any deeper than it had been previously worked, unless it be summer-fallowed, so as to expose the soil turned up to the action of the sun, and for sometime before planting. In all cases the soil should be well and deeply sub-soiled, especially in the line where the cuttings are to be planted.

This may be done while striking or marking out the land for the rows. Put the common plow as deep as the land was first plowed, going back and forth in the same furrow, then follow in the same manner with the subsoil plow. The cuttings should be set in a slanting position at an angle, say of about forty-five degrees and, should be covered so that the upper end will be entirely out of sight, say one inch below the surface. If planted erect, the roots will only start at the extreme lower end, while if slanted, roots will grow at several different points, giving the vine much more vitality and force. If the top is left above the surface, as is the custom with many, the sun is apt to kill the cutting down some distance by heat; while if entirely covered, the upper bud grows vigorously and makes a strong cane for the standard or body of the vine.

In the next number we will discuss the questions of training and pruning the vines, and in the meantime we would advise all who have vines on rich bottom lands, where mildew is apt to effect the grape, not to be in a hurry about pruning for some time yet.

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Extensive Marsh Land Reclamation. Mr. E. L. Beard, has reclaimed about 6000 acres of salt marsh, on San Francisco Bay, near Alviso. He is also now surrounding about 4000 acres more with a dyke. This land says the *Alta*, is within a foot of the level of high tide, and the dykes are made three feet high save for a mile or so along the westernmost points along the bay, where the height is only eighteen inches. The Coyote and Alameda creeks run through or along the reclaimed land, and their waters are to be turned over it in time of flood, so that the sediment, of which they carry down much, and of rich quality, may be deposited on it, to raise its level and furnish a surface free from salt. A tract of 100 acres near the Warm Springs, formerly tule, but now made dry by the deposition of loam brought down in floods from the hills, are considered one of the best pieces of farming land in Alameda County. Mr. Beard has 20,000 acres of tule with a front eighteen miles long on the bay, and he announces his intention of reclaiming all of it.

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Thompson's Road Steamer in Stockton.—A public trial was given to this steamer at the grounds of the Agricultural Society, at Stockton, a few days since. According to the San Joaquin *Republican*, the steamer entered the enclosure with one of Baxter's gangs of five plows attached. The plows were set 4½ inches deep, in hard-packed adobe soil, each plow cutting 10 inches or 50 in all. The steamer moved one mile in less than half an hour running time, and the plowing was pronounced excellently well done. It was estimated that eight horses would have been required to haul the five plows through that soil. Subsequently three more were hitched on —eight in all—and the steamer again moved off, apparently, quite as easily as with the five. It is believed the machine is capable of plowing and seeding 30 acres of ordinary soil in 10 hours, at an expense of $20 for labor and fuel. To do the same work by animal power would require 20 horses. The experiment was pronounced a complete success.

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The Season at Calistoga.—A gentleman writes from Calistoga that the rainfall there has been sufficient to ensure good crops in that region, and a very large area has been or is being sown with wheat.

## MR. BRANNAN AND HIS PROJECTS.

A correspondent of the *Alta* gives quite an interesting account of some of the many agricultural projects of our wealthy and energetic fellow-citizen, Samuel Brannan, Esq. Among his more notable projects is the establishment of

### An Agricultural College at Calistoga.

The institution, in fact, is already under way, and numbers sixteen students, who have entered for a three-years' course. These boys, whose ages average from 15 to 18 years, are not only instructed in all that is required to make theoretical farmers; but are drilled in the practical duties of farming in all its branches. This benificent project, if properly managed, will prove of great benefit to the State, and its progress and development will be watched with much interest.

### Grain Cultivation.

Mr. Brannan, here and at his farms in other counties, is cultivating about 2,500 acres of grain this season, which he proposes to increase next year to 9,000 acres! His grain fields are already carpeted with the tender shoots, showing delicate shades of green, with promise of an early crowning with abundant wealth. His teams are still at work, turning up new ground, harrowing and seeding.

### Mulberry Trees—Generous Proposition.

Mr. Brannan has now about 10,000 mulberry trees on his grounds at Calistoga and thriving remarkably well. He has also upwards of one million of cuttings, which he will present, gratuitously, in quantities to suit, to such applicants as may wish to start mulberry plantations in Napa Valley. This instance of generosity has also a practical object in view—it being the object of Mr. B. to introduce the cultivation of the mulberry as extensively as possible in that locality, with the view to an early introduction there of silk manufacture.

The mulberries are set out as standard trees, and it is the intention of the proprietor, as soon as they reach a proper hight, to plant choice grapevines at their roots, as in Lombardy and the Italian States, so as to cause the trees to do double duty, and thus introduce here the principle of producing silk and wine together, in this land of gold. Some 40,000 ramie plants are also being set out; which we presume are to be employed for the production of the fibre, and not for speculation in "cuttings."

### Extensive Tea Plantation.

Messrs. Perkins & Van Reed have also entered into an arrangement with him for the culture of the tea plant at Calistoga on an extensive scale. Some 20 bushels of tea seed have recently been received from Japan. An inexhaustible supply of pure water has been secured, which is now being conducted for the supply of the town of Calistoga and for this and other agricultural operations.

### Astronomical.

Mr. Brannan does not seem to be altogether satisfied with confining his attention to mundane matters, but is making arrangements for the erection of an observatory, which will be built upon Mount St. Helena, at an elevation of 4,340 feet above the level of the sea, and which will be devoted exclusively to astronomical purposes.

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Swamp Land Matters.—The articles which have been published in the Pacific Rural Press, on the above subject, having excited considerable attention among parties interested in such matters, have been reproduced in pamphlet form, and are for sale at this office for 25 cents each.

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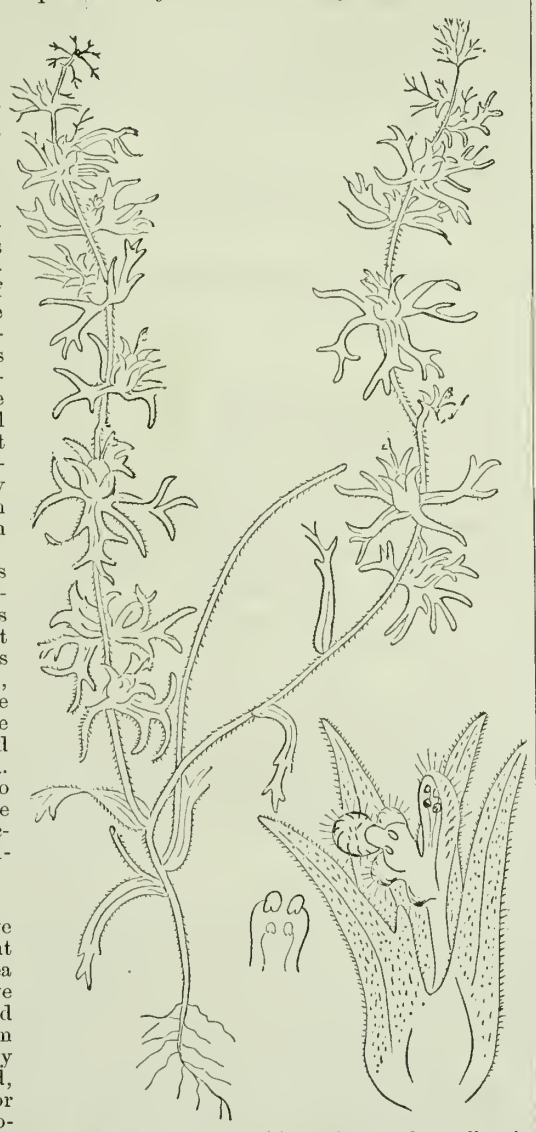
Wheat on Sherman Island.—About 7000 acres of wheat have been or will be put in, this season, upon Sherman Island. The rain fall at this locality is usually much below the general average of the central portions of the State; but the natural moisture of the land is sufficient to meet any deficiency of pluvial favors.

# Floriculture.

## THE LITTLE PELICAN FLOWER.

We present herewith a neatly executed figure of the Little Pelican Flower, (*Orthocarpus pusillus*,) one of California's tiny florets and about the smallest of its genus. The flowers of this species are exceedingly diminutive—not larger than a pin's head. When in full bloom and fruit they are only two or three inches high; but they often form broad, purplish-brown patches along the waysides, in the fields and on the hill-slopes, presenting a rich and beautiful appearance.

The common name by which the flower is known is derived from its having a lobed or folded pouch or sack under its bill-like form, similar to the pouch under the bill of the pelican. Many of the species of this flower are exceedingly beautiful and very fragrant; and it is a marvel that they have never yet found their way into our gardens,



where they would produce a fine effect in borders or beds.

The objection that the roots are parasitic is not sustained by observation; the supposition arises from the fact that the seeds are not sown as soon as ripe. The form and appearance of the flower, with its pouch, etc., may be readily studied from the magnified figure at the right hand of the engraving and below. This flower was first figured and described by Dr. A. Kellogg, of this city.

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Pot Plants thrive better in double flower pots than in single ones; that is, if the pot containing the plant is placed inside a larger one with earth between the two. The outer pot prevents the sun from striking with too great force on the inner one, and thus keeps the plant moist, and secures for its roots a more even temperature. Flower pots containing plants may be kept in boxes, the interstices between the pots being filled with saw-dust. This arrangment is valuable in the heat of summer, for the box shades the pots from the rays of the sun, and the saw-dust retains moisture around the plants.

## SOIL FOR FLOWERS.

The soil for flowers should be looked up and prepared during the winter season. Very few understand that an occasional change is very beneficial to flowers in beds, though all how important it is to flowers in pots. There is nothing better than surface soil from old fields, taken off about two inches deep, and thrown into a heap with about one-sixth part old hot-bed dung to partially decay. In addition to this "staple" item, a small quantity of different matters should be gathered together for peculiar plants. Peat, for instance, will be found very useful for many kinds of plants, or any spongy, fibrous substance from the surface of bogs and boggy wastes. Sand should be collected sharp and clean; the washings from road-sides are as good as anything. Leaf mould is best got, already well decayed from the woods. That which one makes for himself from rotten leaves is seldom good; it is generally sour and "indigestible" to vegetation. A load or so of well decayed cow manure is a good thing for the gardener to have by him as all those plants that dislike our hot summers, and want a cool soil to grow in, prefer it to any other manure. A small pile of hot-bed manure is almost indispensable to the garden.

### Soil for Potting.

The compost should be light and rich, such as may be formed of two parts sandy loam, obtained from decayed turf, such as may be procured from the sides of a highway. If cow-dung is not to be had, then use instead rather more than one part of sweet decayed tree leaves. If the loam be not light and sandy, add nearly one part of silver sand, or other pure sand rather than gritty. It is advisable that those should be ærated under a shed for some time before using. If the compost is much richer the bulbs are apt to be injured by mould and disease. For a bed of first-rate kinds out of doors, remove the natural soil, if at all adhesive, to the depth of at least one foot; dig the bottom well, incorporating a little leaf-mould, fill up eight inches with such compost as the above, and, when settled, arrange the bulbs eight inches apart; place a handful of silver sand around each, and then cover four inches. For a mere flower-garden display, trench the bed eighteen inches deep, adding rotten leaf-mould, or very rotten hot-bed dung and some sand, according to the consistence of the soil and plant as above.

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Cultivate Flowers.—It is a mistake to suppose that flowers are the peculiar property of the affluent. God has made them as common as air or water, and the poor can and do enjoy them equally with the rich. We have known a rich lady discard all flowers, and would have none of them on her premises, because they required too much care, and she did not see much beauty in them; and we have seen a shanty with morning glories creeping over the door and windows, with here a patch of verbenas, and there a bed of pansies; and we have no doubt the mistress of the shanty was more of a woman, and enjoyed life more, than the lady of the mansion.

God made the flowers; let us be co-workers with him, and cultivate them. God made us capable of enjoying the flowers; let us develop our nature to its highest capacity of enjoyment. God has given us families and friends; let us make a pleasant home, by surrounding it with flowers—the cheapest and most beautiful material adornment that home can have.—*Floral Magazine.*

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Budding the Rose.—But two things are necessary to bud roses successfully. The stocks must be in the right state and so must the bed. Unless the bark of the rose will separate freely from its woody foundation, budding cannot be successfully performed. For it is essential that the bark of the stem should open freely to receive the bud, and that the bud with its accompanying bark, should be deposited in its home with the least possible bruise or injury.

If the bud and its bark will not leave the wood freely, some simply cut it off with a thin slice of wood, and insert it without the conditions recommended. Now there is no doubt that such buds will often grow; but the plan is not to be recommended, especially as the bud and bark budding is so much more simple, expeditious, and successful. Again, the question when to bud may be answered pretty correctly by specifying the time from the first of April to the first of July inclusive, as the best budding season, though the operation may be performed at any time when stocks and buds are in the state already described.

BY OUR LADY EDITORS.

## HELPFUL EDA.

### A Lesson for Children.

Eda was our city cousin. We had never seen her, but Sarah Ann Carson, who, because she is acquainted with us, concluded to call on her when she was in New York, said she was a "mighty stuck up little body." Mother says that it is not a pretty way to speak of any one, but poor Sarah Ann has no mother to teach her, and some folks seem to think that anybody who lives in a handsome house and wears clothes must of course be vain and proud. Yet, if the truth must be owned, we girls were not at all averse to accepting Sarah Ann's opinion.

"I know I shan't like her," said Frank, shrugging her shoulder, "she'll be so prim and precise that we shan't dare to turn round. It's always so with those city girls. For my part I wish she wasn't coming."

"I wish so, too," echoed Elle, "we shan't have one bit of fun as long as she stays."

But wishing was useless. Uncle Elliot had written that Eda was not well and needed a change of air, and of course father wrote to him to send her at once.

"If she is at all like sister Elliot, I'm sure you will love her," said mother; but someway none of us felt cheerful about it. Brother Fred was to go to the depot to meet her, and we had hard work to coax him to take off his farm clothes and make himself look tidy.

"Oh, fudge!" said Fred, who was generally very careful about his dress when he went to town, "if she thinks we've been fixing up for her she'll just go to putting on airs." But he yielded so far as to take off his overalls and change his coat.

"There's the train!" called Elle, from her perch on the window-sill half an hour later, and presently Fred drew up at the horse-block and handed out a delicate-looking girl in a gipsy hat and gray traveling suit.

"I suppose she thinks she'll astonish the natives," said Frank spitefully; but no one stoped to answer her, for mother had hastened down the garden to meet Eda, and Elle and I followed at a dignified distance. If we had prejudice it did not take us long to feel at home with her.

"Isn't she nice?" said I enthusiastically, after Frank and I had gone to our room.

"Oh yes, I suppose so," Frank admitted, "but she is 'stuck up,' as Sarah Ann says, for all that; you see it by the way she tosses her curls." And so we both went to sleep only half persuaded that cousin Eda was "nice."

"Mother," said Fred next day, throwing his coat on the table, "I shall have to have a new pocket in that." Mother had a headache that morning, and by the time the pocket was cut out she had to put by her work and lie down. One of us girls might just as well have done it, but it seemed so natural to leave the mending for mother that we never thought of it. Scarcely had she left the room, however, when cousin Eda seated herself at the work-basket, and when after dinner mother took up her needle again she found the coat as neatly mended as if she had done it herself.

"Elle, dear, do you know anything of my glasses?" asked grandfather, groping about like a blind man.

"I haven't seen them, grandfather," said Elle, going on with her reading, but Eda was up in an instant to help in the search and would not sit down till the glasses were found.

"Thank, you, darling, you are so like your mother," said the old man, stroking her hair. And so it was every day. One morning we found her down on her knees lacing her grandfather's shoes. Poor old grandfather might have tugged at his shoe-string by the hour before one of us would have thought of offering to lace them for him, but cousin Eda seemed to know intuitively when any one needed help. If we were going out it was Eda who helped mother on with her shawl and tied her bonnet-strings; if grandfather had to stay at home from church it was Eda who always stopped to give him a comforting little kiss that left a warm place in his heart and made the long hours far less lonely.

About three weeks after Eda came, the young folks at the village decided to have a pic-nic, and we were all invited.

"I suppose she will put on her Sunday-go-to-meeting clothes," said Frank, who was still on the watch to find some fault with Eda. But presently down came our little city cousin in a gingham dress and thicked-soled shoes.

"That's very sensible, my dear," said mother, patting a check that began to grow plump, and even Frank smiled approvingly. We had a merry time that day, and no one entered into it more heartily than Eda. After dinner we set down on the grass and made wreaths for our hats, and then a hunt for May-apples was proposed.

"I wish some of those big girls would stay and teach us to make wreaves" piped one of the smallest of the party, but the "big girls" were all intent on their own pleasure for that—all but Eda, for when we came back with our spoils, with which we had been too busy to notice her absence, there she sat in the midst of the little ones putting the finishing touch to the seventh wreath.

"See what Eda made for us!" shouted the happy little girls. But I could not help thinking that something lovelier even than the wild flowers crowned Eda's curly head as she sat there crowning the children.

"I can't understand her," said Frank, a little suspicious that Eda's goodness was "put on." But the secret was that Eda had a love in her heart which Christ had planted there, a love which rejoiced in doing good.

Long before her visit came to an end we had become thoroughly ashamed not only of our foolish prejudice, but of our careless and selfish lives.

## FOR LADIES WHO CAN AFFORD IT.

Heavy crimped twist-fringe is pretty for cashmere.

Cloth cloaks are worn longer than the sacques and paletots of last winter.

Scotch wraps are also very popular, worn in various picturesque styles, as for several seasons past.

Waterproof cloaks are in great demand, and are indispensible to a lady's comfort.

Turbans, trimmed with fur, are worn for skating hats. Veils are almost indispensible for either veils or hats.

Long over garments have superseded the absurd, little jackets, which were without dignity or sufficient warmth for winter.

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ABRAHAM had a number of servants in his employment, and what do you suppose he called them? Why he called them souls—souls he had gotten in Aram. Now the gentlemen in Liverpool and Manchester, what do they call their work people? Hands, that's all.

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"WHEN a stranger treats me with want of proper respect," said a philosophic poor man," I comfort myself with the reflection that it is not myself he slights, but my old shabby coat and hat, which, to say the truth, have no particular claims to admiration. So if my hat and coat choose to fret about it, let them; it is nothing to me."

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MISS ROSE HAWTHORNE, the eldest daughter of the novelist, gives promise, it is said of becoming distinguished as an artist. Her mother possesses much artistic talent, and before her marriage practiced her art professionally Among her published productions were the illustrations of *The Gentle Boy*, a story by her future husband. It was this story which led to an intimate acquaintance between the author and artist, ending in their marriage.

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A BEAUTIFUL SENTIMENT.—In Augustin Daly's play, "Under the Gaslight," Laura Cortland uttered these beautiful sentiments:

Let the woman you look upon be wise or vain, beautiful or homely, rich or poor, she has but one thing she can really give or refuse—her heart. Her beauty, her wit, her accomplishments, she may sell to you, but love is the treasure, without money and without price. She only asks in return, that when you look upon her, your eyes shall speak a mute devotion; that when you address her, your voice shall be gentle, loving and kind. That you shall not despise her because she cannot understand all at once, your vigorous thoughts and ambitious plans, for when misfortune and evil have defeated your greatest purposes, her love remains to console you. You look upon the trees for strength and grandeur; do not despise the flowers because their fragrance is all they have to give. Remember, love is all that a woman can give—but it is the only earthly thing which God permits us to carry beyond the grave.

## Premium Sewing Machine.

One of the kind that a man can love,
That wears a shawl and a soft kid glove;
Has the merriest eye and the daintiest foot,
And sports the charmingest gaiter boot;
And a bonnet with feathers, ribbons and loops,
And an indefinate number of hoops.

One that can dance and possibly—flirt,
And make a pudding as well as a shirt,
One that can sing without dropping a stitch,
And play the housewife, lady or witch,
Ready to give us the sagest advice,
And do up our collars and things so nice.

We like the sort that can laugh and talk,
And take our arm for an evening's walk;
That we do whatever the owner may choose,
With the slightest perceptible turn of the screws;
'Tis the cleverest thing that was ever seen,
Our wonderful family sewing machine.

## UP COUNTRY LETTERS.—NO. 3.

[Written for the PRESS.]

DEAR READER:—I cannot refrain from giving you a peep into my new form life, and telling you of its inmates. In the family there are two girls, so different, that each is a study; I amuse myself daily in reading to them, and their lives seem to go out in such opposite ways, that I find myself wondering how it ever happened, with the same surroundings. Amelia, the eldest, gay and brilliant, full of life and dash, but so selfish, she seems of different blood from blue eyed Nell—gentle, quiet Nell—unselfish, to a fault.

If there is any unpleasant duty to be done. Nell is sure to see it first and do it. It is *her* nimble fingers that keep the lamps and candle-sticks in order, wash the dishes at every meal, arrange my invalid chair and pillows where no wind nor sun can disturb my out-door reveries. She never shirks the churning, washing, or any of the hardest work; in fact we all feel her tender care, and in our silent hearts bless her as "the angel of the household."

Amelia, tho' selfish and idle, has a certain fondness for the beautiful, tho' it has never been cultivated. She fills the house with wild flowers, which are left to wither, and vitiate the air of the rooms, if quiet Nell does not remove them when faded. She will borrow of Nell or her mother, their best trinkets, and clothes to adorn herself, utterly regardless of *their* appearance; but the slovenly neglect of her clothes gives them a solid and tawdry look, quite in contrast to the neat and simple dress of Nell. I can but wonder what should cause so great a contrast.

I am puzzled too, at the seeming sympathy, between the mother and her elder born. Can it be that her love is called out more to this wayward, careless, and selfish girl, than to silent, dutiful, thoughtful Nell?

The mother is quite an ignorant woman, tho' good hearted; with a coarse temperament, compared with the better part of her children, which inclines me to think favorably of a work I once read, by Powell, on the temperaments, showing the possibility of improving our people by obeying nature's laws, both in marriage, and by proper surroundings before the birth of children.

Our farmers consider the improvement of stock, worthy the expenditure of much study and money, and surely it is as important to us as individuals, and as a people that the human race should improve, as that our animals should be of the best stock and blood.

Yet our farmers would, many of them, be ashamed to exhibted stock of no better blood or quality, than their sickly and scrofulous wives and children are, in many cases! I must follow this subject up and inquire of the good wife if she can tell me, how and why these two girls are so different.

JEWELL.

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HOW TO PURCHASE FURS.—In purchasing furs, a sure test of what dealers call a "primo" fur is the length and density of of the down next the skin; this can be readily determined by blowing a brisk current of air from the mouth "against the set of the fur." If the fibre opens readily, exposing the skin to the view, reject the article; but if the down is so dense that the breath cannot penetrate it, or at most shows but a small portion of the skin, the article may be accepted.

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THERE have been many definitions of a gentleman, but the prettiest and most pathetic is that given by a young lady. "A gentleman," she says, "is a human being combining a woman's tenderness with a man's courage."

## A WOMAN SAILOR.

The *Times of India* of December 28th says: A rather romantic incident had occurred on board the *Flying Venus*, now in the harbor of Bombay. The captain shipped a young fellow at Liverpool, under the name of Thomas Brown, as a seaman, and after serving for a considerable time on board the ship, it was only yesterday discovered that he was a woman. She stated that she left her home at Aberdeen at 14 years of age, through the ill-treatment of a stepmother, and having procured boy's clothing, went to sea. She contrived to preserve the secret of her sex for five years, and performed the duty of a seaman remarkably, taking her turn at the wheel, going aloft to furl royals, and was an adept in the nicer details of the profession. The captain, (Mr. Litter,) on becoming acquainted with the fact of his having a woman on board, was, perforce, compelled to part with her; and accordingly he took her to the acting chief magistrate on the 13th of December, at the Fort Police-court to ask his advice. At the suggestion of his worship, with the kind consent of Mr. Bickers, the city missionary, she was handed over to that gentleman, who offered to look after her until she could be provided with a passage home, or some employment suited to her sex should be obtained. The captain seemed loth to part with the daughter of Neptune. He gave her an excellent character, and said that she was of a quiet and retiring disposition, and at the same time was one of the smartest hands in the ship. The poor girl was very much chagrined at the discovery of her sex, and seemed very much abashed when questioned as to her past history. It is proposed to get up a subcription for her. It is not intended to make a heroine of the young woman, but, overlooking the peculiar eccentricity which has brought her before the public, it is undeniable that she has exhibited great pluck, spirit, endurance, independence, self-denial, and self-restraint for a long period of time, and under very trying circumstances. On this account, and seeing that she is far from home and friends, it is proposed to find her a moderate wardrobe, and such a purse as will give her the chance of a new career in honor, having regard to her abilities and station in life.

## BEECHER ON WASHING DISHES.

Mr. T. K. Beecher has had some experience in dish washing, and has dished it up for the public in the following characteristic way: The quiet fidelity with which "she" will dish wash away her life for "him," is a marvel of endurance and grace. Just here is the servitude of woman heaviest—no sooner is her work done than it requires to be done over again. Man works up jobs, ends them, and takes his pay. This pay can be translated into something else desirable. A man works all day, and draws pay for a day s work. This pay lures him, as oats a horse homeward bound. Thus men work by terms and jobs—and although work is endless as to quantity, yet when cut up thus into terms and jobs, we men go heartily on our journy, and count our mile-stones.

Not so with our mates. "She" mends our socks, and we put our irrepressible toe upon the darned spot, and she darns it again. She washes for the family, and the family make hast to send back the same garments to be washed again. "She" puts the room in order, and we get it ready to be "rid up" again. The same socks, the same washing, the same room every time. She has no successive jobs, no terms, no pay-day, no tally-stick of life. She washes the same dish three hundred and sixty-five times—yes three times three hundred and sixty-five times every year. No wonder she breaks it, and is glad of it! What a relief to say, "I've done with that dish!"

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FEMALE DELACACY.—Above all other features which adore the female character, delicacy stands foremost within the province of good taste. Not the delicacy which is perpetually in quest of something to be ashamed of; which makes merit a blush, and simpers at the false construction her own ingenuity had put upon an innocent remark—this spurious kind of delicacy is far removed from good sense—but the high-minded delicacy which mantains its pure, undeviating walk alike among women and the society of men; which shrinks from no necessary duty, and can speak, when required, with a seriousness, of things on which it would be ashamed to smile or blush; that delicacy which knows how to confer a benefit without wounding the feelings of another, which can give alms without assumption and pains not the most susceptible in creation.

# HOUSEHOLD READING.

## A Few Hints About Cooking Game.

The following hints about cooking game-birds is taken substantially from *Hearth and Home*: The cooking of game is extremely simple, as very few kinds require a force-meat; stuffing and the sauce is easily made. The longer game is kept, provided it is not stale, the better—and it is better kept in the feathers and skins until just before cooking. When the feathers come off easily, the birds may be considered ripe for the spit or oven. Be very careful not to tear the skin while taking off the feathers. After removing the feathers, pass the blaze of a lighted white paper over the outside surface to singe off the hairs, which, if allowed to remain, would show very distinctly after the birds are roasted. Be careful in drawing the birds, and they will require very little washing. The less they are washed the better flavor they will be.

Do not soak game in salt and water, as recommended by some. They say, "It is to take out the game flavor." If the game flavor is undesirable, soaking in salt and water would not remove it. But the game flavor is just what epicures like. The heads of the birds, with the neck, should be cleaned, the eyes removed, etc., and skewered to the side of the wing and roasted with the game. This process distinguishes the bird from domestic fowls when it comes to the table. No stuffing is required. Sometimes wild ducks may have a mild force meat of bread crumbs soaked in port wine; but it is not usual. Put no water in the pan, but baste the birds every few minutes with butter and the gravy that runs from them. Woodcock or snipe are prepared for the roast without drawing or opening them in any way. The head, with the long bill is cleaned and fastened to the wing, and the feet left on.

Bread crumbs fried to a fine brown in butter, are served with game; also bread sauce and jelly. The bread sauce may be made as follows: Take a quantity of fine white light bread crumbs. Pour over them an equal quantity of boiling new milk. Let it soak a while, then stir in a little butter and salt. If desired, you may add cayenne pepper or a little mace. Some add a boiled onion chopped fine. It is very good without these additions, and suits the general taste better. It should have a boil up, and be allowed to stand, where it will not burn, on the back of the stove till wanted for the table. Small birds are very nice rubbed over with the white of an egg and then rolled in bread crumbs before roasting. Baste with butter and apply fresh bread crumbs to bare places till they have a uniform appearance. Some nicely toasted slices of bread, soaked a minute or two in the gravy from the pan, is served with game, and is very much relished by some persons.

NATURAL HISTORY OF THE NOSE.—The nose, says an observant writer, acts like a custom-house officer to the system. It is highly sensitive as to the odor of the most poisonous substances. It readily detects hemlock, henbane, monkshood, and the plants containing prussic acid; it recognizes the smell of drains, and warns us not to smell of polluted air. The nose is so sensitive that air containing a 500,000th part of bromine vapor will instantly be detected by it; it will recognize the 27,000,000th part of a grain of otto of roses, or the 15,000,000th part of a grain of musk. It tells us in the morning that our bedrooms are impure, and catches the first fragrance of the morning air, and conveys to us the invitation of the flowers to go forth into the fields and inhale their sweet breath.

SAVE A LITTLE.—Every man who is obliged to work for his living should make it a point to lay up a little money for the "rainy day," which we are all liable to encounter when least expected. The best way to do this is to open an account with a savings bank. Accumulated money is always safe, it is always ready for use when needed. Scrape together five dollars, make your deposit, receive your bank book, and then resolve to deposit a given sum, small though it be, once a week; according to circumstances. Nobody knows, without trying it, how easy a thing it is to save money when an account with the bank has been opened. With an account a man feels a desire to enlarge his deposit. It gives him lessons in frugality and economy, weans him from his habits of extravagance, and is the very best guard in the world against intemperance, dissipation and vice.

## Frying Meat and Potatoes.

None of the rapid processes of cooking is so generally abused as frying. The frying-pan has awful sins to answer for. What untold horrors of dyspepsia have arisen from its smoky depths, like ghosts from witches' cauldrons! The frizzle of frying meat is a warning knell on many an ear, saying, "Touch not, taste not, if you would not burn and writhe!" There are two ways of frying employed by the French cook. One is to immerse the article to be cooked in boiling fat—emphasis on the word *boiling*—and the philosophical principle is so completely to crisp every pore, at the first moment or two of immersion, as effectually to seal the interior against the intrusion of grease particles; it can then remain as long as may be necessary to thoroughly cook it, without imbibing any more of the boiling fluid than if it were enclosed in an egg-shell. The other method is to rub a perfectly smooth iron surface with just enough of some oily substance to prevent the meat from adhering, and cook it with a quick heat, as cakes are baked on a griddle. In both the cases, there must be the most rapid application of heat that can be made without burning, and by the adroitness shown in working out this problem, the skill of the cook is tested. Any one whose cook attains this important secret, will find such fried things quite as digestible, and often more palatable than others.

### How Prof. Blot Fries Potatoes.

When Prof. Blot was in his glory at Saratoga, potatoes, fried under his supervision, were considered so delicious and unsurpassed for delicacy that they were sold in small great hotels, precisely the same as sweet-parcels, and purchased by visitors from the meats, at a confectioner's. The frying was done, as suggested above, the potatoes being cut in thin slices, every piece of a uniform size and thickness. So perfectly were they cooked that they scarcely greased the delicate white paper in which they were put up! This hint of uniformity in size should also be observed in boiling the vegtable; select for any given boiling, potatoes of a uniform size.

## Curing Meat.

To one gallon of water, add one and a half pounds of salt, half a pound of sugar, half an ounce of saltpeter, half an ounce of potash. In this ratio the pickle to be increased to any quantity desired, Let these be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when cold, pour it over your beef or pork, to remain the usual time, say four or five weeks. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpeter, which removes all the surface blood, etc., leaving the meat fresh and clean. Some omit boiling the pickle, and find it to answer well; though the operation of boiling purifies the pickle by throwing off the dirt always to be found in salt and sugar.

The Germantown *Telegraph*, good authority, says if this receipt is properly tried it will never be abandoned.

### How to Jerk Beef.

Slice pieces from the round, or fleshy part, about two inches thick. If the operation is to be performed in a moist atmosphere it will be necessary to hang the pieces over a slow fire which is not permitted to blaze, so that the process may be aided by both heat and smoke. A scaffold may be constructed, the covering of which should consist of small poles or sticks, upon which the meat should be spread and frequently turned, and beneath which the fire should be placed. It is better in such a treatment to first dip the slices in very salt water.

In California and some other places, where the air is very dry, (during the dry season) meat may be jerked or dried by simply exposing it to the air and sun without salt. Fat meat of any kind cannot, however, be cured in this manner; as the chemical changes which make fat rancid are quite different from those that render red meat or muscle unfit for use. Salt, freely used, is the only agent that will preserve fat and keep it in good condition for food. In cooking jerked beef it should first be soaked about half an hour in warm water—according to hardness and dryness.

DR. J. V. C. SMITH tells the Farmers' Club of New York that much of the vinegar usually sold, is sulphuric acid, and that its use is the cause of the decay of the teeth.

## Domestic Receipts.

HOW TO COOK OLD FOWLS.—For the possible benefit of some of our young housekeepers, we will tell them how to cook an old chicken:—Prepare as for roasting, then boil three hours in a covered pot, with one quart of water, to which add two tablespoonfuls of vinegar; after which put in a pan, in a hot oven, for about one hour, to brown. The liquor in the pot to be prepared for gravy; should the water boil away to much, more should be added. The result is, the meat is as tender as young chicken, and some think richer and better.

TO MAKE LEAVEN.—Stir corn meal in a pint of fresh buttermilk; add an old yeast cake dissolved in water; make it about the consistence of batter bread, and set in a warm place to rise. When well risen, add more meal, make it into cakes, and dry in the shade.

TO WASH BLACK CALICO WITHOUT FADING.—Put it to soak in weak suds made boiling hot; let it stand until cool enough to handle, then wash and rinse it in the usual way. For stiffening, use strong coffee or old skim-milk.

HOW TO CHOOSE A BLACK SILK.—Pull out a thread of the filling and see if it is strong. If it stands the test, then rub one corner of the silk in the hands as though washing it. If on holding it up to the light, and looking through it, you see no traces of the rubbing, be sure the silk is good. The warp and filling should not differ much in size, or it will not wear well. If you choose a figured silk let the figure be small and well woven in, else it will soon present a frayed appearance, and you will have to pick off the little lags of silk that will dot the breadths. Reps silk wears about as long and well as any other kind. It does not wrinkle easily, and looks about as well after being dyed as before.

TO IRON VELVET RIBBON.—Dampen the under-side slightly, and draw it backward and forward over a hot stove-pipe until the velvet is quite dry. A still better plan—though in winter it is not always as convenient—is to lay a wet piece of cotton-cloth on a hot flat-iron placed upside-down, and while the steam is rising from it, to draw the under-side of the velvet tightly backward and forward over the wet cloth.

## Mechanical Hints.

BLACKING FOR HARNESS.—A good blacking is made of 4 ounces of hog's lard, 16 ounces neatsfoot oil, 4 ounces yellow wax, 20 ounces ivory black, 16 ounces brown sugar, and 16 of water. Heat the whole to boiling, and stir it till it becomes cool enough to handle, then roll it into balls about two inches in diameter.

ANOTHER.—A cheap and good blacking can be made as follows:—Soften two pounds of glue in one pint of water, dissolve two pounds of soap (castile is the best), in one part of warm water; after the glue has become thoroughly soaked, cook it in a glue kettle, and then turn it into a large pot, place the pot over a hot fire and pour in the soap water, slowly stirring until it is well mixed; then add a half-pound of yellow wax cut in slices. Let the mass boil until the wax becomes melted, then add half a pint of neatsfoot oil and a sufficient quantity of lamp black to give it color; let it boil a few minutes, and it will be fit for use.

FRENCH POLISH.—When a harness becomes soiled its beauty can be restored by the use of French polish, which is made as follows:—Take 4½ pounds stearine, 6½ pounds of turpentine, and 3 ounces of coloring or ivory black. Beat the stearine out to thin sheets with a mallet, then mix it with the turpentine, and subject it to a water bath. While heating it must be stirred continually; the coloring matter is to be thrown in after the mass has become thoroughly heated. It is thrown into another pot and stirred until it is cool and thick; if not stirred, the mass will crystallize and the parts become separated. When used, it must be warmed, and a small quantity rubbed on the leather with a cloth; use but little at a time and put on very thin. After it has partially dried, rub with a silk cloth, and a good polish will be produced.

WASH FOR CLEANSING SILVER AND BRITANNIA WARE.—Take one pound of common hard soap, three table spoonsful of sp. of turpentine and half a tumbler of water. Allow the soap to dissolve; then boil ten minutes, and before it cools add six table spoonsful of sp. of hartshorn. Make a suds of this preparation and wash the silver with it.

## Life Thoughts.

IT is undoubtedly a duty to require riches, not for the condition which they make, but for the power they confer, The wisdom, however, properly to employ them demands even more earnest study and honest endeavor.—*Simms.*

A WISE MAN has found a remedy for unhappy marriages. It is to abolish the institution of marriages entirely.

A GOOD conscience is some times sold for money, but never brought with it.

MORE flies are caught with a drop of honey than a hogshead of vinegar.

A MAN had better be poisoned in his blood than in his principles.

DEATH has nothing terrible in it but what life has made so.

THE glory of a people and of an age is always the work of a small number of great men, and disappears with them.

SOME often repent, yet never reform; they resemble a man traveling a dangerous path, who frequently starts and stops, but never turns back.

FIGHT hard against a hasty temper. Anger will come, but resist it stoutly. A spark may set a house on fire. A fit of passion may give you cause to mourn all the days of your life.

Do daily and hourly your duty; do it patiently and thoroughly. Do it as it presents itself; do it at the moment, and let it be its own reward. Never mind whether it is known or acknowledged or not; but do not fail to do it.

IF you are a wise man, you may treat the world as the moon treats it—show only one side of yourself; seldom show yourself to much at a time, and let what you show be calm, cool and polished; but look at every side of the world.

EVERY lady who educates her servants into greater truthfulness, fidelity and orderly ways of life, is doing missionary work of the best kind.

"BY FITS AND STARTS."—Spasmodic efforts amount to little or nothing. It is steady application that accomplishes. One may be easily "fired up" to do something, and as suddenly cooled off. The team—of men or horses—that pull together, and pull steadily, will do the work. But those who are always beginning, and never finishing, have more of the spasmodic than of the persevering. Moral: Teach your children to do one thing at a time, and to finish what they begin.

## What a Man Knows.

What a man can write out clearly, correctly and briefly, without book or reference of any kind, that he undoubtly knows, what ever else he may be ignorant of. For knowledge that falls short of that—knowledge that is vague, hazy, indistinct, uncertain—I for one profess no respect at all. And I believe there never was a time or country where the influences of careful training were in that respect more needed. Men live in haste, write in haste,—I was going to say think in haste, only that the word thinking is hardly applicable to that large number who, for the most part, purchase their daily allowances of thought ready made. You find ten times more people now than ever before who can string words together with facility, and with a general idea of their meaning and are ready with a theory of some kind about matters. All that is very well so far as it goes, but it is one thing to do this and quite another to know how to use words as they should be used, or really to have thought out the subject which you wish to discuss.—*Lord Stanley.*

NEWSPAPER.—A man eats up a pound of sugar, and the pleasure he has enjoyed is ended; but the information he gets from a newspaper is treasured up in his mind, to be used whenever occasion or inclination calls for it. A newspaper is not the wisdom of a man or two men; it is the wisdom of the age—of past ages, too. A family without a newspaper is always half an age behind the times in general information besides, they never think much, nor find much to think about. And there are little ones growing up in ignorance, without a taste for reading. Besides all these evils, there's the wife who, when her work is done has to sit down with her hands in her lap, and has nothing to amuse her mind from the toils and cares of the domestic circle. Who would be without a newspaper?—*Franklin.*

THE Ohio State Library has been presented with a deed 222 years old. It was made for the conveyance of land in Wales.

# HEALTH.

## CANCER.

[Written for the PRESS.]

Cancer, or more properly *Carcinoma*, is well known to be a malignant growth or tumor, which, unrestrained, tends to open ulceration, rapid destruction of tissue, and death of its unfortunate victim in comparatively a very short space of time.

The name cancer was originally applied to the scirrhus, or hard variety of malignant tumors, from the supposed resemblance which the turgid blood-vessels, which radiate from it, bear to the legs and claws of the crab.

*Carcinoma*, from the Greek noun *Karkinos*, an eating ulcer, is the name usually employed by surgeons, as it is alike applicable to all kinds of malignant ulcerating tumors, as well as cancroid ulcers or *Epithelioma*, the latter of which includes *lupus* and cancer of the lips and face. As the name cancer is popularly applied to all forms of *Carcinoma*, I will use it in its popular acceptation in this article.

### Extensive Prevalence of Cancer.

Cancer prevails to a much greater extent than most people are led to suppose. In England, outside of the city of London, the deaths from cancer have been known to average 2,332 per year. Estimating London in the same ratio, the deaths from cancer in England alone, would amount to nearly 3,000 per year. As the prevalence of the malady does not seem to be determined by local influences, it is quite reasonable to suppose that the English statistics show a fair average. Such being the case, the total number of deaths annually from cancer would amount to more than 150,000.

The English statistics show that three-fourths of the cases are among females. This difference is due to the extraordinary frequency of cancer of the breast and of the reproductive organs. The disease may make its appearance in any organ or tissue of the body, in either sex, and at any period in life, yet it occurs most frequently between the ages of 40 and 55.

### The Causes which Produce it

Are as yet undetermined; yet it has been found that only about one-third of the cases are traceable directly to a hereditary taint or diathesis, while no general cause can be found for the other two-thirds. It has been observed, however, that they more frequently follow local injury than any other exciting cause. A blow upon the breast has frequently been the starting point of its development in that location, and the irritation produced by a hot, filthy clay pipe has frequently had the effect to develop cancer of the lip. Chimney sweeper's cancer, too, is traceable to local irritation as its starting point. The fact, however, that equally the same exciting local causes will produce it in some and not in others, indicates that all are not equally constitutionally predisposed to it.

### The Premonitory Symptoms

Of cancer are so mild and painless that, unless the suspicions of the patient are aroused, no notice would be taken of it. When in the breast, the first noticeable symptom is a small hard lump, which seems to be moveable, deep in the body of the mammary gland; but it can be handled without producing any pain. As it increases in size, it seems to come near the surface, and finally becomes attached to the skin. At this stage the skin turns red or purple, with large, distended blood-vessels spread out over its surface. Sharp, shooting pains are now felt, but the tumor is not very sensitive when touched or handled. The axillary glands enlarge and are sore and painful, and the skin and complexion assume a dusky hue. Some of the nodules of the tumor now shoot out prominently and break, when the patient and friends are presented with the distressing spectacle of an open cancer.

Cancroid ulcers, embracing lupus and epithelial cancer, are slower in their growth, are always hard, either as a solid mass or around the edges; but when once open they certainly do, as the name indicates, eat like a wolf.

The presence of cancer in the stomach, liver, or any other internal organ is not so easily determined as when it involves an organ which can be seen and felt. Its fatal tendency, however, is the same in all cases.

### The Treatment of Cancer

Is both medical and surgical, together with proper sanitary regulations. The mind should be kept in as composed a state as possible, a good nourishing diet should be afforded with plenty of out-door exercise, when such is possible, but without fatigue. In the early stages of the disease it is certainly true that it has been cured by careful medical treatment, as experience and numerous well-authenticated cases go to show; therefore, when its invasion is once known or suspected, its treatment cannot be commenced too early. These remarks apply to all cases, whether they admit of either medical or surgical treatment. The only cases which admit of successful surgical treatment are, of course, those which are situated in external organs and tissues of the body. As a rule, while it is in the form of a tumor, and is concealed beneath and not attached to the skin, and the skin which covers it looks and feels natural and healthy, its medical treatment, under the direction of a skillful physician, should be diligently pursued, and no surgical interference should be for a moment thought of; but if the hard tumor becomes attached to the skin, or the skin over the tumor has become red or purple, with twinging, darting pains, or the tumor has already broken open and discharges a thin fluid, it is then high time to begin its surgical treatment. For this purpose there are two methods, to wit: the knife and the cancer paste. Of these, some prefer one and some the other. The use of the knife is much the quickest, yet as a radical eradicator the paste certainly deserves a preference.

When extirpation by the knife is resorted to, it is always recommended to go largely into the healthy surrounding tissues in order to include every root and branch of the malignant growth, for if a single cell or the least remnant of the tumor is left behind, a new growth is sure to spring up from it.

The paste, on the contrary, attacks only the morbid growth, and destroys it root and branch, while the surrounding tissues are left in a sound and healthy state, ready to take on a healthy healing process.

E. J. FRASER, M. D.

San Francisco, Feb. 13, 1871.

## SLEEP, FAINTING, APOPLEXY.

When a man is asleep, his pulse beats and his lungs play, but he is without sense, and you can easily wake him up.

If a person "faints," he, too, is without sense but he has no pulse and does not breathe.

Apoplexy is between the two: the heart beats, the lungs play as in sleep, and there is no sense, as in a fainting fit, but you can't shake the man back to life.

In sleep, the face is natural.

In a fainting fit, it has the pallor of death.

In apoplexy, it is swollen, turgid and fairly livid.

If a man is asleep let him alone, nature will wake him up as soon as he has got sleep enough.

When a person faints all that is needed is to lay him down flat on the floor and he will "come to" in double quick time. He fainted because the heart missed a beat, failed for an instant, failed only once to send the proper amount of blood to the brain. If you place the patient in a horizontal position, lay him on his back, it does not require much force of the heart to send the blood on a fever to the head; but if you set a man up, the blood has to be shot upward to the head, and this requires much more force; yet in nine cases out of ten if a person faints and falls to the floor the first thing done is to run to him and set him up, or place him on a chair.

In apoplexy, as there is too much blood in the head, every one can see that the best position is to set a man up, and the blood naturally tends downward, as much so as water will come out of a bottle when turned upside down, if the cork is out.

If, then, a man is merely asleep, let him alone for the face is natural.

If a man has fainted, lay him flat on his back, for his face is deadly pale.

If a man is apopletic, set him in a chair, because his face is turgid, swollen, livid, with its excess of blood.

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OVERTAXING THE BRAIN.—A meeting has been held in Charlestown, Mass., to consider the subject of overtaxing children's brains by the present method of education. Such meetings should be more general. It is a crying evil, and, it is to be feared, a growing one.

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DURING the last fifty-one years, seven and a half million immigrants came to the United States.

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CLOVERDALE.—We had accidentally overlooked a very kind letter, received from a correspondent at Cloverdale, forwarding several subscribers; albeit the "subscribers" found their way, in due season, to our list. Our correspondent writes as follows: "Cloverdale is one of the sunny spots upon this coast, and one of Natures amphitheaters; lying at the south-east base of the Mendocino County mountains. It seems to be conceded by the people of this place, and north of here, that it will be the terminus of the new railroad, now as far north as Santa Rosa, for many years to come.

The appearance of the town and its surroundings, convince you at a glance of the intelligence and thrift of its citizens. Their clean, nice dwellings; their handsome and well trimmed orchards, with their well dressed and well pruned vineyards, all attest to their industry and thrift.

At the center of this genial spot, is the Emerson House, with one of the most affable and attentive proprietors one often comes across. I may also add that the birth of the PACIFIC RURAL PRESS, was hailed by the people here as the star that will guide the agriculturist and horticulturist in his quiet and noble work, until all the hills and valleys, strike hands in gladness over their wine and oil. "So mote it be."

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WANTS TO MAKE SUGAR.—A correspondent "S. H. B.," from Purissima Ranch is desirous of learning if there is not some way in which he can grow the sugar beet and make a low grade of sugar for sale to the refiners. He says:—"I have on my farm 300 acres that will produce from 60 to 80 tons of the common beets per acre. This I have done on one piece of ground, for the last twelve years, without any manure or rotation of crops, and still the same piece of ground continues nearly its average crops. There are many thousands of acres of the same kind of land in this neighborhood (Half Moon Bay) and I have no doubt, if the sugar refiners would instruct the farmers in the kind of machinery and how to use it for making the grade of sugar your San Diego correspondent speaks of, they would soon have more unrefined sugar than their refineries could manage, and the State be exporting instead of importing. I, for one, would put in fifty acres this year to start with. I have an abundance of water both for power and washing. This whole country is entirely free from alkali and is abundantly supplied with water in the dryest season."

We would refer our correspondent, and all others like interested, to the communication upon this subject, from Mr. Wadsworth, of Sacramento, which will be found on another page. Mr. Wadsworth is intimately acquainted with what is being done in this direction in Europe, and is fully able to give all required information. He may be addressed by letter, for any further advice, than is contained in his communication.

---

KELSEYVILLE, LAKE COUNTY.—A friend writing from this place for a few copies of the RURAL, as sample numbers for getting up a "club," adds:—This is a beautiful valley, snugly nestled in the mountains by the side of that truly beautiful sheet of water, known as Clear Lake, which is some 30 miles in length by 12 miles in width, in the widest place. On the shores of this beautiful lake there is some of the finest land for farming and dairy purposes to found in the State. It seems as though God especially smiles upon this valley; for we have never failed to have seed time and harvest; the dryest season, even, being the best crop years here.

This season we have had an abundance of rain; and from what I can learn from the farmers, there is at least one-third more grain sown than ever heretofore, and the prospects are also far better than usual, owing to the rain falling but a little at a time. By reason of its manner of coming we have not had rain enough to raise the streams sufficiently to bring the fish up from the lake, and we fear that the good people of Kelseyville will be disappointed in regard to their usual sport with gig and hook, and will have to go further up the streams and angle for trout, which is far better.

We see a number of strange faces passing through here, from the lower valleys; some in search of grass for their starving sheep and cattle, and some for various other purposes. Grass is scarce here now; but by the first of March stock will do well and we can graze more than we now have.

# HUMOROUS.

PIG'S EYE, is the romantic name of a new agricultural settlement in Minnesota.

A GOAT is a good milker but a better butter.

"You're a queer chicken," as the hen said when she hatched out a duck.

A Missouri newspaper claims that the hogs of that State are so fat that in order to find out where their heads are it is necessary to make them squeal and then judge by the sound.

The other day a little boy, while playing with some horses in an open lot, got his ear bitten off. The animal committed the mistake of attaching too literal a significance to the proverb that all flesh is grass.

—They tell of a farmer in Kentucky who was so lazy that when he went to hoe corn he worked so slowly that the shade of his broad-brimmed hat killed the plants.

An Alabama planter has discovered a new and pleasant method of taking a cathartic. He shoots a hen with a charge of pills and serves her up for dinner.

An old farmer once said to his sons: "Boys, don't you ever spekerlate, or wait for sumthing to turn up. You might jest well go an sit down on a stone in the middle of a medder, with a pail atwixt your legs and wait for a cow to back up to you to be milked.

JOSH BILLINGS says: The *live man* iz like a little pig; he is weaned young, and begins to root early. He is the peppersass uv creation, the allspice uv the world. One *live man* in a village is like a case uv itch in a distrikt skule—he sets every boddy skratching to onest.

A GENIUS who lives in Missouri has taken out a patent for a poultry-roost, which may be so connected with the gates of beehives that when the fowls go to roost the hives will be closed to the exclusion of beemoths and other foes to the honey-making tribes. The early-rising habit of the fowls insures the timely opening of the hives in the morning. This patent at present holds the champion belt for general oddity.

CALIFORNIA develops humor. There poor Dow, Jr., ground out his patent sermons and drank himself to death; there John Phœnix wrote his mirth-provoking Phœnixiana; there, too, Mark Twain graduated from a newspaper office as a court jester of a whole people.

## ONLY A SHADOW.

A story is told of a well-known gentleman, who sometimes imbibes too freely of the ardent, going home late at night recently, and mistaking his shadow outlined on the front door for a man, he paused a little in surprise, and then lifting his hat very gracefully, bade him good evening.

"A very plesant evening," said the gentleman.

No reply.

"This is my house, I believe," waving his hand.

The hand of the shadow went through the same graceful curve.

"I should like to get in, sir, if you'll stand aside;" but the shadow made no movement to let him pass.

The gentleman was evidently surprised. He repeated his desire to pass in, but the shadow remained still.

His wife, hearing her husband's voice, looked through the window blind and seeing no one but himself, asked why he didn't come in.

"So I would my dear, but this gentleman"—pointing to the shadow—"insists on blocking up the door."

His wife quietly opened the door, remarking, "That was your shadow."

"Indeed," said the puzzled citizen, "well now, I thought he was a mighty fine looking fellow to be so impolite," and went in.

Whenever he shows a disposition to remain out late at night, his wife has only to remind him of the shadow on the door-step to insure a speedy return.

---

A COCKNEY being out one day amusing himself with shooting, happened to tire through a hedge, on the other side of which a man was standing. The shot passed through the mans hat, but missed the bird.

"Did you fire at me, sir?" he hastily asked.

"Oh, no, sir?" said the shrewd sportsman; "I never hit what I fire at."

---

An individual who was puzzled to know where all the Smiths came from, has at last solved the mystery. At Waterbury, Connecticut, on a long brick factory, appears a sign inscribed "Smith Manufacturing Company."

## METEOROLOGICAL OBSERVATIONS

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121° 29′44″ W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF Barometer Corrected. | Temp. Air. | Rel. Hmdty. Satura'n 100. | Force of Vapor. | Amount of Cloudiness. | TREE* Maximum. | Minimum. | Range. | WIND. General direction f'm which it moves, and the Forces. | | R'N. Gauge 30 ft. ab've surf'ce. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FEBRUARY. | INHS. | DEG. F | C | INHS. | 0-10 | DEG. | DEG. | DEG. | DIR-TION. | F'CE. 0-10 | INHS |
| Sunday.. 5 | 30.016 | 50 | 70 | .255 | 0 | 58 | 44 | 14 | N. | 1 | 0.210 |
| Monday. 6 | 30.195 | 49 | 65 | .226 | 10 | 56 | 37 | 19 | S. | 1 | 0.101 |
| Tuesday. 7 | 30.285 | 50 | 70 | .257 | 5 | 56 | 40 | 16 | S. | 1 | 0.040 |
| Wedn.... 8 | 30.186 | 51 | 74 | .286 | 5 | 57 | 40 | 17 | S. & N. | 1 | ..... |
| Thurs.... 9 | 30.021 | 51 | 68 | .256 | 8 | 58 | 42 | 16 | S. & N. | 1 | 0.001 |
| Friday. . 10 | 29.942 | 50 | 67 | .237 | 4 | 60 | 39 | 21 | S. | 3 | ..... |
| Satu'day 11 | 30.063 | 45 | 63 | .222 | 5 | 58 | 38 | 20 | S. & W. | 2 | ..... |

* Thermometrograph. † Rain.

REMARKS.—Cloudy and foggy weather has prevailed more or less during the entire week, which, with the absence of strong northerly winds, has secured the full benefit, for the growing crops, of the light rains that have fallen.

The rain-fall of the week sums up 0.411 inches, to which the thousanth of an inch more from fog and mist on the 9th, must be added—making the total for the season, up to date, exactly 4 inches.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., P. M., Feb. 16th.

FLOUR—The demand for export has been at a stand, during the past week. Prices are too high to admit of any considerable outward movement. The local demand, however, continues quite brisk, without any material change in prices. We quote Oregon extra, $7.00@7.25; local brands—superfine, $6.00@6.25; extra, $7.12½@7.25. Transactions include 2,000 bbls. Cal. extra, and 1,500 bbls. Oregon extra.

WHEAT—The market still continues almost at a stand and without material change in prices. Sales include 16,000 sacks, ordinary to choice, at from $2.20@2.40.

We quote at the close, nominal rates at $2.25@2.40: good to choice. Liverpool quotations were telegraphed yesterday at 11s. 9d.@11s. 10d. New York rates continue at $1.70@1.75 per bushel.

BARLEY—Is still in fair demand, and prices remain about the same as last week. We quote $1.37@1.45, from fair to choice. Sales 10,000 sacks.

OATS—We note a limited demand for oats. Fair to good may be quoted at $1.50@1.75, though it is very difficult to get anything under $1.60. Sales about 8,000 sacks.

CORN—Quotable at $1.40@1.45.

BUCKWHEAT—Nominal at $3.25@3.50.

RYE—In limited demand at $2.62½@2.75.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $26.50@27.50; MIDDLINGS, $35 for feed, and $37@40 per ton for fine; OIL CAKE MEAL $30.

HAY—Is in steady demand. We quote ordinary wild oat to choice wheat at $12.50@16 50 ₱ ton.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, $12@16, and Potter's, 2 lb do, at $4 ₱ dozen.

POTATOES—Receipts heavy and market firm. We quote Humboldt 1.75@1.87; other kinds $1.60@1.75.

HOPS—This year's crop is quotable at 8@12½c.

HIDES—We quote Dry, slaughterer's stock, 17@18½ c; Salted; 8@8½c. Sales during the week 2,080 Cal. dry.

WOOL—We quote good shipping, at 15@17½c; very choice, 18½c; burry, 10@12½c; slightly do, 13@14c. Market bare of stock and quotations nominal. The spring crop will be coming in about the middle of March.

Latest advices from New York show a considerable activity in the market there at advanced prices, and as the stock becomes smaller, holders are less disposed to realise at current rates. A few large manufacturers have been in the market and taken considerable quantities. Several Western manufacturers are also in the Eastern market for the purpose of purchasing, which shows that the interior, as well as the sea-board markets, are about bare, and that very full prices will rule before the next clip comes upon the market. In California wools a good business has been doing at full rates, the supply is limited, and holders desire to place it to the best advantage.

TALLOW—Quotable at 7@7½c, from ordinary to choice. The proprietors of the candle factories are paying 7½c. for a good article.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

BEANS—Prices somewhat improved. Bayo at $2.25@2.50; butter, at $2.50 for small and $3 for large; small white, $2.00@2.25; pink, $2; red, $2.25@2.50; pea, $2@$2.25 per 100 pounds.

FRESH MEAT—In good supply and quotations little changed. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 9@10c ₱ lb.
Do 2d do 8@ 9c ₱ lb.
Do 3d do 7@ 8c ₱ lb.

VEAL—Scarce and firm at 12@12½c.

MUTTON—Steady at 9@10c. ₱ lb.

LAMB—Supply light, as yet, and quotable at 11@12½c.

PORK—Undressed has advanced to 6¼@6½c.; dressed, 10@11½.

POULTRY, ETC.—In good supply, and prices remain unchanged. Young Chickens $7@8; Hens $7@8.50; Roosters $7.00@7.50; Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame, $2.50@$3 ₱ pair; live turkeys, 20c ₱ lb; Hare, $1.50@2.50 per doz; Doves, 50c do; Quail, $1.25@1.50.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 40@45c; Packed rolls, 32@37½c. Eastern firkin 25@35c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California, new, 10@14c., Eastern, 16@17c.

EGGS—California fresh, 30@35c; Oregon, 30c; California Lard, 11-lb tins, 14@14½c; Oregon, 14½@15½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $1.50@$2.50; Oregon, $1.25@$2.75; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $25@$45; Lemons, per box, $16; Cal. Lemons, $3@4 per 100; Pears, scarce.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

## GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this department still very quiet; stocks of all kinds are complete, and prices rule low. It is thought, however, from the increased acreage under cultivation, and the encouraging prospects of a large crop of cereals, an active demand will undoubtedly follow for all kinds of seasonable goods in this line as the season progresses.

BAGS AND BAGGING—Are in moderate request only, and will so be until the approach of the coming season. We quote wool bags at 65@67½c. Oat Sacks 23x40, 12½c; 28x35, 18c; Potato Sacks, 17½c.; imitation Dundees, 18@19 c. Standard burlaps, 22x36, 12½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5½c; Oregon do, 6½c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ₱ lb; Raisins, layer, $4.25@5.00; Currants, Zante, 11½@12½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 16@16½c; Lard, California, 12½@13¼c; Oregon do, in kegs, 13@14½c ₱ lb.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, Feb. 17, 1871.

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 per ton; Railroad, 60c ₱ 100 lbs.; Bar, 1@1½c ₱ lb: Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb. | | |
| Scotch and Eng. Pig Iron, ₱ ton | $34 | @$35 50 |
| White Pig, ₱ ton | 32 | @ 33 00 |
| Refined Bar, bad assortment, ₱ lb. | — 03 | @ — — |
| Refined Bar, good assortment, ₱ lb. | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | |
| Sheathing, ₱ lb | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | @ — 22 |
| Composition Bolts | — 21 | @ — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX, ₱ box | 12 00 | @ — — |
| Plates, I C Charcoal | 10 00 | @ 10 50 |
| Roofing Plates | 10 00 | @ 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | @ — 42 |
| STEEL.—English Cast Steel, ₱ lb | — — | @ — 15 |
| QUICKSILVER.—₱ lb | — — | @ — 90 |
| LEAD.—Pig, ₱ lb | — 6 | @ — 7 |
| Sheet | — 9 | @ — — |
| Pipe | — 10 | @ 11 — |
| Bar | — 8 | @ — 9 |
| ZINC.—Sheets, ₱ lb | — 10½ | @ — 11 |
| BORAX | — 32½ | @ — 35 |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, Feb. 16.

SOLE LEATHER.—Shipments to the east still continue large, and several tanners have advanced their price one cent per lb.

| | | |
|---|---|---|
| City Tanned | 26 | @29 |
| Santa Cruz | 26 | @31 |
| Country | 25 | @28 |

CALF AND KIP SKINS.—There is no change in French stock, the exportation being extremely light. Domestic skins continue firm, with a tendancy to advance.

| | | |
|---|---|---|
| Best French Calf Skins, ₱ doz | 75 00 | @100 00 |
| Common French Calf Skins, ₱ doz | 35 00 | @ 75 00 |
| French Kips, ₱ lb | 1 00 | @ 1 30 |
| California Kip, ₱ doz | 60 00 | @ 75 00 |
| California Calf, ₱ lb | 1 00 | @ 1 25 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80 | @ 1 00 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10 | @ 1 25 |
| Eastern Calf for Backs, per lb | 1 15 | @ 1 25 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50 | @ 13 00 |
| Sheep Roans for linings, ₱ doz | 5 50 | @ 10 50 |
| California Russet Sheep Linings | 1 75 | @ 5 50 |
| HARNESS LEATHER, ₱ lb | 30 | @ 37 |
| Fair Bridle, ₱ lb | 33 | @ 40 |
| Skirting, ₱ side | 4 50 | @ 4 75 |
| Welt Leather, ₱ doz | 30 00 | @ 50 00 |
| Buff Leather, ₱ foot | 22 | @ 26 |

## San Francisco Market Rates.

### Wholesale Prices.

FRIDAY, February 17, 1871

| | | |
|---|---|---|
| Sugar, crushed, ₱ lb | 14½ | @ 15 |
| Do. Hawaiian | 9 | @ 12 |
| Coffee, Costa Rica, ₱ lb | 21½ | @ |
| Do. Rio | 19½ | @ |
| Tea, Japan, ₱ lb | 65 | @ 1 00 |
| Do. Green | 60 | @ 1 00 |
| Hawaiian Rice, ₱ lb | 8 | @ 9 |
| China Rice, ₱ lb | 6½ | @ 7½ |
| Coal Oil, ₱ gallon | 50 | @ 60 |
| Candles, ₱ lb | 14 | @ 18 |
| Overland Butter | 30 | @ 35 |
| Ranch Butter, ₱ lb | 40 | @ 45 |
| Isthmus Butter, ₱ lb | 25 | @ 35 |
| Cheese, California, ₱ lb | 9 | @ 16 |
| Eggs, ₱ dozen | 30 | @ |
| Lard, ₱ lb | 12½ | @ 13½ |
| Ham and Bacon, ₱ lb | 15 | @ 17 |
| Shoulders, ₱ lb | 9 | @ 10 |

### Retail Prices.

| | | |
|---|---|---|
| Butter, California, fresh, ₱ lb | | |
| do. pickled, ₱ lb | 40 | @ 50 |
| do. Oregon, ₱ lb | | @ 25 |
| Cheese, ₱ lb | 20 | @ 25 |
| Honey, ₱ lb | 25 | @ 30 |
| Eggs, ₱ dozen | 41 | @ |
| Lard, ₱ lb | 18 | @ 20 |
| Hams and Bacon, ₱ lb | 22 | @ 25 |
| Cranberries, ₱ gallon | 75 | @ 1 00 |
| Potatoes, ₱ lb | 2 | @ 3 |
| Potatoes, Sweet, ₱ lb | — | @ 2 |
| Tomatoes, ₱ lb | | |
| Onions, ₱ lb | 2 | @ 3 |
| Apples, No. 1, ₱ lb | 4 | @ 5 |
| Pears, Table, ₱ lb | 5 | @ |
| Plums, dried, ₱ lb | 10 | @ 12 |
| Peaches, dried, ₱ lb | 10 | @ 15 |
| Oranges, ₱ dozen | 50 | @ 75 |
| Lemons, ₱ dozen | 50 | @ 75 |
| Chickens, apiece | 75 | @ 1 00 |
| Turkeys, ₱ lb | — | @ 25 |
| Soap, Pale and C. O | 10 | @ 15 |
| Soap, Castile, ₱ lb | 18 | @ 20 |

PRODUCE, ETC.

| | | |
|---|---|---|
| Flour, Extra, ₱ bbl | 7 00 | @17 25 |
| Do. Superfine | 6 00 | @ 6 25 |
| Corn Meal, ₱ 100 lbs | 2 25 | @ 2 50 |
| Wheat, ₱ 100 lbs | 2 25 | @ 2 45 |
| Oats, ₱ 100 lbs | 1 50 | @ 1 70 |
| Barley, ₱ 100 lbs | 1 35 | @ 1 45 |
| Beans, ₱ 100 lbs | 1 87½ | @ 2 50 |
| Potatoes, ₱ 100 lbs | 1 00 | @ 1 75 |
| Hay, ₱ ton | 10 00 | @15 00 |
| Live Oak Wood, ₱ cord | 10 00 | @12 00 |
| Beef, extra, dressed, ₱ lb | 8 | @ 12 |
| Sheep, on foot | 2 00 | @ 2 50 |
| Hogs, on foot, ₱ lb | 6 | @ 6½ |
| Hogs, dressed, ₱ lb | 7½ | @ 8 |

## Gold and Legal Tender Rates.

San Francisco, Wednesday, Feb. 15, 1871.—Legal Tenders buying @90; selling @90¾. Gold in New York to-day 111¾.


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Yours, W. A. S.

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These works are in successful use in the following private residences: Gov. Haight, the Encinal, Alameda: R. F. Williams, Esq., South San Francisco; J. R. Arguello, Esq., Santa Clara; A. P. Brayton, Esq., Oakland; O. W. Childs, Esq., Los Angeles; Mrs. Brayton, Oakland; Capt. Wilcox, San Diego; J. P. Jones, Esq., Gold Hill, Nevada; W. B. Isaacs, Esq., Post St., San Francisco; Jos. A. Donohoe, Esq., Menlo Park; M. Schallenberger, Esq., San Jose; Capt Kidd, Stockton; John Parrott, Esq., San Mateo; Col. J. C. Hays, Oakland; A. A. Cohen, Esq., Alameda; A. D. Bell, Taylor street, San Francisco; J. S. Emery Oakland, and Isaac Requa, Esq, Virginia City, Nevada.

Also in the following public institutions: the City and County Almshouse, San Francisco; the County Hospital, Sacramento; the Industrial School, San Francisco; the State Institute for the Deef, Dumb and Blind, Berkely.

Also, the following private institutions: The College of Santa Clara, Santa Clara; the Alameda Insane Asylum; Alameda; and the New Hall and Theater, Petaluma.

Also in the following Mining and Manufacturing works, The Pacific Iron Works, San Francisco; the Chollor-Potosi Hoisting Works, Virginia City; the Eureka Gold Mining Company's Hoisting Works and Mill, Grass Valley, California; the Crown Point Mining Co.'s Mill (the Rhode Island), Gold Hill, Nevada.

Also, in the following stores; E. Cohn & Co., Marysville, Gibson and Cross' (saloon), Gold Hill, Nevada; P. Brown & Bro., Marysville; Wm. Klein, Marysville, J. M. Browne, Gilroy; and N. Wagner & Bro., Marysville.

Also, in the following hotels; Horton's New Hotel, South San Diego; the International Hotel, Virginia City, and the St. Charles Hotel, Carson City.

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Pacific Pneumatic Gas Company; office 206 Sansome street, San Francisco. Send for Illustrated Pamphlet and Price List. A. D. BELL, Secretary.
J. W. STOW, President. 1v1-3m-r


MARIPOSA, DEC. 27th, 1870.—Messrs. Dewey & Co. Patent Agents:—*Gentlemen:*—Allow me herewith to tender you my sincere thanks for the efficient assistance you have tendered me in securing my patent and other papers, as well as the promptness and energy displayed by you in our business transactions.
Very Respectfully Yours, JAY. R. PALMER.

## TREES AND PLANTS!

By the 100, 1000, or 100,000, both at

WHOLESALE ON RETAIL,

AT LOWEST MARKET

RATES.

Fruits guaranteed true to name. My stock embraces all the leading fruits of the country from the Apple to the Strawberry—including the

**ORANGE, LEMON AND LIME.**

Also all the leading and favorite

*SHADE AND ORNAMENTAL TREES, SHRUBBERY, VINES AND PLANTS, MULBERRY TREES AND CUTTINGS, AND SILK WORM EGGS, ALSO THE*

Osage Orange Hedge Plant for fencing farms. Patent Grafting wax for top grafting, and the common Grafting Wax for top or root grafting.

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1 year old Mutticauleis $20 per thousand.

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**MULBERRY TREES**

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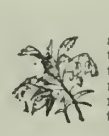

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**BEST VARIETIES;**

**Proper Training, and Vigorous Growth!**

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All our seeds are warranted good and true to name, and are sold at lowest rates both at WHOLESALE AND RETAIL. A liberal reduction to the trade and those buying in large quantities. We are determined to

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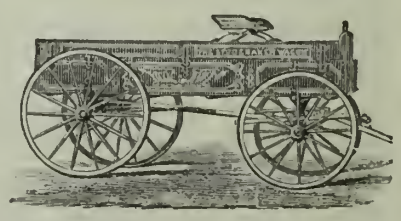

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LOP EARED RABBITS.

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**Light Brahmas and White Leghorn's.**

A few trios for sale. Also 3 very choice young HOUDON COCKS.

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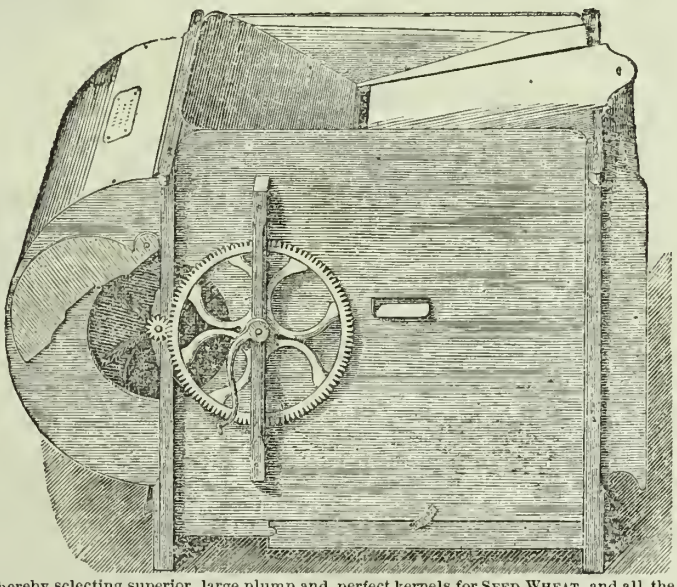

THE undersigned having purchased of the Patentees, WIRTS & SWIFT of Hudson, Michigan their right to this mill, Patented June 22d, 1869, for California, Oregon, Washington Territory, Montana, Utah, New Mexico and Arizona, wishes to call the attention of FARMERS, MILLERS AND GRAIN DEALERS to one of THE GREATEST IMPROVEMENTS OF THE AGE for cleaning and separating grain. While it combines all the essential qualities of a first-class FANNING MILL, it also far excels anything that has ever been invented for the separation of grain. It has been thoroughly tested on all the different kinds of mixed grain, separating all the different seeds in almost a magical manner, placing them in their different compartments in the mill arranged for their reception, at the same time taking out all the *Mustard, Grass Seed, Barley and Oats*, and making two distinct qualities of wheat if desired, thereby selecting superior, large plump and perfect kernels for SEED WHEAT, and all the small and cut kernals, such as merchantable wheat, is deposited in another compartment. By the use of this Mill a great quantity of wheat usually sown that has been cleaned in the common mills will be saved to the farmer, as the cut or shrunken kernals will never germanate.

The above mentioned Novelty Mill is the only mill known to possess all these superior qualifications, and was exhibited and tested at the last Michigan State Fair held at Jackson, Michigan, September 21, 22, and 23, 1869, and bore away the palm over some thirty other different mills from all parts of the United States, including the famous Dicky Mill of Racine, Wisconsin. All who have witnessed here the operations of the NOVELTY MILL, declare it perfection, and the most beneficial invention to the Farmers, Millers, and Grain Dealers ever introduced on the Pacific Coast. The farmers in Santa Clara County, are loud in its praise, and also in other parts of the State where it is being introduced. No. 1 Mill, complete, is capable of cleaning 25 tons of grain per day; No. 2 Mill, 15 tons; No. 3. Mill, 8 tons. A large number of recommendations and certificates of the practical working of the mill will be furnished, Circulars containing references sent free by mail. N. B. Town, County, or State Rights for sale on favorable terms. For further particulars apply to
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**Lightness, Cleanliness, Elasticity and Durability,**

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Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

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AS WELL AS THE

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ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

**TO ADVERTISERS.**

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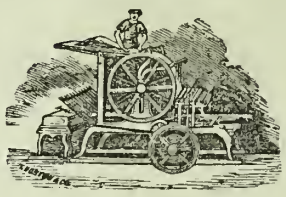

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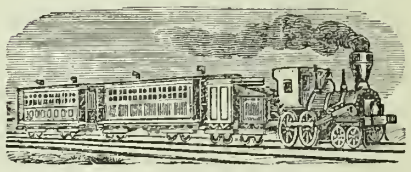

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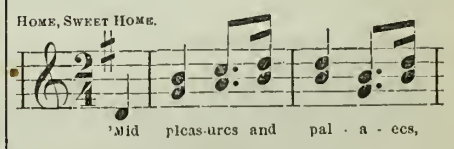


## "Live and Let Live,"

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San Francisco.

## What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—*San Jose Ind.*

The first No. evinces marked editorial ability.....Fills up a vacancy that has been felt in our agricultural department. ....With its publishers there is no such word as fail.—*Mt. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, $4.—[*Sonora Dem.*

It is a work which no farmer should be without.—[*Freka Union.*

An admirable specimen both as to execution and contents. ... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—[*Stockton Daily Ind.*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—[*Encinal Alameda.*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life." —[*Encinal.*

They can, if they will, make it a creditable work. [We will that.] It opens well.

Excellent paper and type—and a first-class agricultural ournal.. .Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—[*Vallejo Recorder.*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—[*Arizona Miner.*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—[*Idaho Statesman.*

Just the kind needed on this coast, and merits an extended circulation.—[*Red Bluff Independent.*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation....

Is running over with entertaining and instructive reading matter, and embellished with numerous engravings.

The heading is beautiful and appropriate.—[*Pajaronian.*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press.*

If the first number is to be taken as an earnest of what will follow, each week, we can advisedly say to all interested in agricultural pursuits..subscribe.—[*Vallejo Chronicle.*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—[*Evangel, S. F.*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the hill.

We notice that I. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—[*Yolo Mail.*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unchasteness in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press"—which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—$4 a year; or to a club of 10 or more, $3. Sample copies sent on receipt of a postage stamp.—["Alpine Miner."

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—[Democrat, Downieville.

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—[Alpine Chronicle.

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—[Christian Advocate, S. F.

It will represent the agricultural interests of California and the Pacific Slope. * * * With so much ability as to command a wide circulation and influence.—[Helena, (M. T.) Gaz.

Will be found worthy the patronage of the people of this State.—[Argus, Snelling.

We heartily welcome the new publication.

The interests of our own county are about equally divided between mining and farming.

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From the well known ability and energy of the publishers, we doubt not that the "Rural Press" will fulfill all these conditions.—[Inyo Independent.

FROM A CORRESPONDENT.—I have seen your "Pacific Rural," and I never tire of looking at and studying its "head and front." It is a *taking* picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

SUCCESS IN BUSINESS.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALD'S BUSINESS COLLEGE, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and HEALD'S COLLEGE JOURNAL, which will be sent free upon application. Address, E. P. HEALD, President, business College, San Francisco, Cal. 1v1-3msnr

[ANNOUNCEMENT.]

## OUR RECORD BOOK.

### History of our Country Towns---No. 1.

### SNELLING,

MERCED COUNTY, CAL.

[Written for the PRESS by Mrs. FRANCES H. McDOUGAL.]
(Copyrighted.)

February 25th, 1870, we shall publish an interesting history of the above named town, with an illustration of the famous old Snelling Hotel. Extra copies will be for sale.

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**Thursday Noon** our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

**Our General Agent at Sacramento.**

Mr. I. N. HOAG, at the office of the State Agricultural Society, in the Pavilion, corner of Sixth and M streets, in the capital city, is our duly authorized agent for receiving subscriptions, advertisements, and receipting for the same.

**Mr. S. H. Herring,**

Our valuable agricultural correspondent during the past year, will continue to travel, and will report for the PACIFIC RURAL PRESS.

**Eastern Travelling Agent.**

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**L. P. McCarty,**

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**Contra Costa Co. Agricultural Society.**—OFFICERS: Geo. P. Loucks, Prest., Pacheco; Henry Shuey, V. P., Lafayette; R. R. Brock, Sec., Martinez; S. W Johnson, Treasurer, Pacheco; G. W. Bryant, R. G. Davis, Directors, Pacheco.

**Santa Clara Valley Ag. Society.**—OFFICERS: President, William C. Wilson; Vice Presidents, Cary Peebles, Chas. B. Polhemis; Directors, James P. Sargent, Wm. O. Donnell; Treasurer, M. Schallenberger; Secretary, Tyler Beach.

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Scientific Press

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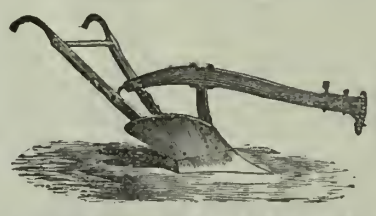

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1v1-3mr Nos. 17 & 19 Front st., San Francisco.

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### Stolen Land Warrant.

Notice is hereby given, that the undersigned will apply to the Commissioner of Pensions, as the law directs, for the re-issue of Military Bounty Land Warrant, No. 90,783, for one hundred and twenty acres of Land, issued April 28, 1857, to Annie Farnsworth, widow of James Farnsworth, private in the New York Militia, war of 1812; and which said warrant was stolen from the undersigned, in the city of San Francisco; on the nineteenth day of November, 1864; and all persons are cautioned against using or purchasing said stolen Warrant, as such purchase or use will be considered void.

T. HART HYATT.

Dated San Francisco, Cal., Jan. 21, 1871. 4v1-6wr


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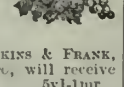
20,000 Cuttings of the best varieties of Foreign Grape Vines for sale by the undersigned, 3½ miles west of Napa.



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### Calendar for 1871.

| 1871. | Sunday. | Monday. | Tuesday. | Wednesday. | Thursday. | Friday. | Saturday. |
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| 1871. | Sunday. | Monday. | Tuesday. | Wednesday. | Thursday. | Friday. | Saturday. |
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| July. | | | | | | | 1 |
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| | 31 | | | | | | |

[ADVERTISEMENT.]

SWAMP AND OVERFLOWED LANDS.—We give, on page 76, a review of Swamp Land Titles and Legislation, by a gentleman who for several years occupied a responsible position in the office of the State Surveyor General, (who is also *ex-officio* Register of the State Land office.) It covers the whole ground and apparently exhausts the subject, though want of space precludes giving the whole in this issue. So much has been written by those who are not familiar with the subject, that the public has anything but a correct view of the matter. All interested in such matters will do well to give this article, lengthy though it is, a careful perusal.—*Pacific Rural Press, Feb.* 4, 1871.

Copies of the above have been printed in pamphlet form and are for sale at this office. Price 25 cts. postage paid.

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Send in your subscriptions as fast as obtained. After the first ten names have been paid for, others can be added within any reasonable time, thereafter on the same terms. Clubs may be composed partly of names for RURAL, and partly for SCIENTIFIC PRESS. Blanks and extra copies furnished when desired.

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LOCAL CANVASSERS WANTED for every town, city and county. Special inducements offered.

Parties desiring to get up clubs or act as agents, will be furnished sample copies and prospectus free.

DEWEY & Co.,

Publishers Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

[Being also publishers of the SCIENTIFIC PRESS, we would say here that no change will be made in that paper except to improve it in its present character. Each journal will be published entirely distinct from the other.—D, & Co.]


ENGRAVING ON WOOD DESIGNING AND ENGRAVING on wood and for electrotype cuts of every description, done by superior artists at the office of the SCIENTIFIC PRESS. Fine Cuts made for Book and Newspaper Illustrations, and for Fancy Labels for printing in various colors; Monograms, Seals, tc., etc. Prompt execution and reasonable prices.

DEWEY & CO.,
No. 414 Clay street, S. F.


WICKENBURG, ARIZONA, Jan. 14th, 1871.—*Messrs. Dewey & Co., Gents:*—Enclosed please find four dollars subscription money. My subscription for the SCIENTIFIC PRESS, will expire February 27th, 1871, but as I do not want my paper stopped, I remit in advance. The PRESS is quite a favorite with us here, as we are miners, and in a mineral country. Yours, etc., T. J.

PACIFIC RURAL PRESS

Number 8.] SAN FRANCISCO, SATURDAY, FEBRUARY 25, 1871. [Volume I.

## HISTORICAL RECORD.

(Copyrighted.)

# History of our Country Towns.---No. 1.

## SNELLING,

MERCED COUNTY, CAL.

[Written for the PRESS by MRS. FRANCES H. MCDOUGAL.]

The historic wealth of California is, as yet, for the most part, a hidden treasure. The hills, the mountains, the ravines, the gulches, the obliterated tracks of the wilderness and the thoroughfares of populous towns, all teem with stories of exciting and thrilling interest—tales of heroic achievements, unwritten records of silent suffering, amid all the anguish of disappointment, despair and death, when human hearts broke and gave no sign, leaving no pen to write their history, no tongue to tell their sorrows.

Could the lives of the pioneers be faithfully written, they would, even in their naked truth, rival the romances of the Thousand and One Nights, and eclipse the wildest exaggerations of eastern fable. But the miners themselves, are generally unwilling to recall the bitterness of past experience; and hence their unrecorded achievements are fast fading out from the mind of man.

It is to rescue those heroic men and women from oblivion, and give them their true place and honor on the pages of history, that these waifs of the mountain side, through highways and byways, will be gathered together; and may they continue to call forth the latent memories of individual experience, until all our sectional histories shall have been faithfully collected, and worthily written.

### PIONEERS OF SNELLING.

In the year 1849 a few Sonorians and Americans commenced river mining, above and below the falls of the Merced. Among the Americans were L. P. Wilson, Major Harvey, Judge Bell, P. Ford, H. McDonald, Evans and Wade, (who built the first ferry), and some others, whose names are forgotten. Samuel J. Scott, John M. Montgomery and Dr. D. W. Lewis were the first actual settlers. They built the first camp in 1849; and in 1850 they put up a frame house, one and a half stories high, which was occupied by Dr. Lewis as an inn. In 1852 this property was sold to William Snelling. During the next year Mr. Snelling built a large two story house, with porticos and verandahs, above and below, which was opened as a hotel. The place was thence known as Snelling's Ranch; and from this point the town of Snelling took its rise and its name.

### A DEADLY CONFLICT.

In the year 1858 an event occurred, which threw the infant settlement into a terrific excitement; and to this day it is remembered as one of those appalling scenes, which our early pioneers were too often called on to encounter. On the 23d of January, as a party of men in the bar-room of Mr. Snelling's hotel were engaged in a game of crack-loo, the first scene of a fearful tragedy was enacted. One by one they tossed up a half dollar and the man whose throw fell farthest from a crack in the floor, was to pay for the liquor. A dispute in regard to the relative distances ensued, when Bill Edwards, a very desperate man, drew his pistol on William Snelling, Jr. and killed him instantly.

The murderer escaped; but by his own evil deeds was soon brought to justice. He killed a man for his money; and a Mexican woman who saw the act informed against him, when he was taken and hung without judge or jury.

Bad as his character and his cause were, he left behind some friends. The most conspicuous of these were Stevens, Barclay and Wilcox, while the Snelling party was marshalled by Charles Bludworth, then sheriff of the county, Benjamin White and Dr. Goodwin. Some time after the death of Snelling the two parties met opposite the Court House, when the subject of contention was brought up, and a sharp quarrel arose among them, when the fight and the firing became general and a universal panic ensued. The horrible truth was soon known and made public. Three men were killed—Stevens, Dr. Goodwin and Barclay. Immediately after, Wilcox, the only man left on Edwards' side, mounted his horse, rode away, and was never heard of afterwards. Charles Bludworth and his brother-in-law, Benjamin White, feeling that they had the right on their side, boldly stood their ground. The grand jury of this county found a bill against them. They were indicted, tried and honorably acquitted.

### THE FIRST FLOOD.

This occurred in the latter part of 1851. Dr. Fitzhugh, since one of the most distinguished citizens of Snelling, was then living at Mariposa Creek, near what is now known as Plainsburg; his being the only family for many miles around. From the 20th of December till the last of the month the waters spread over an area of at least thirty miles, making the whole country impassable for man or beast. At the commencement of the flood, the Dr., who had been out hunting stock, caught a view of his premises from a high hill 20 miles off. Perceiving the extreme peril of his family, he put spurs to his horse; and dashing through the fast rising flood, arrived home about dark, to the great joy of all at finding each other safe. His house, which occupied a strip of higher land about 60 feet wide, now stood with one end dipping in the water, while the other was elevated only about six inches above it. The house, however, maintained its ground, throughout the whole siege of two long weeks, during which they had nothing to eat but unground barley bread, garnished by a squirrel, or a hawk, whenever they were so fortunate as to catch one. But the town of Snelling, being then yet in embryo, sustained no further damage, than the extensive caving of its banks and loss of land. The great event in its history was

THE SNELLING HOTEL* AND THE "BRAVE OLD OAK"---DESTROYED BY FLOOD.

### THE SECOND FLOOD.

It should be remembered that the Merced river has its source five or six thousand feet above the level of the sea, while the town of Snelling, only sixty miles distant, is but a few hundred feet above the common sea level. This great fall, in so short a distance, must give an immense impetus to any sudden rise, or liberation of its floods. The early and continued fall of rain in the autumn and winter of 1861-2, with its dreadful results, will long be remembered by the citizens of the Merced, the San Joaquin and Sacramento valleys.

At this period the river had begun to be studded with fin farms, where large fields of grain, orchards and vineyards were cultivated. Many of the farmers were extensively engaged in stock raising; and on the first alarming rise of the water, there was a general effort made to save the animals that had been feeding on the intervale; and many parties were seen driving their cattle and other creatures to higher land. But the valleys were rapidly flooded with water; and after exhausting all their efforts, wet from head to foot, from morning till night, they sat down in the palsying calm of perfect helplessness, to await their fate.

In all directions, over the wide waste of waters, horses, cattle, sheep and hogs, were seen struggling with the waves, or seeking a momentary refuge on floating fragments. The rise had been gradual, until the dam of the Benton Quartz Mills, on the Merced river, thirty miles above, suddenly gave way. This was a heavy structure of solid masonry; and when it broke, mountains of water rolled down the valley, with a thundering sound, overwhelming everything with their heaving and heaping floods.

From the great breadth of the area covered, and the immense volume of water thus suddenly poured in, it had all the characters of a stormy and turbulent sea. In the maddening fury of opposing currents large logs and heavy timbers were dashed against each other or thrown up on their beam ends or tossed like straws amid the whirling eddies, while the white capped waves came roaring and surging on, with every sweep reaching still further inland. It was indeed an appalling scene. The strongest mind was overwhelmed with terror and the stoutest heart trembled.

The SNELLING HOTEL standing some three or four hundred yards from the river was the first to quail under the mighty shock. There had been misgivings in regard to its safety for several days and a number of the boarders had left on that account. On the 11th of January, 1862, their worst fears were confirmed. The evening previous there had been considerable excitement; and Mr. Hall, the landlord, was a good deal alarmed; but Mr. McKean Buchanan, the celebrated actor, who, with his troupe and family were at the house, said he knew all about floods, and felt sure that in the present case there was no danger. This tended to calm the excitement; but in the morning, on putting down a pole just outside of the porch, Mr. Hall discovered that the ground under the house was caving in.

At this time the ladies were all up stairs and on being called down took refuge in the dancing hall. A rope was passed through its windows, and made fast to the great oak near by. But this was soon seen to be an ineffectual measure, for the floor was rising and their stout hearted old anchorage itself began to quake and quail. The hall swung round with a tremendous lurch, and strained on the rope. They then saw that the old and the new parts of the building were separating, when there was a general rush among the ladies for the small or old part, which seemed to be firmer; and the last who went over had to jump more than a yard across the widening gap.

They then thought they had found a place of safety, but soon perceived that that was moving too, and their next refuge was in the oak. Planks were laid from the dining hall to the body of the tree and the ladies, five in number, one of them, the landlady, with two little children and a babe in the arms, all reached the tree in safety. And for the rescue of these thirty-two persons, there were no means at hand but a light little pleasure boat, which Mr. Bludworth had built for his young wife, a delicate and fragile thing, fit only for

"Sunny smiles and summer skies."

The very sight of it, dashing amid the angry waves, called forth a cry of horror; but under the skillful management of Harden Perkins, they were all brought off, one at a time, the transit occupying more than five hours of the most agonizing anxiety and fear. The brave and generous Perkins never recovered from his almost superhuman efforts. He took the consumption and died within the year.

The next morning the hotel went off, leaving only its ground floors behind and they soon followed. About half a mile down, the house went to pieces and all its treasures were scattered to the waves. The next night the people stood on the shore, watching by moonlight the parting struggles of the stern old tree. After having broadened its arms, and bound its roots by the buffettings of unknown centuries, it could not get away from its hold, without some force, powerful as the upheaval of an earthquake. It trembled, as if touched by an ague, it shook, it tottered, and then, with one terrible sweep, it fell prone; and the pride of a thousand years was borne away to perish—but not to be forgotten; for that brave old oak shall be remembered and venerated by generations yet unborn.

On the same day the house of Dr. Fitzhugh, Judge of the County Court, was found to be moving, and was only saved by being taken to pieces; while his family had to make their way into town through the mud and water for nearly a mile. Mrs. Fitzhugh was at this time in very delicate health, and a baby in her arms. Their beautiful grounds, with all their conveniences and adornments, were laid waste.

### A PERILOUS POSITION,

During the hight of the flood, L. P. Wilson, then living at the Falls, in company with Mr. Muggler, went with a skiff to rescue the family of Mr. Yizer and when in the current the boat struck a tree then standing in the water. Mr. Wilson caught a limb of the tree, when the boat drifted round and left him clinging to the tree, where he remained through the night. What an age of anxiety and suffering must have been condensed in that terrible and fearful experience. Twenty-two hours elapsed before he was taken off. He was finally rescued by Frank Hood and Dutch Charley, after a hard fight with the current for more than six hours.

### SPONTANEOUS COMMONISM.

After this catastrophe everything was held in common; for as all egress was forbidden by the floods, there was, for more than six weeks, a great scarcity of provisions, as well as clothing and beds. The old school house was made, in part to do the duty of a hotel. The most generous spirit prevailed among the more fortunate ones and whatever they had was shared with the sufferers. If any one saw what he wanted, he took it without molestation. Nothing was sold.

### THE GREAT FIRE.

But the measure of affliction was not yet full. Scarcely had the people begun to recover from the panic caused by the flood, when another shock came, which threatened the complete annihilation of poor, unhappy Snelling. On the 12th of September, 1862, a destructive fire broke out in the store of Mr. Goldsmith. Only three houses were left where shelter could be procured; and these were only saved by keeping wet blankets on a neighboring store, with the prompt exertions of the men, aided by one lady, who, though then in delicate health, carried twenty-two pails of water quite a distance; and thus the fire was at length subdued and a fragment of the town preserved.

But the irrepressible energies of the Yankee Nation were neither to be quenched with water nor consumed by fire. The town was soon rebuilt and began to increase with a steady and healthy growth. At present it contains about eighty families and 300 inhabitants, of whom 125 are Chinese. Within the last two years the population has nearly doubled; and still, from

* This drawing is from a photograph view taken before the flood. Its structure is a fair representative of the roadside hotels in the interior districts.

day to day, the sound of the saw and hammer through all our streets, gives a pleasant promise of future increase.

INDUSTRIAL OPERATIONS.

The beautiful valley of the Merced, with its rich alluvial soil naturally indicates the leading business of the people—that of agriculture. The whole valley, more than thirty miles in length, by about one mile in width, is occupied by fine farms, but is not yet cultivated to the full extent of its producing power. Wheat, hay, wool, butter and cheese are the chief staples; while all the edible roots and fruits are produced in great abundance and perfection. A very important branch of industry is general stock raising. The numerous groves of oak furnish food to large herds of swine, and the fine pastoral region west of the San Joaquin, "invites to sheep husbandry." The culture of the honey bee begins to receive some attention, and experiments are being made in the product of cotton, which, in these rich bottom lands, with so genial a climate, ought to thrive abundantly.

By the statistical report of the Surveyor General, we find that the county of Merced contains 90,000 acres of cultivated land, from which was produced in 1869, 450,000 bushels of wheat, 216,000 bushels of barley, 65,000 bushels of Indian corn, 2,080 bushels of beans, 8,250 bushels of potatoes, 2,800 bushels of sweet potatoes, 10,000 bushels of onions, 10,315 tons of hay, 11,500 pounds of butter, 1,800 pounds of cheese, 631,713 pounds of wool and 30,300 pounds of honey. There were at the same time 3,513 horses, 43,290 neat cattle, 122,083 sheep, 11,296 hogs and 1,142 bee hives; and the assessed value of property was $1,106,806. It is proper to mention here that this county has discharged all her indebtedness and has now more money in her treasury than any of the neighboring counties. And this alone is a strong testimony for the business ability and integrity of her citizens.

MANUFACTURES.

At the Merced Falls, six miles above the town, a woolen factory was established in 1868, by a joint stock company, with a capital of $100,000. There are twenty-four looms, with corresponding machinery sufficient to produce 800 yards of cloth a day. The wool is taken in the rough and all the processes of picking, washing, dying, carding, spinning and weaving are carried on, the work employing about forty persons. Blankets, flannels, water-proof and broadcloths, all of a superior quality, are among the products. All the machinery and everything is kept in perfect order, and the staple employed is genuine wool, and not ground rags as in some places.

Mr. Wm. Nelson established his flouring mill in 1854 which employs three persons and turns out 5,000 barrels of flour yearly. Mr. Murray's grist mill, which occupies a fine large building some distance below, was built in 1861; and judging from the capacity of the place, it should produce at least as much as its neighbor. The Snelling people may well be proud of these substantial and useful works.

MECHANICS AND MERCHANDISE.

Besides a full supply of ordinary mechanics, there are in Snelling a saddler's, a jeweller's and a tin shop, and a spirit of activity and industry prevails through the whole place. There are four stores for general merchandise and one drug store, a bank and a printing office, where a weekly paper is published. The San Joaquin Valley *Argus* is conducted with ability far above that of ordinary country papers, its columns being enriched by productions from the facile pen of Mrs. Steele, the gifted wife of the editor.

PUBLIC BUILDINGS.

The Court House, a handsome and substantial building, with a strong stone basement, was erected in 1857, at a cost of over $8,000. The Odd Fellows Hall is also a fine brick building, and was completed during the last year and just now the finishing touches are being given to the Methodist Church, a small, but very neat brick building that will cost 3,400. The school house is really an ornament and honor to the place. It was built in 1867 and cost $6,000. It stands a little way above the village and has two large and lofty rooms for primary and grammar classes, with all the modern improvements.

There are two first class hotels, Coulter's and the Galt House. The latter, kept by Mr. Anderson, is in every respect worthy of its long standing and high repute. Coulter's Hotel is owned by Mr. Wilson and in all its arrangements bears testimony to the large and liberal policy of that gentleman.

There are two divisions of the Sons of Temperance, whose ranks are daily increasing, greatly to the detriment of the bars and whiskey shops, which are among the lingering fragments of the old barbarism. There are in the place five physicians, and lawyers enough, at least to keep business affairs comfortably awake.

EDUCATIONAL INTERESTS.

The first regular public school was taught by Mr. B. Frank Fowler, and commenced July 8th, 1861, the average number of pupils, during the first term being only eleven. In the course of two years the school, still under the care of Mr. Fowler, increased to an average of twenty-seven. From very low beginnings, numerical and mental, it has steadily advanced in capacity, intelligence and numbers, and will compare favorably with any school in the State, the pupils now being about 100, employing two teachers; Mr. Fowler yet retaining the place of principal. The present Board of Trustees, A. B. Anderson, P. D. Wiggington and J. M. Montgomery, deserve especial remembrance for their bold and liberal policy in forwarding the erection and establishment of the new school house, and their general patronage of educational interests.

THE DWELLINGS.

Of this place are generally neat and comfortable; and many of them are tasteful and elegant, with highly ornamented gardens and grounds. The palatial residences of Messrs. Scott and Montgomery, a little distance from the town, would be worthy of notice, even amid city splendors. The former occupies a commanding position on a beautiful mound, fringed with cottonwoods, and girdled with oaks of a most royal bearing. From the Observatory one of the loveliest landscape pictures ever yet seen will reward the climber. The valley of the Merced, with its beautiful bluff, dotting and dimpling, but nowhere broken, lies revealed, the whole encircled by a horizon of unrivaled beauty. The distant foot hills, stretching eastward, mount into the Sierras, through openings of which can be seen lofty peaks, looking Heavenward, with their crowns of eternal snow, standing still, white and solemn, as the gates of another world.

## CULTIVATING FOREST TREES.

A recent settler in Nebraska, says the morning *Call*, and one who has evidently learned "to labor and to wait," is planting 100 acres of land with walnuts. He plants 650 trees to the acre, and estimates that each tree will be worth $3 in twenty years—for lumber, railroad ties, fence posts and fuel. This would give him nearly $2,000 an acre, or $100 a year for the gross earnings of his land; while the expenses would not be one-quarter as much as would be required for wheat or any other annual crop.

Six hundred and fifty trees to the acre would place them only about eight feet apart—rather close, we should say, for trees twenty years; old but none too close for the first five or eight years; at the end of which time they should be thinned out by the removal of about one-third, leaving, say 434 trees to the acre, as the standard growth.

A better way, however, would be to set out, originally, say five feet apart. The shade produced by such close planting would aid in the early growth, by keeping the ground more moist; and when the trees began to interfere, remove every other one, leaving the standard trees ten feet apart, which would do very well for twenty years. But if the trees are to remain for a much longer time, as for producing nuts, or ship or other heavy timber, another thinning out of every other tree should be made about that time.

We have no doubt that every thrifty 20-year old hickory, or other hard-wood tree, standing anywhere in this state convenient to railroad or water transportation in the year 1891, will be worth over the sum of $3, above named. And furthermore we do not believe that farming land suitable for timber growth, and favorably located can possibly be put to a more profitable use. If 50 quarter sections were so planted, every year, for the next 20 years, the price of such timber would not be reduced below the sum named. We should like to see the argument that would disprove this statement, if it can be produced. And if it cannot be disproved, why are our farmer not planting more forest trees?

STEAM PLOWING.—The steam wagon, imported to this State from Scotland by Mr. Roberts of this city, and which is now at Stockton, seems to have impressed the people of that place as favorably as it did those who witnessed its operations here. The *Independent* says there is a strong probability that a thorough trial of the capabilities of the machine will soon be made, as parties are now negotiating with the owners to set it to work in the upper San Joaquin valley, breaking up ground for summer fallow. The experiments made at the race track the other day proved that its motive power was sufficient to haul a gang plow through a stiff soil, and should the owners of the machine take the contract for plowing the large quantity of land that is now offered them, and be able to satisfactorily complete the work, it will create a complete revolution in the methods of farming in this valley.

## NOTES OF TRAVEL IN MONTEREY COUNTY.

### Mr. Carr Abbot's Dairy Ranch.

One of the chief objects of interest in Salinas valley is the large dairy farm of Mr. Carr Abbot, with its fine dairy appliances. The dairy itself looks like a private house or school rather than a farm building. The milk room is about 70 feet by 28, proportionately high, and is kept scrupulously clean. The milk pans are placed in tiers to the number of 13 or 14; four of these tiers surrounding one post, which turns on a swivel. The dairy is fitted to accommodate the milk of about 600 cows, about that number being milked at the hight of the season. At present they only milk from 150 to 200, and make about 100 lbs. of butter daily; besides this, a certain proportion of new and 12 hour milk is fed to the calves.

The milk is emptied at the yard into a large funnel which leads, by pipe, into the milk room, where it is received by a large straining can, suspended inside another filled with water. After being skimmed, the milk is poured into another funnel which runs into the hog pen, situated 30 or 40 yards distant. On the ground floor is a huge box churn, turned by means of a small steam engine. The churn is capable of working about 50 gallons of cream. The engine is also arranged to turn a small circular saw, grind-stones, etc.; and the boiler furnishes steam for heating water to wash the tins, and scald the hogs. Everything is conducted in first-class style, and with the greatest regard to economy. I was informed the butter sold as high as 70 cents per pound last season. This is exclusively a butter dairy; but there is another large dairy farm, belonging to a brother, which will turn out cheese this summer.

### General Farming Operations.

Mr. Carr Abbot is now plowing a good sized field of river bottom land for beets, and from the appearance of the soil I have no doubt, that with a fair amount of rain, a large crop will be gathered. The beet grows well on certain moist, rich portions of this valley. The land throughout the valley is now in the best condition for working purposes, but will require a goodly amount of rain, yet, to insure a crop. There has been much work done in the valley in the hope of a good season, and all are now anxiously watching for rain. May they receive it! It will go hard with many if they don't; for two years ago the grain rusted all over the valley, and last year the prevailing drouth prevented anything like a fair crop. Nearly all the land in Salinas valley is held by Messrs. Sherwood, Spring, and Abbot. There are only a few farming freeholders.

### Salinas City.

is a new township; containg from 700 to 800 souls; they have a school, with teacher and assistant, and a newspaper. It lies on the stage road from Natividad to Monterey, and is open to much improvement in a picturesque point of view, as it is situated on a treeless, windy plain. It is healthy enough, but unfortunately the water, as a general rule, both here and throughout the valley, is brackish. Leaving Salinas behind and facing towards the sea in a N. W. direction, we pass through the Cooper Ranch to Castroville. This ranch, like most other large ones in this part. is held under Spanish Grant—and it is leased out, as a rule, for four dollars per acre. It contains much first-class land, some adobe and some rich alluvial mould.

### Castroville

Contains about 600 inhabitants. This is another new township, and lies on the direct road to Moss' landing, the point where all the Salinas, Natividad and Castroville grain is shipped. This town also supports a newspaper. It is connected by telegraph with Monterey, Santa Cruz and San Francisco. It was attempted a short time ago to remove the county seat from Monterey to Castroville; but the effort proved a failure. Some even in Castroville believing that it did not possess the necessary advantages and qualifications. It is about three miles from Moss' Landing. Natividad, a small village situated about 10 miles E. by N. from Castroville, and under the foothills, is the next point. Here the stages branch to Monterey and Los Angelos. After leaving this town some five miles behind, the road winds over the hills until within about three miles of

### San Juan,

one of the oldest townships on the Pacific coast, lying at the edge of a narrow but beautiful and fertile valley, a large portion of which is taken up by Messrs. Flint and Bigsby's sheep ranch. The grain which was sown early here, looks well, and is about five inches high; but they want more rain to insure a good crop. The town itself is pretty, the houses neat in appearance, with small gardens around them in many cases. The new Idria quicksilver mine is the market for the district and consumes all they can produce in the shape of grain.

There is a coal mine about 30 miles from this town, not yet developed, but which is said to contain a large seam of good bituminous coal. It lies between San Juan and the Idra mine. This town is connected by stage with Watsonville, Monterey, Los Angeles, Hollister and Gilroy, and contains about 800 inhabitants. Going in an easterly direction we reach

### Hollister

in about eight miles. I was given to understand that there are 50,000 acres of grain being put in around San Juan, Hollister and San Felipe, the largest portion being in the vicinity of Hollister. This town contains about 600 inhabitants, and may eventually do well, as a large proportion of the farmers are free-holders; but are at present suffering from last years' drouth. Going north-west, we pass through another narrow valley, lying between Hollister and San Felipe. On the right hand side is a long strip of fine white oak timber, the soil, in parts, is very rich; but nearly all contains more or less alkali, and in some places it is so impregnated with this salt as to be unfit for grain culture. Arriving at

### San Felipe

we find some very good bottom land, timbered with sycamore. The chief land owner here is Mr. Dunn, who came into the valley when there was not a farm throughout its whole extent—about 14 years ago—but he is now surrounded by some of the best and most careful farmers in the county. A large portion of this valley is admirably adapted to the culture of beets, and there is every prospect of a sugar factory being established there in a few months. Mr. Dunn will put in 50 acres of that crop. He has a dairy of 150 cows in the full season. One of his fields contains 10,000 acres, all fenced. He has some sheep, but cattle form his principle stock; for these he has to keep about 60 saddle horses. He has a fine, heavy dark bay stud horse, very well made-valued at $2,000, "Lady Burns," a running mare, out of Irish stock imported by Mr. Dooly, of Stockton, and four horses, three greys and a dark bay, sired by "General Taylor." The "bay" is an especially fine animal. The last four are his buggy horses, and form as fine a set as a man could wish, for ordinary purposes.

Mr. Dunn had the misfortune to lose an imported Australian draught stud horse a few months ago in a strange manner. He was driven down to Gilroy at the time of the races, put into a stable at night (apparently well) and was found dead next morning. This animal was worth $5,000, so that the loss was no mean one. He had only got the animal a short time before, but fortunately he will get some stock from him; and should any of the expected foals prove to be colts they will all be kept for stud purposes,

The land around the vicinity of San Felipe village is leased in small quantities for gardening purposes; from 50 to 100 acres being about the usual size of the farms here. They lease at from $10 to $15 per acre and one person informed me that in spite of the scarcity of rain last year, he raised 1,500 bushels of corn, and 80 tons of pumpkins on 16 acres of ground, giving an average of about 93 bushels of corn with five tons of pumkins per acre. Where pumpkins alone were planted he raised 10 tons per acre. This is not a bad crop. One person in this neighborhood will plant tobacco this year.

All the early sown grain, as far as Gilroy, looks well; but it is very evident they will need considerably more rain than they have had to insure any crop. The amount of rain in San Francisco has far exceeded that which has fallen in this part. I beg to conclude for a time. E. W.

"MAMMOTH EGGS."—The *Alta* speaks of a hen's egg received at that office, measuring 8¼ by 6½ inches in circumference. George W. Thompson, of the stone quarry ranch, has presented us one of equal size, and says his pullets makes an every-day affair of such productions. One of his brood recently over-did the thing by laying a much larger egg, and soon winged to her eternal roosting place.

THEY are proposing South, to use the word farm instead of plantation.

AN ORANGE TREE in Carson City is said to be bearing fruit.

## MECHANICAL PROGRESS.

SEYFERTH'S PROCESS FOR SYRUP PURIFICATION.—The London *Artizan* describes the method devised by Dr. Seyferth for the neutralization of the acids in sugar making. We quote:—"The process consists essentially in the introduction of sulphurous acid in very weak aqueous solution into the vacuum pans. By this it is possible to bring all particles of the sugar solution into contact with sulphurous acid, and to eliminate, by the joint action of heat and vacuum, any excess of the acid, which, however, not only saturates free alkalies and carbonate of lime, but also sets the organic acids, which might be present as alkaline salts, free from these combinations; the sulphurous acid taking hold of the bases they were combined with, while the greater part of these organic acids are volatilized along with the steam, and thus the sulphurous acid promotes the crystallization of the sugar, while its action as a decolorizer comes also advantageously into play. The acid is manufactured at the works by burning sulphur in ovens, and carrying the products of combustion, previously cooled, into a leaden vessel wherein the gas is met by a current of water so as to become absorbed. The solution thus obtained is put into casks, or other suitable vessels, and from these a tube, provided with taps, leads to the vacuum pans, into which the liquid is sucked simultaneously with the sugar solution. The party in attendance upon the boiling in the vacuum pans, takes care to test from time to time by blue litmus paper, so as to insure the contents of the pan remaining alkaline; but if by a mishap the acid is in excess this is remedied by sucking in a fresh quantity of sugar solution, while a slight increase of the rapidity of evaporation (the turning on of more cold water to the condensers) will rapidly eliminate and volatilize any excess of sulphurous acid."

ALLOYS OF TIN AND IRON.—The following is from the *Technologist* for February: "According to Karsten, pig-iron with one per cent. of tin, yields a somewhat cold-short wrought iron with about 0.19 per cent. of tin. Such iron, it is stated, works well under the hammer, but at a white heat, white vapors escape. With more tin, the iron in welding gave much waste and produced cold-short iron, with a fine, white and dull grain. For specific purposes, however, especially where great hardness is required, iron with a small amount of tin, not exceeding 0.3 per cent, seems to be well adapted. Sterling, in England, hardens the tops of rails with tin, and according to a report of the English Commission for testing iron in regard to its adaptability for railroad purposes, the best Dundyvan bar-iron, if alloyed with 0.22 per cent. of tin, supported, without breaking, a weight of 23.39 tons to the square inch. Adolph Ott, of this city, fused wrought iron with 0.5 per cent. of tin, and arrived at results similar to those of Karsten. Whilst at a welding heat, it worked very well, the smith stating that it was some of the toughest iron he had ever worked. The grain was found to be fine and steel-like, with strong luster and bright color."

THE BRONZE GUNS FAILED.—*Engineering* says that the three bronze 9-pounders taken for testing as samples of the lot recently cast at Woolwich, "all failed after about 200 rounds had been fired from each of them, large holes and deep fissures being developed in the bores. Probably the metal—which is that of some of our old bronze guns—suffered in remelting, the tin, which has to be added at each remelting, not properly amalgamating with the body of the metal, but collecting in small pockets. These would form soft spots on which the action of firing would soon tell. Guns of this metal, when made sufficiently hard to withstand friction and erosion, are too brittle to resist the shock of the explosion of the charge. On the other hand, if the metal be of sufficient degree of toughness, so as not to break, it will be too soft to withstand the action of the powder when fired. When smooth bores and round shot were the fashion, the percentage of defective castings in bronze guns was very high, whilst with rifled ordnance that percentage has greatly increased. With new metal these results are bad, but when old guns are remelted, it is infinitely worse."

ELECTRIC SIGNALS FOR BRAKEMEN.—This plan has been introduced upon one of the trains between Boston and Worcester. The *Gazette* of the last named city describes the apparatus as "consisting of an electro-magnetic telegraph extending through the entire train, and connecting with the cab of the locomotive. There is a battery of six cups, and an alarm-bell in the cab and in each car. There are two wires passing between the cars, covered with tarred twine. One end of the cable is securely fastened to the car, while at the other end is a copper link, which is placed on a sort of a spring-hammer on the other car. This link, when in its proper position, keeps the connection open. It is so arranged that, should a part of the train become detached, the link is pulled off, the circuit is broken, and the bell in the locomotive and on each car is kept ringing until the circuit is again closed. Besides automatically indicating the breaking of a train, the apparatus is useful in signalling between the engineer and his brakemen. Instead of blowing the whistle to notify them to apply or let off the brakes, the engineer simply touches a little knob that rings the bell on each car almost instantly. By this method the brakeman on the rear car is notified as surely as though on the first car, which is not the case by the present arrangement, for it frequently happens that the sound of the whistle does not reach the end of a long train. If there is trouble in any car the conductor or brakeman touches a little knob, the signal is given, the engineer and the other brakemen are warned, and the train is stopped."

TAPIOCA PAPER FOR PHOTOGRAPHERS.—This paper, for copying photographs by artificial light, is thus prepared: Two hundred grammes of tapioca are soaked for 2 days in an equal weight of water; 10 liters of water are added, and afterward, for every liter of liquid, 10 grammes iodide of potassium, 30 grammes chloride of potassium, 1 gramme bromide of potassium, are dissolved, and the whole boiled for ten minutes, allowed to stand for a day, and decanted and filtered through fine linen. The paper is immersed in it 12 to 20 sheets at a time—or can be floated upon it—for 15 to 20 minutes; it is then hung up to dry in a dark room. If it has assumed a dark color, that is of no consequence, as it disappears in the silver bath. This is to be prepared in the proportion of 1:15, and for every ounce of nitrate of silver, 50 to 60 grains of citric acid are to be added. The developer is made of 50 grains of pyrogallic acid and 80 grains citric acid in 30 ounces of water. The time of exposure varies from 10 seconds to 25 minutes, according to the picture to be copied and the actinic force of the light. —*Jour. of Applied Chem.*

STEEL WELDING.—We have spoken of the Rothwell flux. Following is evidence of its value from the correspondence of the *Iron Age*:—"At the shops of the New York and New Haven Railroad Company, welds were made of the worst specimens of steel which the ingenuity of the foreman could produce. A bar of American Bessemer, apparently one of a lot which has exhausted the mechanical ability of the shop to work, was welded in several ways and broken cold, showing a clear fracture across the weld. At the works of the Spring Company, the welds of spring heads are made with borax, which is both costly and uncertain. Welds were made of these with the Rothwell process, at one-tenth the cost, which were equal in every respect to those of borax, and superior in that there was no imperfect work—no failure out of seventy-five—while with the borax the failures are frequent. At a tool company's works, high and low grade cast steels were welded in every form, burned to a sponge, and perfectly restored."

EXTERNALLY ADJUSTABLE PACKING FOR PISTONS.—We see described a newly patented arrangement by which the packing may be tightened at will by simply turning a nut at the outer end of the piston rod. A conical head is by this means pressed down into the cup shaped leather packing with which the piston is provided, or is partially withdrawn, as the case requires. The same device is applicable to syringes and pumps.

THE DOLOMITE LIGHT.—"A new use has arisen for this mineral as a substitute for lime in the calcium light. Small prismatic pencils are cut out of it, and exposed to the oxyhydrogen flame by which they are rendered white hot and give out powerful photographic rays. The material can be used for hours without exhibiting anything more than a slight indentation on the side which was exposed to the flame."

## SCIENTIFIC PROGRESS.

ALL VERTEBRATES FROM A COMMON PROGENITOR.—"With respect to development, we can clearly understand, on the principle of variations supervening at a rather late embryonic period, and being inherited at a corresponding period, how it is that the embryos of wonderfully different forms should still retain, more or less perfectly, the structure of their common progenitor. No other explanation has ever been given of the marvellous fact that the embryo of a man, dog, seal, bat, reptile, etc., can at first hardly be distinguished from each other. In order to understand the existence of rudimentary organs, we have only to suppose that a former progenitor possessed the parts in question in a perfect state, and that under changed habits of life they became greatly reduced, either from simple disuse, or through the natural selection of those individuals which were least encumbered with a superfluous part, aided by the other means previously indicated. Thus we can understand how it has come to pass that man, and all other vertebrate animals, have been constructed on the same general model, why they pass through the same early stages of development, and why they retain certain rudiments in common. Consequently we ought frankly to admit their community of descent; to take any other view, is to admit that our own structure, and that of all the animals around us, is a mere snare laid to entrap our judgment. This conclusion is greatly strengthened, if we look to the members of the whole animal series, and consider the evidence derived from their affinities or classification, their geographical distribution, and geological succession. It is only our natural prejudice, and that arrogance which made our forefathers declare that they were descended from demigods, which lead us to demur to this conclusion. But the time will before long come when it will be thought wonderful that naturalists, who were well acquainted with the comparative structure and development of man and other mammals, should have believed that each was the work of a separate act of creation."—*Darwin.*

THE OHIO GAS WELLS.—A paper in the *American Chemist*, by Dr. Newberry, says that at one point, near the mouth of the Kokosing, the augur, on reaching the depth of 600 feet, struck into vertical crevices and sunk several feet without resistance; and from two crevices a volume of carburetted hydrogen issued which was unparalleled in all the oil explorations made in the country; the wells gave out salt water intermittently, throwing it to a hight of over 100 feet. The gas of one of wells, lighted at the end of a pipe two inches in the clear set in the well head, produced a jet of flame 20 feet long and as large as a hogshead. By fixing a stop-cock in the pipe the gas was made to accumulate until, measured by a steam-gauge, the pressure amounted to 180 pounds to the square inch. The gas appears to be pure and the volume sufficient to light a large city.

COMPOUNDS OF GOLD.—The *Journal of Applied Chemistry* for February contains an article by Prof. Charles A. Joy on "The Chemistry of Gold," from which we quote: "M. Pratt, of Bordeaux, has published the results of extended researches into the properties and compounds of gold. He states that chemically pure gold can be prepared in the form of sponge; that there exists a liquid chloride superior to the per-chloride, and that salts can be made from the sub-oxides and bin-oxide. He succeeded in making a fluoride of gold from which he prepared fluorine in the form of a yellowish gas similar to chlorine. The preparation of spongy gold is accomplished by saturating a solution containing ten per cent. of chloride of gold with pulverized carbonate of potash, and for each equivalent of gold salt, he adds an equivalent of a saturated solution of the same carbonate; he then treats the filtered liquid with five equivalents of pulverized oxalic acid, added in small quantities at a time, and boils the liquid for ten minutes. The gold is reduced to the state of an extremely fine powder, and the grains agglomerate and form a spongy mass without metallic luster, but convertible by the hammer into solid ingots. M. Pratt has also prepared the carbonate of gold."

CAUSE OF THE INSET CURRENT AT GIBRALTAR.—At a late meeting of the Royal Geographical Society, Dr. Carpenter read a paper upon this subject, in which, after detailing the various unsatisfactory theories which have been propounded in explanation of this current, he suggested the following,—which we find in *Nature* for Jan. 19th: "The water of the Mediterranean has a uniform but limited excess of weight over that of the Atlantic—so limited as to do away altogether with the idea that there is an accumulation of salt in the Mediterranean. The excess of salt was found to be greater in the lower than in the upper stratum of water, and thus the excess of evaporation was produced. If there be two columns of water of equal density—one that of the Atlantic, the other that of the Mediterranean—an excess of evaporation lowers the height of the Mediterranean column. If the Atlantic column were of fresh water, just enough would flow in from it to restore the evaporated water. But it is salt water which actually flows in from the Atlantic, and therefore it produces an increase of pressure, which presses the Mediterranean water outward till the equilibrium is restored. This being restored, there is once more a reduction of the Mediterranean level by evaporation, and so on; and, therefore, a circulation is always going on between the waters of the Mediterranean and Atlantic. The only difficulty in receiving this explanation is that the water of the outward-flowing current must run uphill; but other examples, he stated, are known. The fact that such a circulation exists, he said, is now indisputable, recent experiments having satisfactorily determined the evidence of a westerly current underlying the surface easterly current. These currents are, therefore, only a portion of the general oceanic circulation, which causes a perpetual surface motion of warm water from the equator to the pole, and a counter under-current of cold water from the pole to the equator."

WHAT THE ECLIPSE HAS TAUGHT.—J. Norman Lockyer considers the great teaching of the late eclipse to be the additional evidence of the compound nature of the corona; it being partly a true solar appendage, and partly due to our own atmosphere. He writes from Venice to *Nature*. We copy the conclusion of his article from that journal for Jan. 19th,—omitting the names of observers which he has given here and there in parenthesis:—"From what has preceded, then, we seem justified in suggesting as working hypotheses the following, which, however, more accurate information may alter, and which I offer as suggestions only, *bien entendu*. 1. The Solar Chromosphere extends some 5′ or 6′ from the sun, its last layers consisting of cool hydrogen, and possibly a new element with a green line in its spectrum; which line, if it be identical with the auroral line as stated by Gould, may possibly be present in the higher regions of our own atmosphere. 2. Outside this stratum the rays, &c., are for the most part due partly to our own atmosphere, partly to our eyes, for their shape varies; they are seen by some at rest, by others in motion, and their spectrum is the same as that of the dark moon. 3. The white light of the chromosphere above the prominences, as seen in an eclipse, is due to its strong reflection of solar light, as shown by the polariscopic observations. 4. The rosy tinge of the corona proper, that is of the region more than 5′ or 6′ from the sun, is due to our atmosphere containing light which comes from the higher and lower strata of the chromosphere."

THE MOUNT WASHINGTON OBSERVATORY. —*Silliman's Journal* for February says:—"Prof. C. H. Hitchcock, at Hanover, has telegraphic connection with the summit, and occasionally joins the observers. Gen. Myer, head of the 'Bureau of Telegrams and Reports for the Benefit of Commerce,' recently established by Congress, ordered the laying of the telegraphic wire to the summit, so that a daily statement of the observations might be sent to Washington and to the rest of the country. The house occupied by the observers is the depot of the Mt. Washington railroad. The party has two barometers, thermometers, a hydrometer, Robinson's self-registering anemometer, and an anemoscope. Three daily telegraphic reports are sent out, two to the Bureau of Telegrams at Washington, and one to the New England Associated Press, Boston."

# HOME AND FARM.

## THE NEEDS OF AGRICULTURAL COMMUNITIES.

For the PRESS, by Dr. E. S. CARR, Pof. of Chemistry and Agriculture in the University of California.

NO. 4.

When the State of Califoruia accepted her share of the Natiou's gift, by a wise legislation she made it the foundation of one of the colleges of her State Uuiversity. The Uuiversity completes the State educational system, and crowns that noble edifice of free instrnction, which guarantees to every child the general culture and speeial training so uecessary to energize and economize labor, to lighteu and also to enlighten it. Of "colleges" for general culture there are euough; each denomination has its own, where the common legacy of literature aud science is transmitted with the help of theological lenses; but of their graduates it is estimated that not more than one per cent. even fill the ranks of the great leading industries.

Until the organization of your University there was not, west of the Rocky mountains, one industrial college, prepared to take youth from the public schools, and carry them forward so that every step should tell upon their life business, and at the same time show them its wide relations to other pursuits, and to the public welfare—thus fitting them for citizenship. Nor was there in all this broad land, a single school, or college or university *adapted for the suitable training of farmers' and mechanics' wives.* I am ashamed that in matters of education we have so long behaved as if it were better for man to be alone, in his higher life, and condemned him to an intellectual celibacy. Perhaps this accounts for the unproductiveness and unprofitableness of so much of his work; but this at least is certain—from whatever other walk of life we may exclude woman, she is as necessary to the last as she was to *to the first farmer!* And if ever toil aud eare lose their wrinkles, and labor is ennobled and sanctified, it will be through her help and ministry. Nor will the higher education ever be complete until the *science of housewifery* is as thoroughly taught as that of *husbandry.*

### A Good Example.

The Regents of the University have not only followed, as far as the means at their disposal would admit, the highest European standards; bnt they have Americanized these models, by adapting them to our peculiar eondition. And they have placed it at the head of the great progressive institutions of the world in saying to the *daughters* as well as the sons of the State—"Any person may here fiud instruction in any stndy." No sooner was the institution in working order, and its courses of instruction marked out, than they welcomed the first young lady applicants to all its general and special advantages. *And this without a dissenting voice,* in agreeable contrast to the delays and discourtesies which have attended their admission in other parts of the country.

The University of California therefore offers to all the youth of the State a theoretical education *leading towards industrial pursuits;* it exhibits as far as possible the practical application of scientific principles in the eultnre of our varied products, and the development of our mineral wealth, and it makes this education absolutely and forever *free.*

It proposes to gather at convenient seasons for mutnal instruction and benefit, those interested in special cultures, and to accomplish in these *Farmers' Institutes* a work similar to that done by Teachers' Institutes for education.

It proposes to furnish the facilities for all needful experiments—to be the station where every new product and method can be thoroughly and fairly tested, and to become both the repository and exponent of our progressive knowledge. It will have its complete collection of models in machinery, of seeds and woods and textile materials. Its gardens and orchards formed for instruction and illustration will become a museum of horticulture, so classified and arranged that it may be read by all. It will be to this land and people, the volume wherein the good aud perfect gifts of a beneficent Creator, have each their appropriate pages, and every letter a type of beauty which has more than a material significance.

### Beautify as well as Cultivate.

For, "as the lesson of life is learned, we find that all lovely things are also uecessary —*flowers* as well as corn—that men cannot live by bread alone, bnt by every woudrous word and work of God."

The University will create in the students who frequent it, not only a taste for rural life, but for the things which adorn and beautify it. "Thee sees we love our gardeu," said Frederick Evans to an English traveler, who was expressing his surprise at the marvellous perfection of *Shaker* horticulture, and the marked contrast between the Shaker farms and those of their Gentile neighbors. "A Shaker believes he is put upon the soil to beautify it; a Gentile to get certain returns. Oue strives for large profits; the other for perfect work. Why should thee think it strange that a celibate man, who puts his soul into the soil, giving it the affection he would to wife and child, should excel a mere trading rival iu the production of fruits and flowers and healing herbs?"

Here and there in California, at Chico, San Leandro, and other places, an oasis in the picture of an exhaustive and sordid cultivation shows where some true lover of the land dwelt in the early period of her history. Nor were those celibate first settlers, who planted the olive and the vine, and carted palm trees across the plains of Mexico, a whit behind the elect of more modern faiths, in their desire to beautify the uew earth with all the treasures of the old. If we imitate their example, the public grounds of the State University, may become what the Kew Gardeus are to the English, or what the *Jarden des Plants* was to Franee, with a comparatively small outlay of money, aud in a comparatively brief period of time. For our climate makes the naturalization of almost every product, useful to mau, practicable; at least for purposes of illustration and experiment, and the history of Fruit Growing in this State makes us hesitate to say what may *not* be done, when its resources are fully developed. Iu the easy production of textile materials, flax, cotton, silk, ramie, etc., we have a hint of the wide range our practical education must take in becoming

### The Inspirer of Our Industries.

This is what our University will be, if the people, to whom it belongs, cherish and sustain it. It will not only offer to their children facilities for graduating in the line of their life business; bnt it will also present them facilities for following that line systematically, and with increasing power and intelligence. In the East two horticultural schools have recently been opened for young women, which are made self-supporting by the labor of the pupil, in the production of fruits and flowers. Massachusetts and New York have thus taken the initiative in a movement which promises incalculable good; bnt they have now here the training school for instructors of such institutions. Our University already has enrolled the names of many young women in its classes in agriculture and the mechanic arts, and when fairly established in its home at Berkley, will have advantages for practical study which can be obtained iu no other part of the country.

### In Conclusion.

I have written thus fully of what the Universiry *hopes* to accomplish, because the realization of these hopes depends upon the people who hold in trust the national gift, and have increased it by generous additions. But while it stands to-day an honorable mark of their appreciation of the value of all education, its usefulness may be crippled and its growth impaired because they do not understand how slowly its endowment becomes available. The congressional grant of 150,000 acres must necessarily be located in remote portions of the state, and will not command a ready market; the gift from the proceeds of tide and overflowed lands, are as yet unproductive.

When the Regents have exhausted the means at their disposal, some test question may be put to the people of this State, like that which King William put to the citizens of Leyden, three centuries ago.

As a reward for their heroic defence of that city and the Protestant faith, he offered them their choice between the annual fair, which was of great commercial value to the place where it was held, *or a University.* They chose the latter, and the King, knowing how great this answer was, in a time of such sore need, bestowed the fair also; aud thus Leyden became as famous through its merchants as Grotius, Descartes and Boerhave made its seat of learning.

If the people of California determine that their children shall be put in possession of all their faculties, because they need the full power of manhood and womanhood, *as much in one pursuit as in another,* it will be done. If they see that the school is the only place where the foreign elements which are taken into our political body can be digested and assimulated and Americanized, they will not fail to make large provision for every department of public education. Europe has been pouring a flood of immigration upon us from her poorer classes—her bone and muscle—and we have still plenty of room; but she has compensated herself in part at least, with the flower of our youth our scholars and capitalists. To one she offers superior educational advantages; to others the accumulations of centuries of social and æsthetic culture, where men have not made money the sole object of pursuit, and where they are content with slower gains and more moderate fortunes.

If in closing these papers I seem to have traveled in a circle and come back to my starting point—education, it is because in it I see the only remedy for the disadvantages which the farmer and mechanic feel as burdens, and which their children run away from into pursuits far less favorable to health, longevity, and the steady gain of moral and mental power. I know that every new application of the discoveries of science liberates a definite number of toiling hands, that every human thought, incarnated in machinery, is just so much leisure and liberty gained. But of what use would this prove unless men are thereby put in training for the use of higher faculties and the gratification of higher wants? We have too often emphasized the wrong syllable in the word "*Industry,*" and made of it a sentence significant, until we make it untrue. Every true teacher in the land is helping to elevate labor *out of the dust,* by making it intelligent. "He who can best avail himself of the help of the science, will come out uppermost in the struggle for existence;" whether that struggle be made with the crude elements of nature, or with their products; in the workshop or on the farm, training is alike indispensable to success.

## LETTER FROM SANTA CRUZ.

MESSRS. EDITORS:—Santa Cruz, at this season, is beautiful with its emerald rolling hills and velvet-covered table land dotted with simple dwellings, each surrounded by a small garden, where flowers may be found in every month of the year. Farmers are busy with plows, turning up the rich, dark soil and putting under the grassy sod, and planting for the late rains. It has been a charming seasou for this county, and we hear no complaints of a scarcity of rain here.

### Scarlet Fever

Has been prevailing among the children of this place to a fearful extent, and many have been laid in their graves by agonized parents and friends. The druggists have been doing a thriving business, if one might judge from the number of powders and bottles of medicine prescribed and administered. In one case the bill at the druggists amounted to only $22 for one week! The victim, a child under two years of age. It is needless to add that the little innocent did not survive. The Bay View school house has been closed in consequence of the danger of this disease spreading among the children; and we hear of cases in the other schools where children have been sent home thickly broken out with it.

### "The Champions of the Red Cross"

Have become quite a popular institution here, and have lately added largely to their numbers from among the regular habitues of the saloons. In consequence, the saloon-keepers cry out against the dull times and begin to notice the exorbitant gas bills which compel them to shut off the gas and substitute gasoline burners in its stead.

### A Public Reading Room

Has been established, where no gambling is allowed and no refreshments but cold water, while games at cards, back-gammon and chess are permitted. Files of the leading newspapers and copies of the various periodicals are there to be seen, and the citizens of this place begin to hope that some of the thirty saloons which have hitherto been supported will be compelled to close and their proprietors seek other employment.

### Rev. S. H. Willey,

The pioneer minister of this Coast, at present occupies our Congregational pulpit and attracts the liberal part of the community, since the closing of Trinity Church. It is rumored that his engagement with the society is not a permanent one, however, as he has an offer of $3,000 a year to assume the position of teacher in San Francisco. The frequency with which ministers resign their pastoral charge to become teachers is significant, and shows that everywhere the teacher can be supported where the minister cannot. Instruct the children and give them correct views of life and we will have more live people in the world ready to support the lecturer and encourage him in doing a good and profitable work in every community.

### The Santa Cruz Library

Is slowly increasing. It now numbers over 500 volumes, and is chiefly attractive to the young people of the place. We hope to see a growing interest taken in this new enterprise, for it is calculated to improve the morals of the community by affording instruction and amusement highly beneficial. It is stated that rooms are being engaged in town for the accommodation of guests the coming summer, which promises that Santa Cruz will be a more popular place of resort than ever before.

### Woman Suffrage, Etc.,

Receives the usual share of attention among the earnest women of the community. There have been no public meetings held recently, owing in part to the pressure of domestic duties which oblige every considerate woman to desire to acquit herself of the usual requirements of her household before making herself conspicuous in any way. Much good is effected in the quiet round of social life by the reading of and commenting upon articles turning upon the favorable consideration of this important subject. The sentiments expressed by the RURAL PRESS, which is becoming a great favorite in this section, cannot fail to awaken an interest which must forever redound to its credit.

Speaking of the RURAL to a friend the other day, she expressed the wish that there was a corner of the paper devoted to interesting the little ones. Her children, she said, were attracted by the heading and general character of the paper, but there was nothing but the pictures which could afford them any satisfaction. Now a farmer's family always contains children, and a tired farmer often wants to be amused by something which does not call upon his mental powers. "Let us be amused," says the world everywhere. And if with so many good things as the RURAL always contains, we find one corner filled with explosive materials it will become a still more welcome guest in every home. NELL VAN.

## A HOME OF YOUR OWN.

Many a young man who lives from year to year on a rented farm, sighs for a little quiet spot of his own that he can improve with some hope of reaping the fruit of his labors. But now it is move about every spring, with the hope of bettering his condition, and the loss and expense usually eats up what little profit he may have made.

If he had saved, before his marriage, what was wasted on tobacco and needless clothes, and laid it by, year by year, in the savings bank, he might now own such a snug little homestead.

Now is the time, boys, to save up for later years. Do not squander your dimes in boy-hood, but lay by for some good and definite purpose, and you will not have such an unthrifty manhood.

Strict neatness in your clothing—a plentiful use of clothes and blacking brush, will go farther toward making you presentable than the most jaunty new hats and fancy neck-ties. An obliging, pleasant manner, and the reputation of being sensible and ready for every emergency, will do more than clothes toward making you a favorite in society. It is more to your credit to have it known that you have a snug sum in the savings bank, than to wear the finest broadcloth, which it will take half your summer earnings to pay for. Rich men, as a general thing, go about ordinary duties very plainly dressed; while flashy clothing generally is taken by keen sighted people as a type of empty head aud and general worthlessness of character. When your fortune is made, you can afford to gratify your taste as well as your comfort; but at the present state of your finances taste must not be too liberally consulted. Choose for a helpmeet a sensible, industrious girl, who can look elegant even in a tasteful calico, rather than a dashy Miss, who puts every cent she can earn into gaudy clothing. The bad taste of the later will be a sinking fund for any amount you may be able to earn.—*Country Gentleman.*

A LITTLE girl of eight or ten summers being asked what dust was, replied that "it was mud with the juice squeezed out.

# THE VINEYARD.

## TRAINING AND PRUNING GRAPE-VINES.

There are many farmers who would plant vines and enter upon the business of grape culture to a greater or less extent but from the fact that they have obtained the idea that there is something very difficult and hard to learn or comprehend in the management of the vineyard. To such we would say, the best way to learn is to plant a few vines and become interested. Then, what now seems so difficult will by degrees become simpler and easier.

It is true there are many different opinions as to the best mode of training and pruning vines, with a view to obtain the best results. There are also many different practices based upon these opinions. From these differences of opinion and practice among professional viniculturists has doubtless arisen the prevailing idea, above referred to, as existing among our farmers.

With the grape vine, as with all other vines, trees and plants, various modes of treatment are required, depending on the soil and climate, as also to some extent on the variety of grape and the purposes for which it is to be produced. The principles and reasons involved in the adaptation of crops, trees and vines to soils and climates, and in the different modes of treatment by different circumstances, constitute the practical science of agriculture, in its most general sense. To study and become familiar with science, is the interest and duty of every person who proposes to follow agricultural pursuits as a means of livelihood. The performance of those things which this science requires to be done at a proper time and in a skillful manner, so as to produce desired results, constitutes the *art* of agriculture, in the same general sense.

It is equally the interest and duty of every farmer to strive to become proficient in the *art*, as well as learned in the *science* of agriculture. To accomplish these requires reading, thought and practice combined. By reading we learn the result of the experiences of others. By thought and practice we apply the information thus obtained, with intelligence, for the accomplishment of our own desired objects. In the training and pruning and care of the vineyard, science and art, as above defined, may be, and require to be constantly brought into practice; then the whole thing becomes so simple that the operator wonders that he did not comprehend it before.

### Low Training.

General experience in this State, where the atmosphere is so dry and pure as to induce a low degree of temperature, in the summer season, as compared to that of the days, has proven that low training and pruning is the best. The grapes being close to the ground feel the influence of the heat absorbed during the day by the earth, and given out during the succeeding night; while those higher up are exposed to the greater extremes of the atmosphere. Hence, grapes near the ground, or on low trained vines are found to ripen, in the same vineyard, in this State, from ten days two weeks earlier than the same varieties trained over trellices. It is also found that the former are fairer, larger and more highly flavored than the latter.

Some claim that the mildew is not so apt to affect the grape grown on high trained vines, where the atmosphere circulates freely, as on those close to the ground. We think reason and experience are both in favor of the opposite opinion. Mildew, on a growing plant, is not induced by the same causes as mildew on dead and decaying matter. The extremes of heat and cold, dimpeing the natural flow of the sap, is believed to be one of the chief causes of mildew in the grape vine. As these extremes are greater at a distance above the ground, so the inducing causes of mildew are proportionally greater; and we find experience agrees with reason on the subject.

We think that the *time* of pruning has more to do with mildew on the grape than the manner; as we shall show hereafter. In accordance with the general experience of the best cultivators, we would recommend that vines be so trained and pruned as to form the head from one to two feet above the ground. The use of stakes may thus be entirely dispensed with, and quite an expense saved.

### Time of Pruning.

When the object is to induce a rapid growth of wood, as in young vines, before they are of proper age to fruit, the pruning should be done in the fall or fore part of winter. If, however, it is desired to produce less wood and more fruit, the time of pruning should be delayed until later in the season. The time should also be governed by the soil, to some extent. On elevated land and a dry soil, where the vine naturally forms but little wood and is inclined to bear too much fruit, pruning should be done early in the fall, after the leaves have fallen. Then, when the sap starts in the spring, it will swell the buds with force, and send out strong canes and less fruit spurs.

On the contrary, vines growing on rich, alluvial soil, where too much wood and too little fruit is the natural rule, this tendency may be checked to a great extent, by delaying the annual pruning until late in the spring—even so late that the leaves on the canes are forming. By cutting back the canes of the past summer's growth, at this time, leaving but two or three buds near the base, these buds would then swell evenly and develop strong fruit spurs and, as a general thing, the result will be a good quantity of well developed fruit stems and blossoms.

### A Fact Important if General.

Here we would mention a fact which has come within our observation and experience, which, if generally true, is of some importance. It is this:—That the third fruit bud from the base of the past year's cane throws out larger and better developed bunches of grapes than either the first or second. The grapes from these buds seem also better flavored, and generally superior to those on the first and second. In accordance with this hint we have adopted the plan of cutting the cane at such length as to leave the third bud, generally, and sometimes the fourth, when a good strong one, and then rubbing off the first and second buds, and leaving the third and fourth for fruit.

The number of fruit buds left on any vine must depend on the age and strength of the vine. If the vines are strong and vigorous, at three years, from two to three bunches of grapes may be allowed to mature on each, without injury. The next year the number may be increased, and so on increasing the quanity of fruit with the age of the vine.

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LIONS AND BEARS.—California lions are unusually plentiful in the Santa Cruz Mountains the present year. The San Jose *Patriot* says that a gentleman recently came unexpectedly upon three of the varmints, engaged in making a dinner from the carcase of a fine 18 months colt. The man got out of the way as quietly as possible.

The San Rafael *Journal*, of February 11th, says: "We learn that a little daughter of John Ferry, who formerly resided at Las Gallinas, but is now living in the vicinity of Healdsburg, was carried off by a bear while playing round her father's house. We have no particulars."

Since the above was in type we have seen it said that the father of little Miss Ferry doubts the correctness of her untimely taking off. [EDS. PRESS.]

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THE peanut crop of the United States exceeded 900,000 bushels last year.

## STARVING CATTLE.—FOREST TREES.

Reports reached us, from various sources, during the early part of January, of cattle and sheep dying from starvation. One dairyman, in Marin county, was said to have lost fourteen cows. Great numbers of others died in that and other counties. A firm in Kern county was said to have lost 2,500 out of a flock of 3,000 sheep! It is not only a pitiable lack of forethought, but downright criminality which allows of such destruction, in a country so prolific as this, in everything which can contribute to the comfort of man or beast. Our plains and hills are covered, during the early winter months, with immense numbers of shivering herds and flocks, many of which die, and all of which suffer more or less, when a few groves of trees, or a thatched roof here and there, would afford ample protection from the cold rains and chilling blasts. Expensive barns are not needed. A large, if not the largest proportion of such cattle might be saved if they had only the most trivial shelter to keep up the animal warmth, which diminishes in consequence of the deficiency and poor quality of food at such times.

It is, or ought to be well known that poorly fed, or half starved stock die much sooner than that which is plentifully fed. The straw which is burned in autumn, if placed in stacks, even in the open air, would furnish an abundance of food for all the starving stock in the country. When straw is not attainable, a supply of root crops should always be kept within reach. In a country where 40 or 50 tons of roots can be grown to the acre, with less labor and trouble than half that quantity could be produced elewhere, there is no excuse for starvation; and he who neglects to guard against such a disaster, well deserves the loss and punishment for such neglect of his own interests, and such indifference to the most common dictates of humanity. Losses of this kind are never, in this country visited upon careful and thoughtful farmers.

The advantage of tree-planting, in connection with stock raising is quite too little considered. Trees are wonderful equalizers of temperature. They keep the temperature down in summer and up in winter. It has been noticed, in cold winter days, that thermometers on the outside of dwellings in the northern states, which are surrounded by evergreens, will often stand fully 10 degrees higher than upon neighboring dwellings without such surroundings. Every one who has visited the recesses of a New England cedar swamp, when the thermometer was below zero on the outside, will testify to a temperate warmth within the swamp. The thermometer will often mark a difference of 20 degrees between two such localities. A nearly if not fully equal difference is seen, on the other side, in the heat of summer.

Every stock range in the State should have a shelter of evergreens for both summer and winter. We need such protection also for our fruit trees, in many localities; for it has been fully demonstrated that the equalization of temperature, by such means, will also save our fruit buds from the destructive influences of early frosts. The injunction to plant forest trees should be heeded universally; whether to protect animal or vegetable life, to ornament and beautify, or to provide a profitable investment for declining years, or for posterity. There is both a poetical and æsthetical view to be taken of this matter, as well as practical, and we believe the time is coming when a farmer who neglects such an important matter will be regarded as unthrifty and altogether behind the times.

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ANOTHER MULBERRY PLANTATION.—A. Isoard of Nevada, who has given considerable attention to sericulture, has a contract from Dr. Wm. McCormick, of Grass Valley, to set a plantation of five thousand mulberry trees, on a piece of land owned by the Doctor, at the upper end of Pleasant Valley. The preparations for planting have already been commenced.

## CALIFORNIA AGRICULTURAL NOTES.

PROLIFIC.—The Los Angeles *News* has the following: Mr. F. M. Slaughter, who has a large band of sheep some ten or twelve miles from this place, has observed an unusual peculiarity in his ewes this season. Some 1,400 of them lambed, and averaged from three to four each It is a disagreeable feature of the matter that the lambs have a tendency to die off in larger proportion than usual.

EXPORTING CALIFORNIA QUAIL. — The Quail Association of Boise city, Idaho, is importing large quantities of those birds from California and Missouri and turning them loose in the hills and valleys of that section.

WILD geese are offered for sale in Los Angeles at fifty cents a pair.

A HEAVY CALF.—A "calf" in Yamhill county, Oregon, 13 months old, weighs over 1,400 pounds. It belongs to D. B. Crawford, near McMinnville.

WHEAT IN TULARE.—The Visalia *Delta* says that the breadth of wheat sown in Tulare county this season is more than double that sown any previous year, and will probably aggregate in the whole county from eight to nine thousand bushels.

FINE APPLES.—Some very fine apples were exhibited in this city, last week from the orchard of N. Beroje of San Jose, and they sold readily at $3.25 per box. One great merit with this fruit was that it was well and properly packed, and not as is sometimes the case, trashy fruit at the bottom, with a few good specimens at the top. If growers would only send such fruit as this to market, we should hear but few complaints of unremunerative prices.

A MISCELLANEOUS APPETITE.—On opening the maw of a cow killed in that place for beef, a few days since, says the Corvallis *Gazette*, it was found to contain two pounds of nails, some of them over two inches long, a jack knife, a chunk of lead, a rock the size of a hen's egg, a piece of a gold watch fob, a five cent piece, and seven or eight large coat buttons. The portion of the stomach where these articles were deposited had worn nearly through.

CALIFORNIA WINE IN LONDON.—London is beginning to send orders to San Francisco for California wines; 1,000 gallons of Cocomongo was the last order received. Some of our wines are esteemed in London superior to those of Europe.

CHERRIES IN WINTER.—Mr. Joseph Bassford, Sr., who resides some three miles to the west of Vacaville, picked some ripe cherries from the trees in his orchard on the 14th inst. The fact is mentioned as something very extraordinary; which it certainly is, even for this extraordinary climate.

Mr. William Butcher, also of Vacaville, has fully a dozen almond trees in full bloom, over a week ago. Who can beat that at this time of the year?

PLOWING MATCH.—The Board of managers of the San Joaquin Valley Agricultural Society have resolved to hold a sweepstakes plowing match, free for all plows manufactured in the State of California, to be held on the grounds of the Society at Stockton on Thursday, the 16th day of March, 1871, and that a premium of $100 and a framed diploma be awarded to the plow or gang-plow doing the best plowing of every kind, and being best fitted for all purposes—to be decided by a committee consisting of John Jones, Cutler Salmon, William D. Ashley and H. E. Wright, who are hereby authorized to appoint such other persons, from different sections of the State, as in their discretion may seem proper, to act on the same committee.

## ATLANTIC AGRICULTURAL ITEMS.

AMERICAN APPLES FOR THE MEDITERANEAN.—Quite a trade in apples is springing up between the United States and Liverpool. One of the largest exporters is a gentleman of Port Huron, Michigan, who has contracted for the delivery, next fall, of 10,000 barrels. A singular fact connected with this enterprise is that large quantities of the apples thus sent to Liverpool are trans-shipped to the Mediteranean in exchange for the fruit of that region.

GOOD GIRL.—They have found another "good girl" in Appanoose county, Iowa. She is "sweet sixteen" and is said to have earned the title of "good" from having raised $2,000 worth of hogs for the market, within the last two years; attending them entirely herself.

IN three years a farmer on the Isle of Man raised seven bushels of barley from a single grain.

## CORRESPONDENCE.

### Notes of Travel in Mariposa County.

[Written for the PRESS.]

#### Hornitos and Vicinity.

Hornitos is the first one of the villages in this county arrived at on the tour from Stockton (*via* Snelling,) to the celebrated Yosemite Falls, of which I will say something in a future article. Although the subject has apparently been written thread-bare, the one-hundredth part has never been told. Hornitos does not at present contain over 150 inhabitants, and is quite dull' the lack of rain to supply the miner with water, suspends, in a manner, all placer diggings, although the mountain ranchers in the vicinity are apparently satisfied, and quartz mining is being pushed lively, within a distance of a few miles. Craighn & Co. and G. Gagliardo & Co. are its principal merchants; and, what cannot be said of ninety out of a hundred mountain towns, it has a hotel, kept by D. McDougall, Esq., where a *first-class meal* can be had.

#### Bear Valley and the Mariposa Estate.

Bear valley, situated on the Mariposa estate, is some ten miles distant from Hornitos, and twelve miles from Mariposa. It contains about 500 quiet, industrious inhabitants; quite a different state of society from what existed here a few years ago, when drunkenness and murder, knife and revolver reigned supreme; for in former years this was the haunt of nearly all the escaped convicts and desperadoes in the country. Its present state is in great part due to the present manager of the estate, Mr. Thos. Goodsell, who has weeded out nearly all of the fighting and desperate characters who infested it. The children, too, are gathered together (by their own consent, now) on Sundays by Mrs. J. H. Brumagim to be instructed in morals. Previously the streets on Sunday were one grand carnival of fighting and carousing.

The Mariposa blacksmith, Hon. J. W. Wilcox, still wields his hammer here with as much satisfaction as though he had never figured politically. Mr. W. also runs a small machine shop and foundry, and manages to satisfy his customers in each of the above lines of the mechanic arts. J. H, Brumagim & Co. are the present proprietors of the Mariposa estate; and Thos. Goodsell, Esq., its general superintendent and manager. This estate, of which little or nothing has been written commendatory of late, and which is apparently without friends in this State, is owned by eastern capitalists, is being successfully managed at present and satisfying its proprietors by the bullion receipts from three mills now running. It is about 18 miles in length, extending from the Benton mill, on the Merced river, to some three miles beyond Mariposa town, in an north-easterly direction.

The Princeton mill is now under repairs, and the probability is that a new one will soon be erected. The mill at Mariposa is also shut down for reasons best known to the managers. The company have 600 men at present employed, a large majority of them working by contract. The drillers (single hand) get 32 cents per foot, 3 cents decrease on former prices paid. A number of important experiments with giant powder, Nos. 1 and 2, mixed with other chemical ingredients in several different forms, have been tried here, I was informed, successfully, but I can learn no particulars.

As far as my observation goes, I think this estate is managed more judiciously than it ever was before. Its affairs are conducted with closed mouths, and perfect secrecy as regards its present or future. I must say, however, that I never was more cordially treated in my entire tour of this State than by the management and attaches here. J. Dolan Esq., Superintendent of the Linda mine on the grant, at "Pine tree," has been steadily engaged here for nearly eight years.

#### Coulterville and Vicinity.

Coulterville, 13 miles from Bear Valley (by trail), is quite dull at this season of the year. It depends almost entirely for its support upon the Yosemite travel in summer. The mines surrounding it that are successfully working, are situated at such a distance that each mine has its own village, of some size, to furnish all the wants of those employed. This place is situated about eighty miles from Stockton, *via* Knights Ferry and Crimea House, and about 90 miles *via* Modesto and Snelling. It contains about 300 inhabitants, and is one of the principal thoroughfares through which tourists pass for Yosemite, (there being three routes). A new wagon road is in course of construction, and, I am informed, will be completed this summer. When done, tourists can go in wheeled vehicles to within some three miles of the Falls, which will be within seven and a half or eight miles of the hotels in the valley.

L. P. MC.

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WHEAT SHIPMENTS.—During the past season 36 vessels have loaded with wheat at Vallejo, taking in 872,075 centals. During the same period 14 have loaded at Oakland, with 263,151 centals, and 58 in San Francisco, with 2,054,030 centals. There are no grain ships at present under charter to load for Europe.

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ORNITHOLOGICAL AND PISCATORIAL ACCLIMATIZING SOCIETY OF CALIFORNIA.—This Society held a meeting Feb. 9th, 1871, in the rooms of the Academy of Sciences, No. 622 Clay Street. The following named gentlemen were elected officers for the ensuing year:—President, W. A. Newell, M. D.; Secretary, John Williamson Esq.; Treasurer, James Rolph Esq.

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THE OVERSHADOWING QUESTION.—We are indebted to Hon George W. Julian for a copy of this speech, which concerns a matter of the greatest moment to our coast. Mr. Julian here treats of land matters, and takes strong ground against the "subservience to individual and corporate wealth and the practical unfriendliness to the producing classes" of the land policy of the Government. The pamphlet deserves a wide circulation among thinking men.

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DEVELOPING OUR RESOURCES.—Hon. Mr Axtell sends us copies of his speeches, delivered in the House of Representatives on January 27th and 28th. Mr. Axtell dwells on the resources of our western country and the difficulties in developing them. He advises government aid, and in this way: "I say extend your lines of survey over it at once, that each man may clearly know the boundary of his land; give one half of it in alternate sections to any responsible railroad company who will build a good road, restricting them in their charters to reasonable fares, to be regulated from time to time by Congress; give liberally in alternate sections to all companies who will construct reservoirs and canals, binding them in their charters to sell the water at reasonable prices, without favor or discrimination; and sell the balance of the land to the highest bidders for cash, and thus encourage settlement and development, redeem this land from desolation, and give it away to settlement."

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THE CHORPENNING CASE.—Hon. John Cessna, of Pennsylvania, sends us a copy of his remarks, made before Congress, in explanation of his action in the case of George Chorpenning.

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CIVIL SERVICE REFORM.—We are indebted to Senator Casserly for a copy of Hon. Carl Schurz's speech on this subject. Mr. Schurz makes some excellent points in favor of a civil service reform, which, in our opinion, is one of the things most needed in our government. The speech is well worth reading.

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INCOME TAX.—Senator Cole sends us a copy of his speech, advocating the repeal of the income tax, showing that the tax was an outgrowth of the war, was imposed to meet an extraordinary emergency, was intended only as a measure of temporary relief, that it now works unfairly and injuriously, and ought to be abolished.

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A NEWSPAPER CHANGE.—The Visalia *Delta* has been purchased by Mr. E. M. Dewey, formerly of the *Mountain Messenger*, Downieville. Mr. Dewey has reduced the subscription price of the *Delta* to $4 per year (in advance), and will improve its local columns and job printing department, making it an excellent representative of that promising section of our agricultural districts.

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WHEN a woman in the farming regions of England becomes a widow, her only choice is to engage in farm work; boys must get all their schooling before they are 14, for they can be supported no longer. After girls go to work in the field they will engage in no other work, and they make bad mothers.

## GOOD HEALTH.

ARE TOMATOES HEALTHY.—Tomatoes owe not a little of their consumption to the notion that they are healthy. Latterly this has been questioned. Dr. Dio Lewis pronounces them unhealthy as an article of food. Occasionally and in very small quantity, the cooked vegetable may be taken without notable injury. But raw tomatoes should be banished from the table. They give heartburn and other indications of digestive derangement. Speaking of eating, the Doctor denounces the dyspeptic American fashion of taking drinks at meals, whether wine, water or soups—above all, ice water. The gastric juice is enfeebled by such dilution, and digestion is retarded. He is down on lunch, like Thackeray, who proclaimed lunch to be base ingratitude to your breakfast and a premeditated insult to your dinner. Some take supper with impunity, but to most people it is the nightmare meal.

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TURPENTINE FOR LOCK JAW.—A correspondent of the *Scientific American* recommends turpentine as a certain cure for lock jaw. He says: "Let any one who has an attack of lockjaw take a small quantity of turpentine, warm it and pour it on the wound, no matter where the wound is or what its nature is—and relief will follow in less than one minute. Nothing can be applied to a severe cut or bruise that is better than cold turpentine; it will give certain relief almost instantly. It is also said to be a sovereign remedy for croup. Saturate a piece of flannel with it, and place the flannel on the throat and chest—and in very severe cases three or five drops on a lump of sugar may be taken inwardly. Every family should have a bottle on hand. It is a simple remedy, and can be easily tested. In all serious cases, application should be made under medical advice.

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DIET OF THE ANCIENTS.—The difference between the diet of the ancients and that of us moderns is very striking. The ancient Greeks and Romans used no alcoholic liquor, it being unknown to them, nor coffee, nor tea, nor chocolate, nor sugar, nor even butter, for Galen informs us he had never seen butter but once in his life. They were ignorant of the greater number of our tropical spices, as clove, nutmeg, mace ginger, Jacamaica-pepper, curry, pimento. They used neither buck-wheat, nor french beans, nor spinach, nor sage, tapioca, arrow-root, or potato, or its varieties; not even the common, but a sort of marshgrown bean —not many of our fruits, as the orange, tamarind, nor American maize. On the contrary, they ate substances which we now neglect, the mallow, the herb, ox-tongue, the sweet acorn, the lupin. They liked the flesh of wild asses, dogs, the doormouse, the fox and the bear.

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THE NIGHT LAMP.—There are many families who use night lamps, and though inability to provide gas, have been in the habit of burning kerosene oil, a very good thing when properly used. A few words on the subject of its use at night may prove interesting to the general reader. When the light of the kerosene lamp is turned low, the combustion is not perfect, and the atmosphere of the room becomes vitiated by the uncomsumed oil vapors, by the gas produced by the combustion, and also legitimate particles of smoke and soot thrown off, to be taken into the lungs of the occupants. Air thus poisoned is deadly in its effects, and the wonder is that people are not immediately and fatally injured by breathing it. Its consequences are the unaccountable and mysterious headaches, irratation of throats and lungs, and dizziness and nauser.

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FEATHER-BEDS.—Why are feather-beds objectionable? Feathers are poor conductors of heat, and consequently keep the skin overheated, delibilitating it, preventing the full performance of its functions, and rendering the person more liable to colds. Not only this, but the functions of the skin being impaired, the liver, kidneys and lungs have to do extra duty and are liable to become deceased in consequence. Another objection to feathers is that there is a decomposition of their animal matter going on all the time, and they absorb and retain the emanations from the body to such an extent that they soon become too filthy for even common decency.

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FOR FROSTED FEET.—Copperas dissolved in warm water, is among the best remedies for frosted feet, etc. Soak the water or rub it well on other parts affected.

## SAGE AND DESERT.

The Humboldt (Nevada) *Register*, a short time since gave the following paragraph:—If any one of the outside barbarians think that stock cannot be raised in Humboldt county, they should come and stop around Winnemucca a few days, when they can realize the old saying that there were large droves of stock upon a "thousand hills." If they do not believe butter and cheese can be made in Humboldt county, why, go up to Fairbanks', on the Humboldt river, and take a look at his 60-hundred weight of cheese and his large lot of butter. Oh, ye forlorn immigrants to California, if you could but see such a sight once, how you would wish you had settled in some of the rich valleys of the Humbold' country.

#### Sheep and Wool Growing.

During the past season, Mr. C. Osborne of Silver City, Nev., realized four tons of wool from sheep pastured in the Walker river Valley. Mr. O. took this wool to Providence, R. I., *via.* the Central Pacific Railroad, where he had no difficulty in arranging a satisfactory sale. Such an item as this truly foreshadows what may soon become one of the principal sources of the prosperity of our growing neighbor. The Gold Hill *News* in lately alluding to Mr. Osborne's enterprise says:—"Our sage brush hills are not half so sterile as they look, and sheep thrive especially well among them, finding plenty of nutritious bunch grass, white sage, wild peach and other herbs and shrubs, on which they feed and browse, keeping in good condition the year round. We hope to record Osborne's triumphant success in his sheep-raising and wool-growing enterprise at some future day, and also to hear of others going and doing likewise."

#### The Virtues of While Sage.

The Elko *Independent* says that a range where white sage grows abundantly is the first thing sought after by persons engaged in stock raising, on account of its fattening properties. Meat fattened upon it possesses a finer flavor and retains more of its natural juices than that fed upon other grasses of the country. A chemical analysis of white sage shows it to contain about eighty-five per cent. of nutritious matter, such as go to make fat.

#### Its Medicinal Value.

It seems that white sage is also good for something else than making muscle, fat and wool—it also makes the hair grow "where it ought to." Here is what the *Independent* says on *this* subject:—"In these days of humbuggery, quack medicines, etc., any article that will supplant the many nostrums that are of no earthly use, by giving the needy a cheap, safe and certain article for, the same purpose, is at least a saving to the community in that direction. We allude to the hair restoring qualities of the white sage. For this purpose alone it so far surpasses the preparations usually found in drug stores as to make them utterly valueless compared with the really restorative principle that it possesses. A decoction of white sage—which may readily be obtained by boiling it a few hours over a slow fire—will accomplish more in restoring bald heads, fastening falling hair, renovating and giving healthy action to the scalp, than a whole store of the usual remedies advertised for that purpose. Hundreds now in Nevada can testify to this fact, and a trial will convince any doubting Joseph that what we say of it in this respect will be borne out by results, if he will give it a fair trial. The man who first brings white sage before the public as a hair restorative will not only drive every other preparation for that purpose out of the market, but will secure for himself a colossal fortune."

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HORTICULTURE IN COMMON SCHOOLS.—The *Country Gentleman* says the culture of flowers, and planting of ornamental trees, with brief instructions as to their growth, might be introduced into every school as a recreative study—if the teachers have the taste and knowledge necessary. It gives an instance where a teacher, on his own motion, interested his pupils in the culture of ornamental plants, with the happiest results.

We have witnessed the same thing with the same results, and believe the plan should be adopted in schools, wherever the location and other circumstances admit of its being made practical.

# POPULAR LECTURES.

## Chemistry and its Applications.

[Prof. EZRA S. CARR before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

### The Chemistry of Common Things.

LECT. I. Feb. 18.—It is not my purpose, said the lecturer, to give a series of scientific lectures, but merely to treat scientific subjects in a practical and popular manner. I propose to talk now of common things, concerning which we ought to know much, but concerning which, as I have found b an experience of teaching during a thiry of a century, the majority of persons su posed to be educated, know little or no ing.

One of the most common things we know of, is the air we breathe. It is most fortunate, most providential, that those things which are necessary to our existence, are everywhere. This is the case with air; it exists everywhere. and without it there could be no life. Without it the temperature would be subject to great variations, for it acts as a mantle around the earth to prevent these. Without it there would be no morning or evening twilight. It is the medium of social, moral and intellectual intercourse, the medium of sound. Our bodies are made up of it, and to it nearly all plants are conveyed after death.

The atmosphere is made up of a variety of things, but I wish now to direct your attention to two of these principally,—to the two elements, oxygen and nitrogen. And first we will consider oxygen, which, potentially at least, is *the* atmosphere. This is

### The most Common Thing in the World,

the most abundant. Direct observation has shown that it makes up more than one-half of the entire world. It constitutes eight-ninths of the ocean and one-fifth of the atmosphere. Three-fourths of all animals, four-fifths of all vegetables, and one-half of all mineral matter (of which the crust of the earth consists) is oxygen. So abundant is it that not only is there sufficient to unite with almost all bodies (and oxygen has the very strongest tendency to enter into combinations), but there is also an excess of it in the atmosphere in an incombined, free state.

We can obtaiu oxygeu iu a number of ways. The best and easiest for purposes of the laboratory is to separate it from certain solid bodies. I have here a very common substance, chlorate of potash, which you can get at any drug-store, and over one-third of which is oxygen. If I mix this and black oxide of manganese in a glass tube, and heat the mixture, oxygen is set free as a gas, as is indicated by the brightness with which a spark glows when inserted into the tube. If I mix the same substance with charcoal and touch a lighted match to it, I get a very energetic combustion.

These experiments indicate another point,—that all combustion is merely the combination of oxygen with solid bodies. I introduce a piece of wood, the end of which is glowing into this jar of oxygen. The wood blazes out into a flame. I light this piece of phosphorus and put it into the jar. The phosphorus burns with an intense light. I introduce into another jar, full of oxygeu, this steel watch spring, one end of which I heat previously by igniting a piece of sulphur which is placed there. The iron burns brilliantly, throwing out sparks in every direction.

There is no element in Nature which has so stroug an affinity for other bodies as oxygen. It unites so readily with magnesium, for instance, that this metal will take it in quantity from the air and burn brilliantly. The combustion of fuel is but its union with oxygen. Oxygen is thus a source of power greater than any other. It is the source of power in heat and light. It is the cause of the decay of animal aud vegetable substances; if we wish to stop this decay, we can do so by excluding atmospheric air. Oxygen is taken into our lungs, by breathing, and when traversing every part of our bodies, as is effected by the circulation of the blood, it meets and unites with certain bodies, burns them, and thus keep up the temperature of the body which is necessary for existence. Every vital movement, the motion of a muscle, the action of the braiu, is connected with this union of oxygen with other elements.

### Another Common Thing—Nitrogen.

Another common elemeut, with which oxygen is often associated, is nitrogen. The following table shows the composition of the atmosphere, nearly four-fifths of which is nitrogen. The first column gives the names of the constituents, the second their percentage, and the third their respective amounts:

| | | | |
|---|---|---|---|
| Oxygen..... | 20.61 | 1,233,010,000,000,000 | tons. |
| Nitrogen..... | 77.95 | 3,994,593,000,000,000 | " |
| Carbonic Acid..... | .04 | 5,287,000,000,000 | " |
| Aqueous Vapor.... | 1.40 | 54,460,000,000,000 | " |
| | 100.00 | 5,287,350,000,000,000 | " |

Nitrogen is a gaseous body, colorless, transparent, tasteless and odorless. The same may be said of oxygen. That these bodies should have these properties is a wonderful provision of Providence. As we are constantly inhaling them, if they had taste, our nerves of taste would be constantly used, and therefore would become irritated and deranged, and the whole system would be thrown out of order. A similar effect would follow if they affected the sense of smell.

If we burn phosphorus under au inverted jar placed over a water bath (so as to prevent fresh air from entering), the phosphorus will take up nearly all the oxygen of the air and we shall have left principally nitrogen. Now if we insert a lighted taper into a vessel of nitrogen, the flame will be extinguished. If we make further experiments, we shall find that nitrogen exhibits none of the activity of oxygen, but is mostly indifferent and inert.

Oxygen has a powerful effect in destroying organic bodies, and if it were alone in the air, it would act much more energetically than it now does. The processes of combustion and decay would be very rapid, all the processes of life would go on with great energy. If we put a small animal in an atmosphere of oxygen gas, it dies in a short time from the great stimulation of all the vital functions. Hence it is very important to have the oxygen of the air diluted in, and modified by, an inert element like nitrogen.

### Consumption of Oxygen.

An adult person consumes between one and two pounds of oxygen daily. If we reckon the population of the world at a billion, and allow one pound per day to each person, and calculate approximately the amounts consumed in other ways, we may take the daily consumptiou of this element to be about as follows:

| | |
|---|---|
| Man | 1,000,000,000 lbs. |
| Animals | 2,000,000,000 lbs. |
| Combustion | 1,000 000,000 lbs. |
| Decay | 4,000,000,000 lbs. |
| | 8,000,000,000 lbs. |
| | = 3,571,428 tons. |

Now, if the daily consumption of oxygen should continue the same, it would apparently take 945,098 years for all the oxygen of the atmosphere to be consumed,—not destroyed but locked up. But we cannot reduce the amount of oxygen except in a very small degree, say four or five per cent., without endangering the life of the higher order of animals. Hence it would take but a short time to render the existence of man impossible on the earth, if there were no means provided for restoring this oxygen to the air.

But there are operations going on which effect this. The rain and aqueous vapors absorb the poisoncus carbonic acid, which is one of the chief products of combustion, removing it from the air and carrying it to the plants which feed on it, under the powerful influence of the sunlight, retaining the carbon and giving back the oxygen. We need have no fears then that our supply of oxygen will fail us. Far from it. Time was, in old geological history, when the air abounded in the poisonous carbonic acid to such an amount that no animal life could be sustained on the earth, when no animals existed, in fact. But the first life was of plants, and these purified the air until animals could live.

We see then what a tremendous power oxygen has. We can make no movement of muscle or brain without its uniting with other bodies. Its union with metals, in the battery, gives force enabling us to communicate (by means of the telegraph wire) with distant parts of the world. Its union with fuel gives us heat and motion, warms our houses and drives our engines. Without it we could not carry on the ordinary operations of life, nor even support existence.

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QUICKSILVER.—The Nevada papers state that a ledge of quicksilver has been found about 18 miles from Nevada city. The ledge is 30 feet wide. The Santa Cruz *Times* reports that the developement of the Santa Cruz Quicksilver Company are going on steadily; buildings are in course of construction and their tunneling is being pushed forward rapidly.

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THE BOISE VALLEY Quail Association are doing a good work. According to the Boise City *News*, of the 4th inst., they had already imported and turned loose 118 quail in their valley; and other lots, one of ten dozen, were daily expected.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING FEBRUARY 7, 1871.

SHOES FOR THRASHERS.—Dennis W. Hollihan, San Francisco, Cal.

HYDRAULIC TURNPIPE.—Samuel Adams, Michigan Bluff, Cal.

APPARATUS FOR CLEANING SULPHURETS AND OTHER ORES.—Charles C. Coleman, San Francisco, Cal.

BOOT-JACK.—Ezra Coleman, San Francisco, Cal.

EXPLOSIVE COMPOUND.—Joseph Hafenegger, San Francisco, Cal.

CAM FOR QUARTZ MILLS.—Oliver P. Hart, Logtown, Cal.

PEN-HOLDER.—Henry Roth, Virginia City, Nevada.

WHEEL FOR WHEELBARROWS. — George Withington, Ione City, Cal.

DEVICE FOR SAVING GOLD AMALGAM AND QUICKSILVER. — Oliver H. Young and Daniel J. Vaughn, Wisconsin Hill, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater secutity and in much less time than by any other agency.

## Notices of Recent Patents.

GANG PLOW.—J. Harris, S. F. Mr. Harris has sought to construct a plow in such a way as to insure the greatest reduction of cost, and at the same time secure the greatest ease in operating and regulating it. He uses a single beam wide enough to receive the attachment of the two plows, or else two beams, if desired, to form a frame in the usual manner. The forward end of the beam rests directly upon the axle, and to its front end is secured the pole. The axle is straight and mounted upon the bearing wheels; and a projecting plate or standard is fixed upon it at each side of the frame. When the plows are depressed, so as to enter the ground, the beam bears on the axle between the standards, which then stand at an angle pointing towards the rear of the beam. Upon the inside of each standard, and above the axle, is secured a friction roller, which serves as a cam to raise the frame and plows when the axle is revolved, this being effected by means of a suitable lever properly attached to the axle or to the standard, as most convenient. A metal guard piece has its two opposite ends secured to the underside of the beam, on each side of the axle, being bent so as to enclose the axle and keep it in place under the beam, when the axle is turned and the plows are being raised. The beam is tilted to one side by means of a screw, by setting which properly the plows can be made to work upon a level when one of the wheels is running in the furrow and the other on the unplowed grouud. By this construction, it is claimed, gang plows can be constructed at a small expense, and yet work as well as, while being more durable than, the more complicated forms.

HANDLE FOR CUTLERY.—J. T. Haviland, S. F. The object of this invention is to provide an improved handle for cutlery, arms and tools; and it cousists in the application of porcelain or other baked or burned clay or earthy matter, either of a fusible or of a non-fusible nature, as a material for manufacture of such handles. By the use of this material, it is claimed, the cost will be less than where the ordinary bone or ivory is employed, while it will render equal service, besides having the advantage of being impervious to water, grease or other like matter, and of not becoming discolored by use or time.

GUN-LOCK.—E. B. Hendee, S. F. This invention relates to a very simple, effective and safe guu-lock, which will be more convenieut than the locks ordinarily used It consists of but three main pieces and a nk, and is attached to the gun on the underside and inside the guard piece. There is also a cap or cover for protecting the lock from the weather and to guard against the possibility of accidents. By the construction, a number of advautages are claimed, some of which are as follows: The necessity of cutting away, and thus greatly weakening, the stock of the gun is avoided. The hammer is removed from its usual position, where it is apt to interfere with the accuracy of the sight by drawing the attention of the gunner at the moment it is expected to fall. The position of the cap prevents any possibility of pieces of it striking the eye. The number of pieces in the lock is reduced, and consequent simplicity and durability are obtained, and the parts are easily cleaned. The cover affords especial protection from weather and accidents. The hammer can be brought to a full cock while the gun is at an aim, and thus be fired very rapidly, especially when provided with a self-loading device. The lock can be applied to arms of all descriptious.

IMPROVED VEHICLE.—J. D. Ross and M. K. Burk, Truckee, Cal. This ingenious invention is fully described and illustrated on another page.

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## A YOUNG MAN WANTS A FARM.

EDITORS RURAL PRESS.—Although not a farmer nor even living ou a farm, yet I am a constant reader of your new and truly excellent journal. My greatest desire is and always has been to own a farm and raise small fruits. I have been living in this city several, years and have saved about $500; but am in doubt where to buy laud, and therefore write this to you for advice, which I hope you will be kind enough to give through your paper.

My preference is foot-hill land for the purpose intended. Have read much about such land in different papers; but they are so unsatisfactory and indefinite that I am at a loss to know where to settle. My capital is small; but I am young and think I could make it hold out till my vines and trees begin bearing, provided the land was good. Would like your advice as to whether most of the land in Placer and El Dorado counties would be good for the purpose named, and whether you would advise me to start at once or wait for a little larger capital. J. B. B.

A satisfactory answer to the above must depend much upon whether our correspondent is married or single; aud if married, much would still depend upon the extent of his family. Would that be an assistance to him or an expense? If he is single and energetic, and willing to work hard and live cheap, we would advise him to look up some place where he can earn enough to live on by working for his neighbors after he has put out his trees and vines, and while they are growing. Or if convenient to a market he might support himself largely by raising poultry. He will find the foot-hills well calculated for raising most kinds of fruit. In selecting a location, however, reference must be had to a market. If he goes largely into vine-growing, he should locate near some wine cellar where grapes are purchased; or raise grapes for raisins. The market is generally pretty well supplied with table grapes; although money may yet be made by raising superior varieties. A location might be selected convenient to the central railroad, for raising fruit for the Eastern market. It is impossible to give auy definite advice without a personal interview. As our correspondent writes from Sacramento, and probably resides there, we would advise him to call upou our associate editor, Mr. I. N. Hoag, who resides in that city, and who will cheerfully give him any information which he may possess; and we know of no one in the State who is better qualified to give such information than Mr. Hoag.

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PRETTY EXPERIMENT.—The vapor of burning sulphur will bleach some and change the colors of other flowers. Take a hat-box, make a hole in the lid, aud pass the flower-stalks of a boquet through it, and then fasten it. Now put in a saucer a lump of brimstone about the size of a nut, set it buruing, aud place it at the bottom of tho box, then shut the box down. The flowers will thus be suspeuded inside, and being exposed to the fumes of the sulphur will quickly be changed.

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A COQUET is a rosebud from which each young beau plucks a leaf, aud the thorns are left for the husband.

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SAN FRANCISCO:

Saturday, February 25, 1871.

## OUR WEEKLY CROP.

That Hotel which is so prominent, stood originally in Snelling, and the great flood has wafted it to our front door, where it now stands, reconstructed and accompanied by an interesting History. Behind it is a grove of Forest Trees which we are cultivating.

In this grove we can read over the Notes from Monterey, and listen to what has been done in the way of Mechanical and Scientific Progress. Professor Carr will tell us what our University hopes to accomplish towards meeting the Wants of our Agricultural Community. The letter from Santa Cruz is full of miscellaneous matter, and is followed by the advice to get a Home of Your Own.

Our Vineyard gives a good illustration of how to Train and Prune Grape Vines. The Starving Cattle near by are none of ours, but will afford a warning example.

From Mariposa county comes an account of the important localities there. Our Health Department contains valuable information. Sage and Desert shows how barren places can be made to bloom. Dr. Carr tells us of the Chemistry of Common Things. The Young Man Who Wants a Farm gets some good advice, and our inventors come in for a good notice.

Our Farmers' Gardens are doing well, and this time we go through the Hot Houses there. There are a number of Artesian Wells in the vicinity, whose value is here demonstrated. Artesian wells suggest water, and water suggests fire, and the isolated position of our farm-house leads us to introduce a Fire-Extinguisher, which is here shown in operation, but in somebody else's house. Our farmers are busy Pruning Trees, and the looks of their several departments show that they understand How to Make a Farm Pay.

Our lady friends have prepared a rich repast for the Home Circle and the Household. They lead us, by some whim of theirs, on a Visit to Devil's Lake, tell us of the Boy's Triumph, and add a miscellaneous desert. Cake and Soups are provided, with a number of Domestic Receipts and the like.

We ride out in an Improved Vehicle, to where the New Zealand Flax is growing and past the Cucumber Beds. It is a heavy team which we use, and one better adapted for transporting large loads than for general traveling, and we use it only because it is necessary to proceed slowly and thus we have longer time in pleasant company.

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TO CORRESPONDENTS.—We acknowledge the reception of "Paper" No. 4, from Dr. Thomas; another "Up Country Letter" from "Jewell," and an original Story for the young folks, from Nell Van. We are also in receipt of the first of a series of letters which will be devoted to a description of the topography and agricultural resources of the valleys of Humboldt county in this State. The one now at hand describes the "Mad River Valley"; also two favors from "Nibs", in one of which he discusses the question "Why Farming does not Pay." We are under many and continued obligations to our numerous correspondents for their kindly and generous aid in helping along our new enterprise.

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THE first shipment of wheat from Chicago was 78 bushels in 1838. The present annual eggregate exceeds 50,000,000.

## FARMERS' GARDENS—HOT-BEDS.

Professional Gardeners understand and appreciate the advantages of hot-beds in bringing forward for the market their early vegetables. Professional Florists also avail themselves of the hot house or green house to bring forward their early flowers. With a little care and extra expense they each, in this way, obtain extra prices for their products, and are well repaid for the extra expense and labor. In this country, above all others, liberal prices are cheerfully paid for vegetables, fruit and flowers offered for sale out of the ordinary season, either *very* early or *very* late.

But farmers being generally away from the towns which afford markets for the professional gardeners, cannot, even if they would, avail themselves of the luxuries of these extra early vegetables from the market gardens. They must therefore either deny themselves and families many luxuries enjoyed by the denizens of the towns, or contrive some mode of producing those luxuries for themselves. We are among those who believe that, above all classes of people, the farmers may and should become the best livers, in all respects, in any country, and especially in California.

We believe that the farmers of California, if they choose to avail themselves of the advantages they naturally possess, may enjoy more real and substantial luxuries—luxuries, we mean, produced from the soil—than almost any other people in the world. It shall be our aim to point out the ways and means by which these luxuries may be produced and enjoyed.

Early vegetables cost the denizen a considerable *money*,—they would only cost the farmer a little *time*, with the additional advantage in favor of the farmer that he and his family might enjoy them direct from his garden, fresh and crispy; while, before they appear on the table of the denizen, they have been handled and mussed over till they have lost half of their attractiveness and real value.

If there is one farmer in this State who has a hot bed, made and used exclusively for the purpose or producing early vegetables for the use of his family, we have not seen that man. We do know of many who make it a practice to make hot beds every spring in which to sprout their sweet potatoes; but they seldom use them for any other purpose. Those who raise sweet potatoes for sale, are compelled to have hot beds to obtain the sets; otherwise they would not probably make them.

### How to Make a Hot Bed.

Farmers generally imagine that it is a great deal more trouble and expense to make a good hot bed than it really is. Many of them never having seen one, do not know how to make one, and never having experienced the advantages of one can not appreciate them. For the benefit of such, we give the following cheap and easy mode of construction and management. Make a frame or box, say three feet wide and six, nine or twelve feet long, depending on the size of the bed you desire. It may be made of inch boards, and should be, say, one foot deep in front and eighteen inches on the back. Dig out a trench in the garden on the south side of the fence the same size as the frame and eighteen inches or two feet deep. Fill up with fresh horse manure mixed with straw, about as it comes from the stable where horses are carefully bedded with straw, to the depth of a foot or fifteen inches. Then put on the frame and cover the manure from eight to ten inches with good, rich, sandy loam or light warm soil, that will not bake or crust over, when sprinkled with water. Bank up the outside of the frame with the same kind of manure used inside, and cover with common window sash of the proper size to cover the frame and your hot bed is completed, and as soon as the manure begins to ferment and heat, it is ready for use.

How much has it cost? About one day's work and the price of the windows used. The expense of the window may be dispensed with, and any old piece of canvas or a bed sheet or old mat may be used, instead and answer a very good purpose, though the glass is better, as it lets in more light and heat from the sun.

Now plant your seed in rows across the bed, and in a few days you will have the satisfaction of seeing the plants for an early garden bursting up through the warm soil. In warm, pleasant days the cover should be left off, and the plants should be sprinkled with water from which the chill has been taken, just enough to keep the soil moist and steaming. As soon as the weather is warm enough, and the plants of sufficient size, they may be transplanted to the warmest part of the open garden, being careful to protect them from the cold nights—if any occur.

By this simple means every farmer's table may be supplied with a plenty of all kinds of vegetables, as early as they appear in our market, and much better. Try it once and we guarantee that it will pay.

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ILLUSTRATIONS FOR NEXT WEEK.—Among the illustrations which we have prepared for next week, will be a beautiful picture of "A Family Scene in Pompeii," engraved from a celebrated painting by Joseph Coomans, the eminent Belgium artist. Our readers will find this engraving one of the most interesting features of the present volume of the PRESS. A number of other interesting and instructive illustrations will also be given in our next issue, to suit the varied tastes and wants of our agricultural and general readers.

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THE RAIN, which commenced in this city on Monday, was the heaviest of the season, amounting to over two inches. The storm was general throughout the State and has proved most satisfactory everywhere. The result cannot fail to give much elasticity to business, since it affords a very fair guarantee for good crops of wheat, wool and gold. The rains for the present year, though still very light in the aggregate, should be counted more than they actually measure, from the fact that they have fallen under much more favorable circumstances than usual.

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THE WHEAT SHIPS which sailed from this port last fall, on owner's account, are just beginning to arrive out, and are taking their cargoes to a fine market. The S. G. Reed was the first to arrive and the Baltic next. It is said the former will make equal to £6 10s. freight per ton, and that the Baltic's freight will amount to over $70,000.

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AN APPRECIATIVE SUBSCRIBER.—One of our agents writes as follows from Alameda county:—"I called on a farmer in this county, a few days since, and asked him to subscribe for the RURAL PRESS; he replied, that he had been for some time a subscriber for the SCIENTIFIC PRESS, and was well paid for his money; and when the publishers sent him the RURAL PRESS in its stead he was still better pleased, adding "for it is just what we farmers need; and the more I see of it the better I like it. My year is just about up; I wish that paper continued, for I have got out of one article information that is worth more to me than the cost of the paper for many years."

The article referred to was our illustrated description of "Fish Culture." Another correspondent writes as follows:

EDITORS RURAL PRESS:—Your kind favor was duly received for all of which I thank you. In my honest and humble opinion the RURAL PRESS is the most *valuable* paper ever published on the coast. It represents that which California needs to have truthfully represented at home and abroad, to enhance its interests and progress. I shall bind the RURAL, and prize it accordingly.

L. P. H.

## ARTESIAN WELLS AND THEIR VALUE.

Our correspondent "E. W." writes from San Felipe, Santa Clara County, under date of Feb. 8th, that the day before he arrived a gentleman of that place struck a splendid flow of water in an artesian well which he had sunk for the purpose of irrigation.

The water was spouting three feet above the 7-inch pipe when I saw it. The owner calculated that he had a sufficient stream to irrigate 500 acres of land. A former owner of this land had already sunk two wells; the first caved in, carrying with it two large trees standing on the brink, and it now forms a deep hole some 70 or 80 feet across, but the water does not seem to rise any higher than a certain point. The second one was worse still, for the rush of water forced out the pipe and then the sides caved; but the water continued to force its way up in such quantities as to threaten to flood the immediate neighborhood, and it cost about $1,500 to stop it; which was done by means of bundles of wood and wheat sacks filled with sand. I don't know enough about this subject to say whether these accidents were caused by carelessness or the nature of the soil; but I can see the immense value a well of this character is to its owner (provided it works well), rendering him almost independent of rain, at a comparatively trifling expense. This water was struck at the depth of 112 feet; and another fine well with a flow two feet above the pipe situate about two miles from this, was reached in about 80 feet; the latter would irrigate 200 acres easily, at a very trifling cost of labor. Every freehold farmer ought to have one. If he can get a good one, it will increase the value of the land it is capable of irrigating at least $10 per acre, probably far more. Even should he not get a good stream in one well, it is no reason why he should not in another, for they vary much in quantity, even when close together.

### Artesian Wells in Pajaro Valley.

The *Pajaronian*, of February 9th, says:—"Within the last two weeks persons in different parts of the Pajaro Valley have been boring for water. Mr. Knowles, who resides near the beach, lately raised money by subscription for an artesian well at the school house near his place, and we learned yesterday that the work was completed a few days since, flowing water of good quality having been struck at the depth of 116 feet.

Mr. George Pardee has commenced a well of the same kind on his ranch near the beach.

Messrs. Blackburn & Waters are sinking a well with every prospect of reaching flowing water in a few days. At the last accounts they were down over 100 feet. They were unfortunately detained in their work owing to defective pipe, and were obliged to take up 90 feet of pipe. At present the work is progressing satisfactorily. Artesian wells are being bored all over the State, and no great length of time will elapse before the windmills will be superseded."

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GRANULAR FUEL.—A correspondent from Salt Lake desires to learn further particulars about the "Granular Fuel" described by "W. W.," in our issue of January 14th; and also wishes to know whether there is any machinery in this state adapted to the cutting of such fuel, (brush, chopped short.) We have forwarded his letter to "W. W." Our correspondent further writes of the PRESS—"Your invaluable paper reaches us regularly and is read with much interest."

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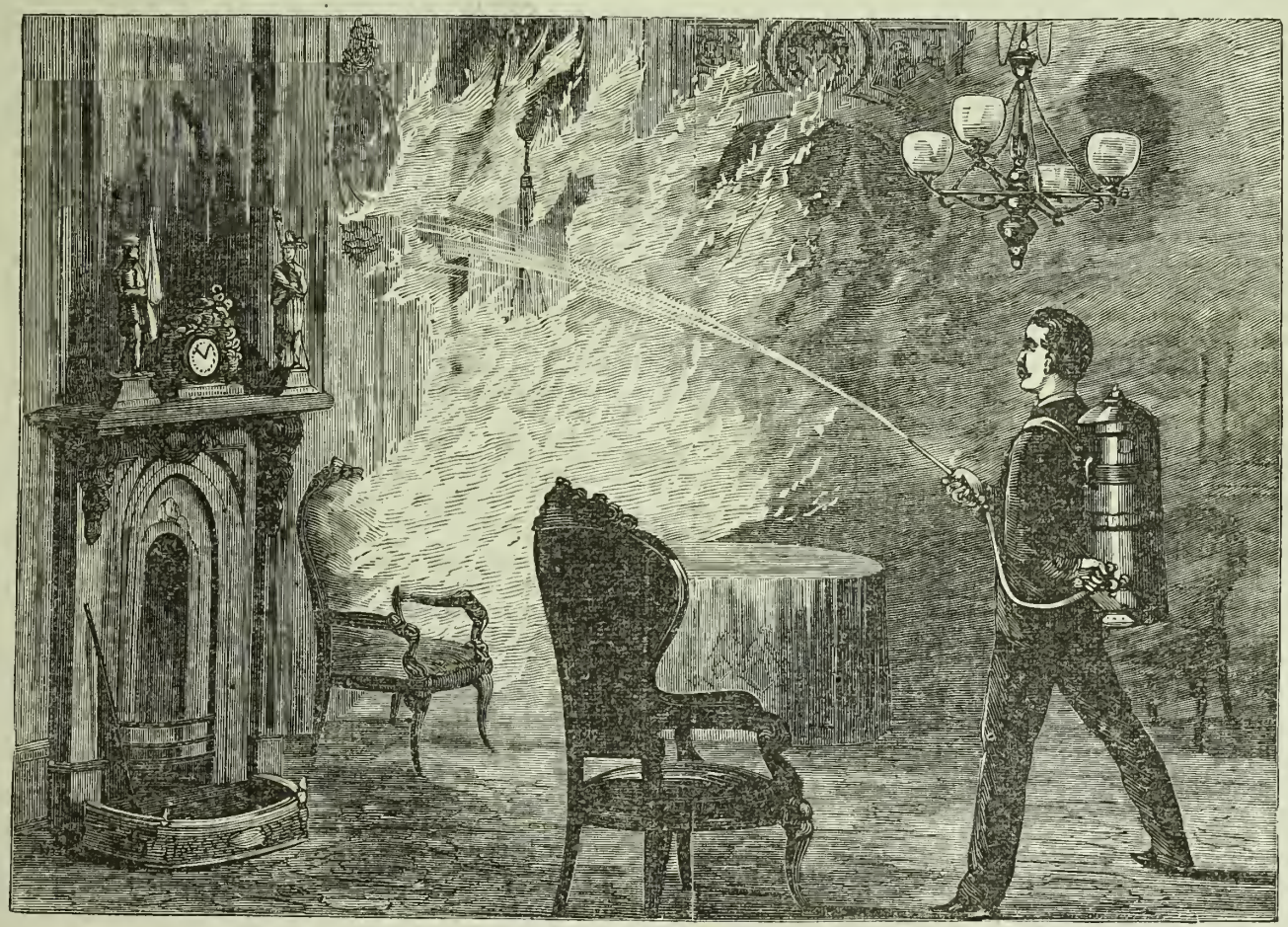
CORRECTION.—In our issue of February 11th., we inadvertently made the remarks of our correspondent, S. H. Herring, in regard to the inefficiency of the accommodations for sheep at Agricultural Fairs, to apply to such exhibitions generally, in this state, instead of to the State Exhibition alone, as he wrote.

## THE BABCOCK FIRE EXTINGUISHER.

The Babcock Extinguisher, says the Secretary of the company owning the patent, is offered to the public, as a means not of extinguishing large conflagrations, but of preventing them. This seems to us a very fair claim. Many fires often end in fearful calamities which might easily be extinguished if taken in time; and in the case of small fires, where the steam-engine has stopped any progress of the flames, the damage done by water is often equal to what would have been caused by fire. Hence some such apparatus as this would appear very desirable; and this apparatus certainly seems to have fulfilled all the necessary requirements in very many cases.

The Extinguisher is simply a device for generating carbonic acid, saturating water with this powerful foe of the fiery element, and throwing the mixture to any point where it is required. The small cut shows the section of the apparatus. The leaden bucket, A, holds the charge of acid, and is kept in its upright position by the stopper, O, attached to the rod, B, coming through the cap, C. To prepare the Extinguisher for use requires about one minute. The directions are: Dissolve the contents of white package in water and pour into the Extinguisher—fill the Extinguisher with water to within three inches of the top. Pour the contents of glass bottle (acid) into leaden bucket, put in the stopper firmly, insert bucket in tch Extinguisher and screw down cap hard and tight. In this condition it may be placed in position most accessible in case of fire, where it may remain any length of time, always ready for immediate use. In case of fire, pull up the knob, H; this draws out the stopper O, and the bucket, A, turns bottom side up, as shown by the dotted lines, R, being only supported after the stopper is withdrawn by pivots, P P, thus discharging its contents into the carbonated water. Intantaneous and powerful chemical action takes place, supplying sixty to ninety pound pressure to the square inch to throw the stream, and securing perfect readiness to play upon the fire in ten seconds of time.



THE BABCOCK FIRE EXTINGUISHER.

The larger engraving shows the way in which the machine can be transported by a man and used effectively wherever needed.

According to the accounts which we have received, this apparatus has proved a decided success. We have a list of 210 fires arrested and put out by the simple contrivance. It is estimated that the value of property saved by its use, during the past year, amounted to four millions of dollars. Government has adopted it in a number of cases, we are told. The Chicago Fire Department has, by formal resolution, attached two of the Extinguishers to each hook and ladder truck, and detailed men for using them. Three times this machine has put out fires in the Chickering Piano Forte Factory in Boston. Tiffany & Co., the New York jewelers, and Frank Leslie, the publisher, acknowledge its good offices in their particular cases.

Many of the leading railroads at the East use the device. The Michigan Central saved three cars last September. Where water cannot readily be obtained, as in the case of persons residing in the country, the machine must be especially valuable. In mills, or steamers and elsewhere it has done good service. The testimonials as to its good work are very strong.

The device is easily managed; all that the person carrying the machine has to do is direct the stream by means of a flexible tube. Two sizes are made, and the machines are warranted. Persons desiring to obtain further information as to the apparatus, or to learn more concerning what it has accomplished, may apply to F. W. Farwell, 122 Washington street, Chicago.

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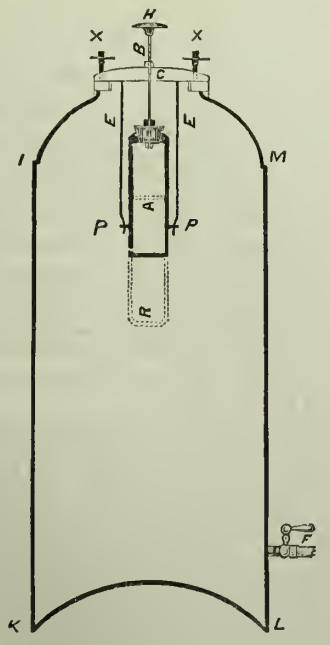
LAMBS.—The Jewett brothers on the Rio Bruno Ranch, Kern county, are having a good crop of healthy lambs now daily dropping. In one band of about 260 lambs no loss has been sustained, except two




caught by wild animals. Sheep are fattening very fast now. The Jewetts are raising about 110 lambs to each 100 ewes; and a good portion of their large flock will yield from six to twelve pounds per head of fine merino wool.

## HOW TO MAKE A FARM PAY.

EDITORS PRESS:—It seems as though some people think their land will never give out,—that Nature will always keep it up. What nonsense! Will your horse perform his work without giving him food? Certainly not. Just so with your farm. One reason of this is that a large portion of our agricultural people are renters, and all they care for is to study out how they can get in a crop at the least risk and cost. A farm that is rented out for two to five years is destroyed when the tenant leaves it. Cropped year after year, each year grows less in yield.

The question has often been put to me: how is it, Mr. Perkins, that two years ago I used to harvest 40 to 60 bushels of grain per acre while now I only get from 18 to 20? Did it ever occur to such a person that he had been robbing his land—that he had not paid back to the land an equivalent for what he had taken from it? He never for a moment takes that into consideration; and just so long as farmers continue to pursue this course, just so long will their lands be giving out, until they become utterly impoverished.

You can not make straw; then why destroy it? You will not lend your money without usury; then never destroy that which is of such great value to you; or if not to you directly, it is indirectly. Feed your land, as you do yourself or your horse, and you will get your reward. Put your old straw over your ground; plow deep, and then your works will show for it. It is far better to put in 75 acres of land, well tilled, than 200 in a careless way. Pay back to Nature, and Nature will repay you in return.

D. L. PERKINS.

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HORSE BREEDING IN SAN DIEGO.—Capt. Geo. A. Johnson, has a large ranch, about 20 miles from San Diego, where he is extensively engaged in horse breeding. He has over 100 Spanish mares, and intends to introduce a fine Eastern thorough-bred mare and two good stallions next Spring. He has already expended large amounts in developing breeds of fine stock, both equine and bovine; and his friends hope and expect to some day see one of his promising colts make Dexter "take a back seat."

## TO GET RID OF STUMPS AND WEEDS.

A correspondent from Gilroy desires to know how stumps may be most easily and effectually destroyed. Pulling stumps, in this country, is rather heavy business; and waiting for their natural decay is very slow. It is said that their decay may be greatly hastened by boring a hole in the center, filling the same with diluted sulphuric acid and driving a plug into the top. This is the process to which our correspondent alludes. But what may possibly be a better way, is said to be practiced in some portions of the north.west, as follows: "In the fall, bore an inch or an inch and a quarter hole, *vertically* into the middle of the stump, eighteen inches deep, and put into it an ounce to two ounces of saltpetre, more or less according to the size of the stump; fill the hole with water, and plug it up. In the spring, take out the plug, and put into the hole half a gill of kerosene, and ignite it. It will go on burning without any blaze until the whole stump, to the extremity of the roots, is consumed, leaving nothing but ashes. The stump must be moist; an old dry stump will not be penetrated by the saltpetre."

If it is true that stumps can be eradicated so easily, it is important. Will some one try it and report their success to this office. As it is now somewhat late in the season for applying the saltpetre, we would suggest that they delay the application of kerosene until the early summer. Perhaps our Gilroy correspondent will make the trial. In reporting results, we should like to know of what kind and how large the stump was; how long since the tree was cut away; how much saltpetre was used; and how long it remained before the fire was set; how long a time the stump continued to burn, and how thoroughly the work of destruction was effected.

In connection with the first above mentioned plan we may remark that sulphuric acid is said to be an excellent agent for the destruction of weeds, on lawns or elsewhere. It is sometimes the case that such unsightly things are very tenacious of life and their eradication by digging requires the removal of a large amount of dirt, producing a corresponding injury to the general appearance of the grounds. By taking the acid in question and allowing a few drops to fall into the crown of any obnoxious weeds, which will turn brown in an instant, and soon cause the death of the plant. Of course care should be taken not to allow this acid to come in contact with the skin or clothing. If what is claimed above is correct, it ought to be of much value in eradicating that dreaded pest of the farmer—the Canada thistle.

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BEET SUGAR IN COLORADO.—The question of the manufacture of beet sugar is beginning to agitate the people of Colorado.

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POISONED.—About 150 persons were poisoned, on the 1st. instant, at a wedding feast at El Monte, by eating meats that had been kept in copper vessels.

BY OUR LADY EDITORS.

## A VISIT TO DEVIL'S LAKE IN WINTER.

[Written for the PRESS.]

### A Story for our Young Readers.

My dear little readers, did you ever hear of Devil's Lake. It used to be called Spirit Lake, by the early settlers of Wisconsin; but some tourist thought it cute to bestow upon this beautiful little sheet of water the name of the evil angel. The Indians called it Minni-waukan; that is, Spirit Water, and there is a very sad story connected with it which was told to the white settlers by the redmen who once hunted and fished upon its banks. But before you hear the story I will tell you all about the steep, rocky hills which surround it and its very deep waters, which in some places are so deep they have never been sounded.

It was midwinter—the first time I visited Minni-waukan. (I like the gentle Indian name best). As we rode along, that bright, sunny morning, our road lay over snow-clad hills, and through groves of oak. Now and then we came upon a small farm-house, and a "clearing" as the Western people call it, where the small trees are cut down and burned, and the large ones "girdled" to prevent their shading the crops. The horses were frisky, and the snow crackled beneath the slender runners of the cutter, while the sleigh-bells jingled merrily. The warm sun had coaxed the squirrel out to take a hop on the limbs, and a wood-pecker was "tattooing" the bark of a half-dead sycamore, in hopes of getting a breakfast. The snow-birds were twittering about in the low bushes, and as the wind rustled the dry, brown leaves, the rabbit started up anxiously from his lair, only to fold his long ears back again and resume his easily-disturbed nap.

I was just watching some blue-jays quarreling over a *cache* of acorns, when the driver pointed ahead with his whip saying: "There is Devil's Lake, Sir." Sure enough, a bend in the road gave us a glimpse of a white carpeted surface, walled in on either side by reddish-brown rocks, piled up in terrible confusion, 500 feet high. The summits were covered with snow, with here and there a stunted pine or cedar; and they looked like the brows of old men wreathed with green leaves. Far to the front stretched the level ice, glistening in the sun like a mirror.

Devil's Lake is shaped like a letter T. It is shut in by inaccessible rocks on all sides, except a narrow valley at the foot of the T, through which winds a little stream that serves as an outlet for the lake, when heavy rains or melting snows overflow its usual banks. That large brown rock on the left, which seems split off from the rest and ready to topple over into the water, ("if it *should* fall," I said to myself, "how it would frighten the little fishes!") is called the Devil's Pulpit, and seems a shaky place to preach anything but shaky doctrines from. But by this time we were out on the bright smooth ice from which the wind had, in places, swept the snow, leaving it clear as crystal. The rocks seemed thrown down recklessly on both sides, giving rise probably to the story that Satan was crossing the state of Wisconsin at this place, when, becoming frightened he tripped and fell, losing in his fall the contents of his leather apron which speedily turned into stone.

That story might do very well for you and me, will it? Opposite the Devil's Pulpit stands Eagle Cliff. "Do you see that man standing up there on the cliff," said my driver, I looked up, but the sun reflected from the snow, dazzled my eyes, and I could see nothing. "Let us call to him" said the driver. "Hallo! there, come down!" we both shouted; just hear the echoes! "Come down!" "come down!" from rocks near and far. Loud echoes and little weak-voiced echoes repeated our words from every side. I fairly started to think what if the rocks should take us at our word and "come down." I did not see, nor hear anything more of the man on the cliff. Perhaps it was only a black stump, but I suspect it was a *ruse* of the driver to get me to call and hear the echoes. In a little while we turned a corner of the T and found a comfortable little cottage surrounded with evergreen cedars. It was built in a snug little valley which is entirely shut in by inaccessible rocks.

Here lives a farmer, cultivating his few fertile acres; his fruit trees sheltered from blighting north winds, in proof of which he showed us his harvest of rich and rosy pippins, stored from outer frost in the cellar. He has no way of getting out of his "Happy Valley" except by skiff in summer and on the ice in winter. He has many visitors and supplies them with red round apples or sparkling cider, according to their taste. When summer comes we will pay him another visit and get some of those delicious peaches and plums he is wont to brag on, and the recollection of which makes my mouth fairly water.

But here we are, again, in the cutter. The horses have been impatiently pawing to be off. The sun is getting low and they know the oats are waiting for them in the trough at home. The wind is blowing fresher and gives one's nose a tweak that would astonish a California boy or girl. We pull our fur caps over our ears and tuck the buffalo robe tighter about our knees, and with a crack of the whip are off for Baraboo. The echoes repeat, in desperate confusion, the merry jingling of our bells, as we dash over the ice-crystals until we enter the moaning pine forest and rustling oak grove that skirts the valley leading to Minni-waukan. But we are approaching Baraboo. I see the smoke from the chimneys ascending against the western sky; and here and there an early-lighted candle shows thro' the uncurtained window that supper is preparing. We are ready. Our appetites are as sharp as the winds that whistle about our ears. And now as I pay the driver for my merry sleigh-ride among the grand old rocks around Minni-waukan, I make him promise to drive out again next summer. And will you, my dear readers, be ready to go with me then? Among the moaning pines on Eagle Cliff, or while dipping the oar in the spirit-watched waters, I will relate the story of the Indian Maid of Minni-waukan.

BADGER.

## THE BOY'S TRIUMPH.

There were prizes to be given in Willie's school, and he was very anxious to merit one of them. As Willie was young, he was behind the other boys in all his studies except writing. As he had no hope to excel in any but writing, he made up his mind to try for the special prize for that, with all his might. He did try so that his copy-book would have done honor to a boy twice his age. When the prizes were awarded, the chairman of the committee held up two copy-books, and said: "It would be difficult to say which of these two books is better than the other, but one copy in Willie's, which is not only superior to Charlie's, but to every other copy in the same book. This copy, therefore, gains the prize."

Willie's heart beat high with hope, unmixed, as it was, with fear. Blushing to the temples, he said, "Please, sir, may I see that copy?"

"Certainly," replied the chairman, looking somewhat surprised.

Willie glanced at the copy, and then handing the book back, said, "Please, sir, that is not my writing. It was written by an upper-class boy, who took my book by mistake one day instead of his own."

"Oh, oh!" said the chairman, "that may alter the case." The two books went back to the committee, who, after comparing them carefully, awarded the prize to Charlie. The boys laughed at Willie. One said he was silly to say anything about the mistake.

"I wouldn't have told," said another.

"Nor I," added a boy, laughing. The copy was in your book, and you had a right to enjoy the benefit of it.

But in spite of all their quizzing, Willie felt that he was right. "It would not have been the truth, he replied," "if I had not told who wrote the copy. I would rather hold fast the truth than have a prize; for truth is better than gold."

"Hurrah for Willie! Three cheers for Willie Well done for Willie!" shouted the boys; and Willie went home to his work happier than he could have done if by means of a silent lie he had won the prize.

## FAITHFUL.

Fainter and fainter may fall on my ear
The voice that is sweeter than music to hear;
More and more eagerly then will I list,
That never a word or an accent be missed.

Slower and slower the footsteps may grow,
Whose fall is the pleasantest sound that I know;
Quicker and quicker my glad heart shall learn
To catch its faint echo and bless its return.

Whiter and whiter may turn with each day
The locks that so sadly are changing to gray;
Dearer and dearer shall these seem to me,
The fewer and whiter and thinner they be.

Weaker and weaker may be the light clasp;
Of the hand that I hold so secure in my grasp;
Stronger and stronger my own to the last
Will cling to it, holding it tenderly fast.

Darker and darker above thee may spread
The clouds of a fate that is hopeless and dread;
Brighter and brighter the sun of my love
Will shine, all the shadows and mists to remove.

Envy and malice thy life may assail,
Favor and fortune and friendship may fail;
But perfect and sure, and undying shall be
The trust of this heart that is centered in thee!

DAUGHTERS.—An intelligent writer says: "It is not possible to over-estimate the advantages which would result from men in trades and professions allowing daughters some participation in the work of their daily lives. What girls want, is a larger observation of the world, and a deeper knowledge of human nature. There are few of our merchants and manufacturers and professional men who could not largely avail themselves of the services of their educated and competent daughters; and if such service could be rendered generally available it is not too much to say that a wider and more fertile social life would arise for mankind. Men's occupations would in no sense be prejudiced, whilst women would at once find that outlet for their faculties for which many of them have been striving. A certain responsibility would increase their self-reliance. Good capacity for earning something would remove the sense of dependence; a definite occupation would bring both health and cheerfulness; and the larger experience of life would give force and completeness to their mental character."

A WIFE'S DEVOTION.—At the opening of the General Sessions in New York, last week, Minnie Lee, who a few days ago pleaded guilty of carrying into the Tombs prison implements for helping her husband to escape from that prison, was put forward, and the Judge addressed her as follows:

You have pleaded guilty of an attempt to violate the law. There are many mitigating circumstances in your case. I believe you to be a young and devoted wife, but most unfortunately married to a man now confined in the Tombs on a charge of burglary. When you entered the prison door and undertook to aid your husband to escape, I do not think you acted from the promptings of a wicked and depraved nature. While I cannot for a moment countenance the offence of aiding a prisoner to escape, still I feel it to be my duty, considering your youth, respectability and previous good character, to postpone judgment in your case. You may go.

SOMETHING FOR THE LADIES.—Science has made a discovery of a new method of bleaching white goods. It is as simple as it is said to be efficacious, and is vouched for by German chemists. It consists in dissolving one part oil and turpentine in three parts of strong alcohol, and placing a tablespoonful of the mixture in the water for the last rinsing. The clothes are to be immersed in this, well wrung out and placed in the *open air* to dry, not in a room. The bleaching action of the oil of turpentine consists in its changing oxygen into ozone when exposed to the light and in this process the turpentine disappears, leaving no trace behind. It is so simple as to warrant one or more trials.

A MOTHER'S LOVE.—Children, look in those eyes, listen to that dear voice, notice the feeling of even a single touch that has been bestowed upon you by that gentle hand! Make much of it while yet you have that most precious of all good gifts—a loving mother. Read the unfathomable love of those eyes; the kind anxiety of that tone and look, however slight your pain. In after life you may have friends, fond, dear, kind friends, the inexpressible love and gentleness lavished upon you which none but a mother can bestow.

THERE is a man in Mason, New Hampshire, who hasn't lived in his house since his wife died there, ten years ago. His furniture remains unmoved and undusted. He boards out where they will keep him for $2 a week.

## UP COUNTRY LETTERS.—No. 4.

[Written for the PRESS.]

DEAR READER:—Sitting in my sunny corner, watching the soft falling rain, and the burning logs in the wide fire-place, my heart glows with peaceful joy. How wonderful and great is Nature! Behold the perfect workings of God's laws, so entirely in harmony with our daily needs, and easily learned and obeyed, if we do but *earnestly* desire to learn and obey them!

The dry earth absorbs the falling rain, which softens and moistens the ground for plowing and planting; and in the summer time the sun's rays will draw the moisture from mother earth again in the form of vapor, to assist vegetation; thus making use of all natures gifts, as they are needed.

As I think, I wonder why farmers drain all surplus water off their low lands into the nearest streams; would it not be better to dig pits and save water for the coming dry season?

Seeing the farmers wife opposite me, darning her weekly pile of stockings, I am reminded of the subject of my last letter, and abruptly ask—"Was your husband a farmer when you married him?" "Law, bless you, no; he was a 'working in a store for wages when we first see each other; and tho' both of us had a been brought up on a farm, he in the east and I in the west, yet we'd both rather live in town; and until after Amelia was born, I never could quite give in to farming it. I felt such a likin' to dressing fine and going out among folks. But after Tom came, and we got too poor to dress much, I gave in and we got a place to farm on shares.

We'd a sickly time of it that year; the shakes was about. I had to work early and late, so did father. I lost a baby that year too, younger'n Tom, which seemed like it took every bit of pride out of me, and though I tried to do my duty by father and the children and not grieve; yet until two years, when Nell was put in my arms, I never was easy. 'Pears like God kept tellin' me how good he *could* be, if I only would do like his children ought to do. Yet I could not help feelin' somehow as if baby Nell was a tryin' to make me forget my dead baby, so I could not *quite love* her!"

Enough! The whole is made plain now! Just *why* Amelia is so vain and giddy, fond of dress and surface life, while gentle Nell is the reverse—sad and yet gay in her quiet beautiful way; cheerfully helping in every department of the household; unselfishly lending her best to adorn the pretty Amelia. And mutely asking only for *love* as payment.

Oh, mothers, think of it! A human life is entrusted to your care! God's work, (that of creation) given you to perform! See to it that you do it nobly, and to the best of your ability. And fathers, your work is in no way inferior. Upon you rests the obligation of so surrounding your wife, the mother of your children, with such conditions, as shall be possible and easy for her to make the most of herself, physically, mentally and spiritually.

Don't be less humane to her, than to your animals, who are at least not over-worked. Remember it is only for a few years of your lives that this double strain is upon you. Better be poor longer, and be blessed with fine sons and daughters; than rich in lands and gold, leaving a family inferior to yourselves, to take your places in the world.

JEWELL.

MOTHERS and sisters can brighten up the home for the long winter with very little trouble. The common sitting-room for a family and the dining-room should always be made to wear a cheerful aspect. House plants require so much time and care that many who are fond of them reject them. But a very pretty ornament may be made by simply filling a plate or any dish with rich earth, and covering it with mosses of various kinds. A small flowering plant, such as a pansy, may be planted in the center: and if the moss is kept well moistened the little garden will flourish all winter. By choosing moss of different colors a pleasing contrast may be produced. Bright autumn leaves may be gathered, and pressed, oiled, varnished, or simply ironed, and then arranged in vases, or around pictures and articles of furniture in the room, thus giving a cheery look within, when storms come, and bleak weather keeps one within doors. Children should be taught to love the beautiful in nature, though most children need but little teaching of that kind.

# HOUSEHOLD READING.

## Making Cake.

[Written for the PRESS.]

"Come here, Helen," said Mattie, "Aunt Lucy is going to show us how to make cake." "O, Auntie, will you, really," said the little sedate Helen, "Well, I for one, am very glad; for your cakes are always so light and nice, that when we go to picnics or surprise parties, every one that knows anything about your cooking asks for some of your cakes, and some one is sure to ask me how they are made—especially, your jelly cake."

"Well, girls," said Auntie, "as you have come to stay the afternoon, we will make a jelly cake for tea; or *you* may make it, and I will show you how; for you will find it a good plan to be able to do such things yourselves, if you want them well done. Then, if you ever have servants to manage, you will not find yourselves entirely at their mercy. I have had some experience in that way, which I will relate to you some other time; but now we will make our cake.

First, take two cups, even full of white sugar; pour it on the mixing board, roll it fine—there, you see that is better; there will be no hard lumps in your cake to make it heavy. Put your sugar in the mixing pan; now get four eggs, select the large ones, break the yolks in the sugar and turn the whites on that platter. Helen, you may take a knife and beat the whites to a stiff froth; and you, Mattie, may take that spoon and stir the sugar and yolks together. Now I will sift two cups of flour, then take one heaping teaspoonful of baking powder and rub it into the flour with my hands; now put one fourth of a cup of water on the sugar, then the flour; now for flavoring, we will put in a little extract of lemon. Now Helen, if your eggs are beaten enough, we will stir them in, very carefully—there, our cake is made, and now we will butter the round pie tins; about ten I think will do. Spread the dough very thin; be careful not to bake too hard, if you do, the jelly will not stay on nicely or look as well. Here, Helen, you spread the cakes.

Mattie, bring that last cake from the oven. There, now you see how it is done. It has taken more time to show you than to have made it myself; but I am glad you want to learn, and as you grow up, you can become useful as well as fashionable.

I am going to bake bread to-morrow, and I will show you how I make my yeast. First, I take three good sized potatoes, peel and wash them, then grate into a small pan, then add one tablespoonful of sugar and one of salt. Now stand the pan on the stove, and pour one quart of boiling water on the mixture; stirring quickly all the time. Now remove from the fire, when nearly cold; stir in a cup of baker's yeast, and as soon as it rises it is ready for use, and will keep good for two weeks, in cool weather. By saving a little of this to start with, you can keep good yeast all the time. I think you must be tired by this time, girls, and I see your uncle coming to supper; so we will try your cake. You can also take some home and show your mother your first baking. Good evening girls." "Good bye, Auntie; we are coming again, next week, if it will be agreeable to you." L. L. B.

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"Your ticket, sir," said a conductor to a gentleman who, having been a season ticket-holder for some time, believed his face was so well known that there was no need for him to show his ticket. "My face is my ticket," replied the gentleman, a little annoyed. "Indeed!" said the conductor, rolling back his wristband and displaying a most powerful fist, "well my orders are to punch all tickets passing on to this platform."

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OVERTAXING THE BRAIN.—A meeting has been held in Charlestown, Mass., to consider the subject of overtaxing children's brains by the present method of education. Such meetings should be more general. It is a crying evil, and, it is to be feared, a growing one.

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IT IS strange the only chapter in the Bible written by a woman (the mother of King Lemuel,) contains a plea for woman's wages: "Give her the fruit of her hands and let her own works praise her in the gates.

## How to Make Good Soups.

To make the best soups, use lean, juicy, fresh-killed meat; beef, veal, mutton, kid, lamb, or venison. Proportion the water to the meat in preparing the broth. To one pound of meat, add three pints of water, and reduce it by boiling, to one quart. Place the soup-pot over a slow fire, which will make the water hot without causing it to boil, for at least half an hour. *Gentle stewing is best.* If the meat used is a leg or shin of beef, crack the bone in several places. To this, any trimmings of poultry may be added; a few slices of lean ham, if a large quantity of soup is to be made. The vessel in which soup is made, should have a close, well-fitting cover, which should be carefully kept in its place during the whole process. This will not only preserve much of the nutritive part of the juices of the meat, by preventing evaporation, but prevent smoke getting in, which would spoil the flavor of the broth. As the water begins to boil, a quantity of scum will rise to the top, which must be frequently and carefully removed. When the water looks clear, the vegetables and salt may be put in. After this is done, place the pot, *carefully covered*, where it will boil gently. It will require from three to four hours to prepare soup properly, unless the broth has been made the previous day. When convenient, it is a good plan to boil the broth the day before it is to be used; when it cools, the fat can be more easily removed, and if a variety of dishes is to be prepared, this arrangement will lessen the labor of the cook. The broth will keep perfectly well, but must not stand in a metallic vessel. Keep some spare broth in case your soup boils too thick. If this is not done, and more fluid is required, use *boiling* water. Cold water will injure the quality of the soup. When wine is used, it should never be put in more than ten or fifteen minutes before sending to the table. Spices and pepper should be tied in a thin muslin cloth, so as to be easily taken out. All bones, gristle, and pieces of fat should be carefully removed before serving. As much of the meat as is needed, should be cut in small pieces and put in the tureen before the soup is taken up. The broth being well prepared, the difference in soups depends mainly upon the seasoning. Says an old English writer, from whom I have already quoted: "The art of composing a rich soup is, so to proportion the several ingredients one to another, that no particular taste be stronger than the rest; but to produce such a fine, harmonious relish, that the whole is delightful."

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KITCHEN UTENSILS.—That the duties of the cook may be properly performed, there must be suitable apparatus to work with. All other trades require nice tools suited to the business to be done, and why should not the claims of this important functionary be admitted. In many kitchens—perhaps the majority—an insufficient number of utensils is furnished, and those without any regard to adaptation, with the unreasonable expectation that, whatever the variety to be served up, all shall be performed in a skillful manner. A liberal supply of cooking utensils is good economy; it saves both time and labor. It is *wise* management to curtail expenses in fitting up the parlor, in order to spend in fitting up the kitchen. An old English writer upon the subject has humanely observed: "There is real enjoyment in a well-cooked meal; and as the practice of cooking is attended with so many discouraging difficulties, so many disgusting and disagreeable circumstances, we ought to have some regard for those who encounter them to procure us pleasure, and to reward their services by rendering their situation in every way as comfortable and agreeable as possible."

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LADY MORGAN'S IDEAS ABOUT YOUNG LADIES.—In a *tete-a-tete* conversation on the subject of some young lades who had been suddenly bereft of fortune, Lady Morgan said with an emphatic wave of her dear old green fan, "They do everything that is fashonable—*imperfect*; their singing, drawing, and dancing, and languages, amount to nothing. They were educated to marry, and had there been time they might have gone off *with*, and hereafter *from*, husbands. They cannot earn their own salt; they do not even know how to dress themselves. I desire to give *every* girl, no matter her rank, a trade—a *profession*, if the word pleases you better; cultivate what is necessary in the position she is born to; cultivate all things in moderation, but *one* thing to *perfection*, no matter what it is, for which she has a talent—drawing, music, embroidery, housekeeping even; give her a staff to lay hold of, let her feel *this* will carry me through life without dependence."—*The Friends' Tour and Adventures of Lady Morgan.*

## Domestic Receipts.

MULLED WINE.—Boil together one tumbler of water, half a nutmeg, a small stick of cinnamon, a dozen cloves slightly bruised, the same of allspice; reduce it by boiling half; strain the spiced water into a pint of good sherry or Madeira wine. Set it on the fire, and when it begins to bubble, take it off the fire; sweeten with loaf sugar and serve. Cider may be mulled in the same way.

WINE WHEY.—One pint of boiling milk, a tumblerful of good Madeira wine; boil until the curds form. Pour off the whey into a pitcher; sweeten and serve. Cider may be used instead of wine.

TO MAKE SAUCE TO POUR OVER BOILED FOWLS OR MEAT.—One pint of fresh sweet milk; stir to it slowly a pint of boiling water; rub two heaped teaspoonfuls of butter; two even teaspoonfuls of flour; put this to the milk. Stew it until of the consistence of cream, shaking the stew-pan frequently. Season with salt and the juice of a lemon. If a whiter sauce is preferred, use more milk. If it is preferred to have it colored, beat up the yolks of two eggs; pour the sauce to them slowly, beating and stirring rapidly. Put the stew-pan on the stove long enough to take off the raw taste of the egg; one or two minutes will suffice. Pour a part of the sauce over the meat as a veil; season the rest, in any way liked, and send in a tureen.

BIRDS FOR CONVALESCENTS.—Lay them upon the gridiron; broil until a light brown color; then put them in a stewpan; pour over hot water enough to cover them. Let them stew until tender. Season with a little fresh butter, pepper and salt. Chicken, birds, and squirrels, stewed in a double kettle, are very delicate for invalids. If permitted, stuff the fowls and birds with minced oysters.

DOUGHNUTS.—Take seven cups of bread dough, when light mix, into it one and a half cups of melted lard, with one of sugar and a teaspoonful of soda—when it has again become light, roll it out; cut it into what shapes you please, and boil in hot lard. To succeed best, the dough should be mixed with milk.

HOW TO COOK CABBAGE.—After taking off the outside leaves, quarter the cabbage and wash each quarter separately in water rather more than tepid—as water of this temperature makes insects drop out. After rinsing in cold water, boil in plenty of salted water in which a little soda has been dissolved. Boil a little over an hour.

HOW TO COOK BEETS.—Beets should be carefully washed, but not cut before boiling, as cutting then allows the juice to escape, leaving them white and hard. In summer boil them an hour in salted water, and in winter boil them four hours. After boiling, scrape off their skins, and cut off the threads hanging from them.

## Mechanical Hints.

WASHING FOR ROOFS AND BUILDINGS.—Slake lime in a close box to prevent the escape of steam, and when slaked, pass it through a sieve. To every six quarts of this lime, add one quart of rock salt and one gallon of water. After this boil and skim clean. To every five gallons of this, add, by slow degrees, three-quarters of a pound of potash and four quarts of fine sand. Coloring mater may be added if desired. Apply with a paint or whitewash brush.

This wash looks as well as paint, and is almost as durable as slate. It will stop small leaks in roofs, prevent the moss from growing over and rendering it incombustible from sparks falling on it. While applied to brick work it renders the bricks utterly impervious to rain; it endures as long as paint, and the expense is a mere trifle.

WHITEWASH THAT WILL NOT RUB OFF.—Slake the lime in the usual way. Mix one gill of flour with a little cold water, taking care to beat out all the lumps; then pour on it boiling water enough to thicken it to the consistency of common starch when boiled for use. Pour it, while hot, into a bucket of the slaked lime, and add one of whiting. Stir all well together. A little "blue water," made by squeezing the indigo bag, or a little pulverized indigo mixed with water, improves it.

DIAMOND CEMENT FOR CHINA AND GLASS.—Soak isinglass in water till it is soft, then dissolve it in proof spirits. Add to this a little gum-ammoniac or galbanum and mastic, dissolved in as little alcohol as possible. Shake well and put in a bottle with a good cork. When used it must be liquified by placing the bottle in warm water; apply it to the broken edges with a camel-hair brush, or in the absence of that, the tip of a feather. This cement will resist moisture.

## Life Thoughts.

THE greatest glory is not in never falling, but in rising every time we fall.

BE true to God and yourself, and you will be true to mankind.

THOSE who blow the coals of others' strife may chance to have the sparks fly in their own faces.

GOD writes his gospel, not in the Bible alone, but on trees and flowers and clouds and stars.

THE aim of an honest man's life is not the happiness which serves only himself, but the virtue which is useful to others.

WISDOM does not show itself so much in precept as in life—in a firmness of mind and a mastery of appetite. It teaches us to do, as well as to talk, and to make our words and actions all of a color.

IN the voyage of life, we should imitate the ancient mariners, who, without losing sight of the earth, trusted to the heavenly signs for their guidance.

Do daily and hourly your nearest duty. Never mind whether it be known or acknowledged; in the blithesome "sometime" it will have its reward.

THERE are some conditions of the mind in which physic should be thrown to the dogs. Sympathy and love will make the pulse beat lower and the heart throb rightly.

INFINITE toil would not enable you to sweep away a mist, but by ascending a little you may often look over it altogether. So it is with moral improvements; we wrestle with a vicious habit, or with a slanderous report, which would have no hold upon us if we ascended into a higher moral atmosphere.

## The Life Struggle.

The world knows no victory which can at all be compared with victory over our own passions. The struggle of life is between the flesh and the spirit, and one or the other finally gains the ascendency. Every day, and every hour of the Christian's life, is this contest going on, and sad it is to think how often it is that victory is declared in favor of this earth, with its sinful passions. The Apostle Paul, after having labored long and earnestly in his Lord's service—after having done more for the spread of the truth than all the other Apostles, still felt that he was a human being, liable, at any time, through the weakness of the flesh, to lose all. "I keep under my body," says he, "and bring it to subjection, lest, after I have preached the Gospel unto others, I, myself, should be cast away." If this watchfulness was needed on the part of this aged and long-tried servant of God, what care and dilligence ought we to excercise, lest we should lose all in an unguarded hour? Our pathway through life thickly set with snares for our feet. The seductions of passion, the allurements of vice, things to arouse our anger and stir up our heart's feelings, await us at every turn of life's devious ways, and blessed indeed is that man, or that woman, that meets them all without harm.

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ETERNITY.—If nature plant in an animal a desire, it is the proof that in the constitution of that animal is the means of its gratification. Is there not a longing in the soul for the spiritual existence to the boundless extent which thought requires? And what does that point to? Where is its gratification! Where but in the new and endless life? If there is a desire to live in a larger sphere, with more knowledge and power, it is because life and knowledge are good for us, and we are natural repositories of these things. This is no speculation, but the most practical of doctrines.—*Emerson.*

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THE GRAVE.—It buries every error, covers every defect, extinguishes every resentment. From its peaceful bosom spring none but fond regrets and tender recollections. Who can look down upon the grave of an enemy and not feel a compunctious throb that he should have warred with the poor handful of dust that lies moulding before him?

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DANIEL WEBSTER said, "If we work upon marble, it will perish; if we work upon brass, time will efface it; if we rear temples, they will crumble into dust; but if we work upon immortal minds—if we imbue them with right principles, with the just fear of God and love of our fellow-men, we engrave on these tablets something that will brighten for all eternity."

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THE influence of woman is not to be overestimated. For her approbation we undertake the boldest enterprises; to her happiness, we devote our best energies, and for her affection, we give all else.

## IMPROVEMENT IN VEHICLES.

Besides the blows which may be inflicted on horses by the drivers, there are other blows and shocks which the animals receive from the shafts of trucks when the front wheels, as usually placed, strike against obstructions on the road-bed. These blows, although their effect is somewhat deadened by the harness, are often much severer than a humane driver would willingly inflict.

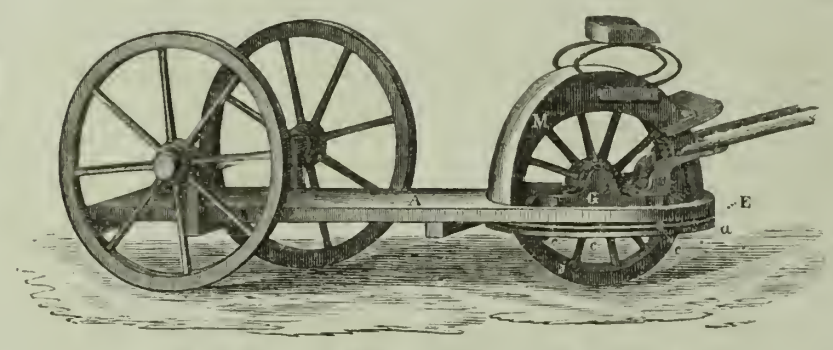
To relieve the draft-animals from such blows and strains, and to gain certain other advantages, Messrs. Ross and Burk, of Truckee, have invented an improved construction of vehicles, applicable more particularly in the case of heavy trucks, which is here illustrated. The invention consists in so mounting the front part of the vehicle that it will ride upon one or two wheels, whose axle is supported in boxes on a horizontally-rotating rim; it also relates to the use of a device for relieving this horizontal rim from friction when turning from side to side.

The floor, A, of the truck, may be rounded or otherwise suitably formed at its front end, and has a circular opening made through it large enough to admit the rim or fifth-wheel, whose upper surface is flush with the top of the floor. At the lower edge of this rim is a flange, *a*, on which run the rollers, *c*, *c*, *c*, which support the front end of the truck. These rollers work in openings in an independent rim, E, which thus keeps them in position. They are conical or tapering in form, and consequently the rim or band which is attached to, and protects, the lower part of the floor, where the rollers come, is beveled. The upper part of the rim or fifth-wheel may be kept in place by buttons or lugs or by a flange, if desired.

Upon the rim, at each side, is secured a box, G, in which turn the journals of the axle of the front wheel, J; or, if found more desirable, the ends of the axle may be made fast and the wheel be allowed to turn upon it. The hub must be of sufficient length to insure steadiness and firmness in its attachment to the axle. The wheel, J, is made strong, with dodge-spokes and a broad, heavy tire, to prevent its sinking too deeply in soft spots or wearing too rapidly. The shafts are attached to the rim in a suitable manner. The seat is mounted on springs and attached to a cover or housing, M, which protects the driver from the dirt thrown from the wheels. If it be found preferable in any case, instead of one wheel, J, two wheels may be employed, placed a short distance apart, so as to be within the rim.

By this arrangement, the object mentioned above would seem to be completely attained. Moreover, the truck or other vehicle can be easily turned in either direction; and the horse can be turned to one side, so as to be entirely out of the way, in cases where there is not sufficient room for him to stand in front of the track.

The inventors of this construction are Messrs. John D. Ross and Martin Keever Burk, of Truckee, Cal., whose patent, obtained through the Scientific Press Patent Agency, is dated December 20, 1870. Any letters concerning the invention may be addressed to the patentees.




ROSS & BURK'S IMPROVED VEHICLE CONSTRUCTION.

Prize for a New Potato.—By a vote of the Massachusetts Horticultural Society, the sum of $200, from the donation of the late Mr. Levi Whitcomb to the society, is offered as a prize for the best seedling potato which may be originated after January 1st, 1871. Such seedling must be tested by a committee of the society for at least five years, and must be judged by them to be of superior quality. The first premium will not be awarded before 1878. May we not have the pleasure of recording the names of some of our California gardeners as competitors for this prize. Surely the climate and soil of this State ought to come out winner in a contest of this kind with New England.

## NEW ZEALAND FLAX.

### Phormium Tenax.

Editors Rural Press:—Having lived in the country where the Phormium Tenax or New Zealand Flax, as it is more commonly called, is indigenous; and having seen it revive as an article of commerce after a lapse of many years from the period when it first obtained a market value, and rise to a very high figure in the English markets, allow me to offer you a few remarks upon what I believe to be truly a valuable commodity. I will endeavor to make them as brief and concise as possible.

### Natural History of the Plant.

Comparatively little is known with certainty in regard to the amount which will grow per acre, the length of its existence, or the rapidity of its growth, for the simple reason that until public notice was drawn to the actual fact of a machine having been manufactured which *could* dress it for market, no one paid other attention to it than to bless themselves when they could find it conveniently for the manufacture of a whip cracker or the tying of a parcel, and curse it when its bunchy and stubborn roots came in the way of their plows. Having stated thus much I will give its natural history as far as I know it.

The New Zealand flax is, as its name imports, a fibrous plant, but is widely different from the flax of European and American notoriety, in every way. The bush is an evergreen, and grows, more or less, throughout the entire year, although its greatest growth is, I believe, like most other plants, in spring. In regard to its shape, I can only liken it to two straight-sword blades joined at one edge from hilt to point, thus forming a single blade or leaf of the flax, and these lapping one another at their base to the number of 11 in a full grown stalk, not growing round the stalk, but radiating from their base, at a given point, like the fingers of man's hand moved apart. Several hundreds of these stalks grow from one bunch of roots, and constitute a bush. I am certain I have more than once seen a single bush containing from 300 to 400 lbs. of the green material, and yet I have not been in that part of the country where it attains its greatest length. I have seen dense masses, covering a space of 30 feet by 20 feet, containing several tons. Whether this was one enormous bush or several meeting on all sides I cannot say; but I rather think the latter to be the case. Still it is a common thing to see the single bushes from four to eight feet in diameter.

The plant varies in hight from 6½ feet to 11 feet, according to soil and locality, and I have been informed of cases where it grew three or four feet higher, in more favored spots; but this I have never seen, though I can easily believe it. The habitat of this plant is over the whole of the two islands of New Zealand, called the North and Middle Islands, and doubtless the southern one as well. It is capable of standing alike the genial clime of the Province of Auckland, where a frost is never severe even in the middle of winter, and the keen winter blasts of Otago and Southland. It grows well in some of the richer portions of Otago, but I believe its most favored locality is the region of the Waikato river, near the center of the Province of Auckland.

### Its Growth on this Coast.

Here I may remark that a gentleman who resided some years in New Zealand, and who is now living in San Francisco, informed me that he was almost certain he had seen the plant growing beside the mountain streams in, (I think he said) Nevada. Whether this be so or not, that it will both grow without difficulty and flourish too, is shown by the bushes growing in Woodward's Gardens, and in the angle formed by the post office and Appraisers building on Battery streets; as also by the plants growing in various private gardens all over the city, adding by their bright green hue and elegant shape no mean ornament to their locations.

### Different Varieties.

There are innumerable sub-varieties of this plant, differing more or less from one another in regard to height and certain marks on the outside of the leaf; also in the various degrees of fineness and strength of the fibre, locality and color of flower, —some of the fibre being as coarse or coarser than the coarsest hemp, some as fine, as good linen flax, and with a soft, silky appearance and touch. But while there are so many slightly differing varieties, I believe it has been with them as with pumpkins, peaches, and all sorts of fruits, vegetables and flowers, that the pollen mixing in a few original sorts has reproduced a large number of slightly differing kinds.

I believe there are only three original species; viz. the "Tehore," a short leafed plant generally about five feet high, with a stiff leaf, and fine, soft, but very strong fibre. This species was the only one cultivated by the natives of New Zealand, who used to plant the root on the borders of their sweet potato plats, and manufacture it into mats, cloaks, and fishing lines. Then there is the "Swamp Flax," which is by far the commonest variety—fibre coarse and long, sometimes 10 and 11 feet. The third variety is the "Hill Flax," another short, but very fine variety, generally about four feet high, fibre of a yellowish hue, soft and strong. As its name imports, it grows on hill sides where the ground is rich and of a nature to retain a certain but not large amount of moisture.

The Tehore grows best on alluvial and volcanic soils, and requires little if any more moisture than wheat or potatoes. The swamp variety, though having a rich alluvial bottom, near water, or even with ground covered two or three inches deep in the wet season, does not thrive where the water lies continually, nearly so well as otherwise. Indeed, where growing in water, it is often stunted, and it is surprising to see its growth, should a drain chance to be cut near its roots. The leaf of this species generally hangs down from about two-thirds of its hight from the ground; and though very strong is not equal to either of the other two varieties in that respect. It seeds very plentifully, which is not the case with the Tehore, whose blossoms or seed pods seem to be tender. I think each stalk in a bush seeds only once in three or four years, and this applies to all the varieties. The seed is light, and flaky, of a jet black color and grows in a pod about two and a half inches long.

### How Propagated.

The roots of the plant are a mass of hard tubers, with long yellow feeders attached, and these, dug out in lumps as large as a small turnip, grow most readily. Though it grows easily from the seed on a fine prepared bed, and is readily transplanted, yet the roots furnish the quickest and best method of propagation. Such is their vitality that, when plowed up in spring, and the land left in open furrow all summer, it will be often found that the first autumn rains will start new sprouts from any that may be even partially covered with soil.

Any bush planted or growing naturally, keeps increasing the tuberous roots all round it year by year, and these throw up fresh bunches of leaves. I do not know the limit of its age; but most probably it would last out a man's life time. At first its increase in size is slow, but when the bush has attained a three or four foot diameter it is proportionally rapid. I have seen it growing very well, and in immense quantities on a black alluvial deposit, lying between the mouths or two rivers, which in winter was occasionally submerged by overflow to the depth of six inches, the water being almost salt. Such land, I have no doubt, is to be found in many places on this coast, and I have not the slightest doubt that it would grow admirably on the "tule lands;" that is, if the idea I have formed as to their character be correct—*i. e.* rich soil, very moist, and occasionally submerged by an overflow of fresh or brackish water. If too wet, they could be roughly ditched, every chain or two apart, to the depth of a foot or eighteen inches. E. W.

[To be continued.]

## HOW TO HAVE PLENTY OF CUCUMBERS.

A correspondent of the *Horticulturist* writes:—I had a narrow border not more than two and a half feet wide, on the edge of a high fence. I planted three cucumber hills in the border, and laid some brush (such as is used for pea vines) between them and the fence. As soon as they crept up to the brush, I pinched off the ends of the vine which thickened rapidly around the roots, and in every direction, throwing out the most vigorous foliage and profusion of flowers.

I did not allow the cucumbers to grow, but watched them, and such as I wished to reserve for the table I picked as soon as they became of proper size, and all the rest were gathered every day for pickles; every day pinching off the bud at the end of each shoot. In this way the hill continued fresh and productive until they were touched by frost. Some judgment can be formed of the value of this practice when I add that more than a barrel of pickles were made from three hills, besides allowing a supply for the table.

Whenever a leaf began to look rusty or yellowish, it was removed, and the cucumbers and leaves were cut off with large scissors, so as not to disturb or wound the vine. There is an advantage in having them run upon brush instead of trailing over the ground; because they are much injured by being trodden on, and by being kept low on the bushes they can be easily and thoroughly examined every day, which is essential, because if cucumbers are overlooked, and grow very large, it stops the yield of that vine.

## PRUNING TREES.

Editors Rural Press.—In one of the back numbers of the Rural Press I find it recommended to prune trees all through the winter. This cannot be the best time, and not till the sap begins to flow in the spring, the buds begin to swell, or the trees have put forth their foliage; this especially should be practiced on the apple-tree. In the Eastern States, winter pruning works great detriment to the tree.

When trees are winter pruned, the sap percolates, with a gentle flow, through the pores at the end of the severed limb. A very minute black insect lodges in this flow, and gives it its black shade. [The black color assumed by the discharged sap is more probably due to the oxydising influence of the atmosphere, and the dust or dirt which lodges upon it.—Eds. Rural.] The sap will ooze out for a long time, even after the covering by the new wood.

Early pruning may not injure the tree so much on the Pacific coast; but a new, healthy wood does not cover the wound as readily as when the tree is pruned later. Therefore I think winter pruning should be avoided. S. W. Jewett.

Rio Bruno Ranch, Kern county.

A Steam Garden.—Hatching eggs by steam, ploughing by steam, brushing hair by steam, and getting killed by steam, have all been wonders in their respective days; but now comes a big garden where vegetables are raised by steam. It is two acres in extent, and is situated at Lake View, near Chicago. The entire space is covered with glass, and a powerful engine and boilers supply through a network of pipes laid beneath the beds, the warmth and moisture required. Already, lettuce, radishes, onions, cress and other salad "stuff," are above ground, and in a week or so will be in the market. Cauliflowers, cabbage, beets, turnips, and other vegetables, have been sown, and will make their appearance in due time. This is cheating Jack Faost with a vengeance.

## Meteorological Observations

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121° 29′44″ W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF | | | | | TEMP.* | | | WIND. | | R'N† |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Barometer Corrected. | Temp. Air. | Rel. Humity. Satura'n 100. | Force of Vapor. | Amount of Cloudiness. | Maximum. | Minimum. | Range. | General direction f'm which it moves, and the Forces. | | Gauge 50 ft. ab've surf'ce |
| FEBRUARY. | INHS. | DEG. | ° C. | INHS. | 0–10 | DEG. | DEG. | DEG. | DIRECTION. | F'CE. 0–10 | INHS |
| Sunday.. | 12 | 30.251 | 50 | 62 | .225 | 0 | 58 | 37 | 21 | S. | 2 | ..... |
| Monday. | 13 | 30.060 | 47 | 78 | .260 | 10 | 54 | 38 | 16 | S. E. | 2 | 0.070 |
| Tuesday. | 14 | 30.052 | 47 | 62 | .202 | 7 | 55 | 38 | 17 | S. E. | 2 | ..... |
| Wedn.... | 15 | 29.908 | 45 | 73 | .235 | 10 | 48 | 40 | 08 | S. E. | 3 | 0.076 |
| Thurs.... | 16 | 30.165 | 50 | 51 | .182 | 0 | 57 | 40 | 17 | N. W. | 3 | ..... |
| Friday... | 17 | 30.295 | 48 | 62 | .216 | 2 | 57 | 37 | 20 | N. & S. | 2 | ..... |
| Satu'day | 18 | 30.078 | 50 | 61 | .224 | 2 | 62 | 36 | 26 | S. | 2 | ..... |

*Thermometograph. †Rain.

REMARKS.—The expectations based upon the stormy weather of the week have been disappointed, and we have an installment of only 0.146 inches of rain to be added to the previous fall of four inches. Unless the spring rains prove more copious, we apprehend that what has already fallen will soon be evaporated by the advancing warm season, as there is but little water stored away in the sub-soil to meet the demands of the growing vegetation.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., Feb. 23rd.

FLOUR—The extreme dullness of the demand for both export and local consumption led to a reduction in the San Francisco market at the opening of the present week; and a corresponding reduction has also taken place in the interior.

We quote city mills, $5.75@6.00; extra, $6.87½@7.00. Standard Oregon brands, $6.87½@7.00—a reduction of 25c. from our last quotations.

Transactions include 2,600 bbls. Cal. extra, 1,200 bbls. Oregon extra, and 400 Cal. superfine at current rates.

WHEAT—Still continues quiet, notwithstanding it would seem that improved expectations of a good crop, by reason of the late rains, ought to induce holders to be more disposed to sell. There has been a small decline, but not sufficient to meet the expectations of buyers. One or two freight arrangements have taken place; but no exports are reported for the week. The Liverpool market is from 1d.@2d. lower; but holders feel quite sure of an early reaction. It is possible that the effects of the expected peace have been to some extent overrated. Much still depends upon the coming crops in England and Western Europe.

Telegraphic despatches from New York report the demand there for export very moderate, and California kinds inactive. The late favorable news from Europe has caused a decline of 3 cents; but holders are still very firm.

The receipts of grain at this port have not for years been less at this period of the year. Transactions include 12,000 sacks fair to choice shipping and milling at $2.25@2.30. Superfine grades may be quoted at $2.12½@2.17½. City millers are compelled to purchase at from $2.32½@2.35—the latter figure for choice.

Liverpool quotations were telegraphed yesterday at 11s. 8d., a decline. New York telegraph rates continue at $1.70@1.75 per bushel, notwithstanding the decline above reported.

BARLEY—Is still in fair demand, and prices remain about the same as last week. We quote $1.37@1.45, from fair to choice. Sales 6,000 sacks.

OATS—We note a limited demand for oats. Fair to good may be quoted at $1.55@1.75, Sales about 5,000 sacks.

CORN—Quotable at $1.40@1.50.

BUCKWHEAT—Nominal at $3.25@3.50.

RYE—In limited demand at $2.62½@2.75.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $26.50@27.50; MIDDLINGS, $35 for feed; OIL CAKE MEAL $33, an advance of $3.

HAY—Is in steady demand. We quote ordinary wild oat to choice wheat at $12.50@15 50 ₱ ton.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, $12@16, and Potter's, 2 ℔ do, at $4 ₱ dozen.

POTATOES—Receipts light and market firm. We quote Humboldt 1.85@2.00; other kinds $1.75@1.90; a slight advance.

HOPS—This year's crop is quotable at 8@12½c. In the New York market the demand for new is better and prices are firmer.

HIDES—We quote Dry, slaughterer's stock, 16@17½ c; Salted; 7@7½c. Sales during the week 2,800 Mexican dry. The decline is due to lower prices, reported by telegraph, from New York.

WOOL—We quote good shipping, at 15@17½c; very choice, 18½c; burry, 10@12½c; slightly do, 13@14c. Market bare of stock and quotations nominal.

The only transaction noted is a sale of 6,000 pounds pulled wool at 24c. An active business is expected as soon as the spring clip comes forward, which is now close at hand.

Wool advices, by telegraph from New York York report a continued and steady demand, while full prices are asked. The principal transactions have been between dealers and manufacturers, limiting their operations on account of the difficulty of making shipments. California wools have been freely dealt in, and transactions are large at full rates. Sales of 622,000 pounds, mostly fall, at 20@34; 16,000 pounds pulled, private; and at Boston, 118,500 pounds at 22@30c.

TALLOW—Quotable at 7@7½c, from ordinary to choice. The proprietors of the candle factories are paying 7½c. for a good article.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

BEANS—Prices but little changed. Bayo at $2.25@2.50; butter, at $2.50 for small and $3 for large; small white, $2.00@2.25; pink, $2; red, $2.25@2.50; pea, $2@$2.25 per 100 pounds.

FRESH MEAT—In good supply and quotations little changed. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 9@10c ₱ ℔.
Do 2d do 8@ 9c ₱ ℔.
Do 3d do 7@ 8c ₱ ℔.

VEAL—Scarce and firm, has advanced to 12½@14c.

MUTTON—Steady at 9@10c. ₱ ℔.

LAMB—Supply light, as yet, and quotable at 11@12c.

PORK—Undressed is quotable at 6¼@7½c.; dressed, 10@11½.

POULTRY, ETC.—In good supply, and prices remain unchanged. Young Chickens $7@8; Hens $7@8.50; Roosters $7.00@7.50; Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame, $2.50@$3 ₱ pair; live turkeys, 20c ₱ ℔; Hare, $1.50@2.50 per doz; Doves, 50c do; Quail, $1.25@1.50.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 40@42½c; Packed rolls, 32@37½c. Eastern firkin 30@35c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California, new, 10@14c., Eastern, 16@17c.

EGGS—California fresh, 30@35c; Oregon, 30c; California Lard, 11-℔ tins, 14@14½c; Oregon, 14½@15½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $1.50@$2.50; Oregon, $1.25@$2.75; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $25@$45; Lemons, per box, $16; Cal. Lemons, $3@4 per 100; Pears, scarce.

CASE GOODS—In 2 ℔ cans, per doz., Apricots, $4; Apples, $2.50;. Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this department very promising stocks of all kinds are complete, and prices still low. It is thought, however, from the increased acreage under cultivation, and the encouraging prospects of a large crop of cereals, an active demand will undoubtedly follow for all kinds of seasonable goods in this line as the season progresses.

BAGS AND BAGGING—Are in moderate request only, with the exception of wool bags which are in demand. We quote wool bags at 65@67½c. Oat Sacks 23x40, 12½c; 28x35, 18c; Potato Sacks, 17½c.; imitation Dundees, 18@19 c. Standard burlaps, 22x36, 12½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5¼c; Oregon do, 6½c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ₱ ℔; Raisins, layer, $4.25@5.00; Currants, Zante, 11½@12½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 16@16½c; Lard, California, 12½@13¼c; Oregon do, in kegs, 13@14½c ₱ ℔.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]
SAN FRANCISCO, Thursday, Feb. 23.

SOLE LEATHER.—Shipments to the east still continue large, and several tanners have advanced their price one cent per lb.

| | | |
|---|---|---|
| City Tanned | 26 | @29 |
| Santa Cruz | 26 | @31 |
| Country | 25 | @28 |

CALF AND KIP SKINS.—There is no change in French stock, the exportation being extremely light. Domestic skins continue firm, with a tendancy to advance.

| | | |
|---|---|---|
| Best French Calf Skins, ₱ doz | 75 00 | @100 00 |
| Common French Calf Skins, ₱ doz | 35 00 | @ 75 00 |
| French Kips, ₱ ℔ | 1 00 | @ 1 30 |
| California Kip, ₱ doz | 60 00 | @ 75 00 |
| California Calf, ₱ ℔ | 1 00 | @ 1 25 |
| Eastern Wheel Stuffed Calf, ₱ ℔ | 80 | @ 1 00 |
| Eastern Bench Stuffed Calf, ₱ ℔ | 1 10 | @ 1 25 |
| Eastern Calf for Backs, per ℔ | 1 15 | @ 1 25 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50 | @ 13 00 |
| Sheep Roans for linings, ₱ doz | 5 50 | @ 10 50 |
| California Russet Sheep Linings | 1 75 | @ 5 50 |
| HARNESS LEATHER, ₱ ℔ | 30 | @ 37 |
| Fair Bridle, ₱ ℔ | 33 | @ 40 |
| Skirting, ₱ side | 4 50 | @ 4 75 |
| Welt Leather, ₱ doz | 30 00 | @ 50 00 |
| Buff Leather, ₱ foot | 22 | @ 26 |

## San Francisco Market Rates.

### Wholesale Prices.

FRIDAY, February 24 1871

| | | |
|---|---|---|
| Sugar, crushed, ₱ ℔ | 14½ | @ 15 |
| Do. Hawaiian | 9 | @ 12 |
| Coffee, Costa Rica, ₱ ℔ | 19 | @ |
| Do. Rio | 19½ | @ |
| Tea, Japan, ₱ ℔ | 65 | @ 1 00 |
| Do. Green | 60 | @ 1 00 |
| Hawaiian Rice, ₱ ℔ | 8 | @ 9 |
| China Rice, ₱ ℔ | 6½ | @ 7½ |
| Coal Oil, ₱ gallon | 50 | @ 60 |
| Candles, ₱ ℔ | 14 | @ 18 |
| Overland Butter | 30 | @ 35 |
| Ranch Butter, ₱ ℔ | 40 | @ 45 |
| Isthmus Butter, ₱ ℔ | 25 | @ 35 |
| Cheese, California, ₱ ℔ | 9 | @ 16 |
| Eggs, ₱ dozen | 20 | @ 32½ |
| Lard, ₱ ℔ | 14 | @ 15 |
| Ham and Bacon, ₱ ℔ | 14 | @ 16 |
| Shoulders, ₱ ℔ | 9 | @ 10 |

### Retail Prices.

| | | |
|---|---|---|
| Butter, California, fresh, ₱ ℔ | | |
| do. pickled, ₱ ℔ | 40 | @ 50 |
| do. Oregon, ₱ ℔ | | @ 25 |
| Cheese, ₱ ℔ | 20 | @ 25 |
| Honey, ₱ ℔ | 25 | @ 30 |
| Eggs, ₱ dozen | 40 | @ |
| Lard, ₱ ℔ | 18 | @ 20 |
| Hams and Bacon, ₱ ℔ | 22 | @ 25 |
| Cranberries, ₱ gallon | 75 | @ 1 00 |
| Potatoes, ₱ ℔ | 2 | @ 3 |
| Potatoes, Sweet, ₱ ℔ | — | @ 2 |
| Tomatoes, ₱ ℔ | | |
| Onions, ₱ ℔ | 2 | @ 3 |
| Apples, No. 1, ₱ ℔ | 4 | @ 5 |
| Pears, Table, ₱ ℔ | 5 | @ |
| Plums, dried, ₱ ℔ | 10 | @ 12 |
| Peaches, dried, ₱ ℔ | 10 | @ 15 |
| Oranges, ₱ dozen | 50 | @ 75 |
| Lemons, ₱ dozen | 50 | @ 75 |
| Chickens, apiece | 75 | @ 1 00 |
| Turkeys, ₱ ℔ | — | @ 25 |
| Soap, Pale and C. O | 10 | @ 15 |
| Soap, Castile, ₱ ℔ | 18 | @ 20 |

PRODUCE, ETC,

| | | |
|---|---|---|
| Flour, Extra, ₱ bbl | 7 00 | @$7 25 |
| Do. Superfine | 6 00 | @ 6 25 |
| Corn Meal, ₱ 100 lbs | 2 25 | @ 2 50 |
| Wheat, ₱ 100 lbs | 2 25 | @ 2 40 |
| Oats, ₱ 100 lbs | 1 60 | @ 1 75 |
| Barley, ₱ 100 lbs | 1 35 | @ 1 40 |
| Beans, ₱ 100 lbs | 1 87½ | @ 2 50 |
| Potatoes, ₱ 100 lbs | 1 00 | @ 1 75 |
| Hay, ₱ ton | 10 00 | @15 00 |
| Live Oak Wood, ₱ cord | 10 00 | @12 00 |
| Beef, extra, dressed, ₱ ℔ | 8 | @ 12 |
| Sheep, on foot | 2 00 | @ 2 50 |
| Hogs, on foot, ₱ ℔ | 6 | @ 6½ |
| Hogs, dressed, ₱ ℔ | 7½ | @ 8 |

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, Feb. 24, 1871.

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 per ton; Railroad, 60c ₱ 100 lbs.; Bar, 1@1½c ₱ ℔: Sheet, polished, 3c ₱ ℔; common, 1½@1¾c ₱ ℔; Plate, 1½c ₱ ℔; Pipe, 1½c ₱ ℔; Galvanized, 2½c ₱ ℔. | | |
| Scotch and Eng. Pig Iron, ₱ ton | $34 | @$35 50 |
| White Pig, ₱ ton | 32 | @ 33 00 |
| Refined Bar, bad assortment, ₱ ℔ | — 03 | @ — — |
| Refined Bar, good assortment, ₱ ℔ | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ ℔; Pig and Bar, 2½c ₱ ℔. | | |
| Sheathing, ₱ ℔ | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | @ — 22 |
| Composition Bolts | — 21 | @ — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX, ₱ box | 12 00 | @ — — |
| Plates, I C Charcoal | 10 00 | @ 10 50 |
| Roofing Plates | 10 00 | @ 10 50 |
| Banca Tin, Slabs, ₱ ℔ | — — | @ — 42 |
| STEEL.—English Cast Steel, ₱ ℔ | — — | @ — 15 |
| QUICKSILVER.—₱ ℔ | — — | @ — 90 |
| LEAD.—Pig, ₱ ℔ | — 6 | @ — 7 |
| Sheet | — 9 | @ — — |
| Pipe | — 10 | @ 11 — |
| Bar | — 8 | @ — 9 |
| ZINC.—Sheets, ₱ ℔ | — 10½ | @ — 11 |
| BORAX | — 30 | @ — 35 |

### Gold and Legal Tender Rates.

San Francisco, Wednesday, Feb. 23, 1871. Legal Tenders buying @90¼; selling @90¾. Gold in New York to-day 111½.

I. O. O. F.

THE NEW AGE,

A WEEKLY JOURNAL OF SIXTEEN PAGES.

The "Official Organ" of the I. O. O. F. on the Pacific Coast.

Is devoted to Odd Fellowship, the ARTS AND SCIENCES and GENERAL LITERATURE; and as a family paper is not surpassed by any journal in the United States. Subscription price per year by mail, $5. Delivered in the city, per month, 50 cents. Office, Odd Fellows' Hall, 327 Montgomery street, San Francisco. 19v19


## Stolen Land Warrant.

Notice is hereby given, that the undersigned will apply to the Commissioner of Pensions, as the law directs, for the re-issue of Military Bounty Land Warrant, No. 90,783, for one hundred and twenty acres of Land, issued April 28, 1857, to Annie Farnsworth, widow of James Farnsworth, private in the New York Militia, war of 1812; and which said warrant was stolen from the undersigned, in the city of San Francisco; on the nineteenth day of November, 1864; and all persons are cautioned against using or purchasing said stolen Warrant, as such purchase or use will be considered void.

T. HART HYATT.

Dated San Francisco, Cal., Jan. 21, 1871. 4v1-6wr


TRAVIS & WAGNER, 41 First St.-Mill Stones, Bolting Cloths and general Mill Furnishing, Portable Mills of all sizes from 16 to 36 in. None superior manf'd for farmers & ranchmen.


## NOW IS THE SEASON.

Farmers who desire to sow Norway Oats—for seed or hay—should now obtain their seed, and be sure of getting the genuine Ramsdell grain. Those wanting to sow in quantity will find it to their advantage to call on this office as we are now able to make special terms in favor of those who will cultivate extensively this year.


The great objection removed.

ALL POLICIES IN THE

New England Mutual LIFE INS. CO.

are guaranteed against forfeiture by the Massachusetts NON FORFEITURE LAW.

Assets $9,000,000. Incorporated 1835.

EVERSON & MIDDLEMISS, Gen'l Agents.

OFFICE N.E. COR. CAL. & SANSOME STS. SAN FRANCISCO.

1v1-3mr

GAS.

The Pacific Pneumatic Gas Company

Begs to call the attention of the public to its gas works which are suitable alike for domestic, manufacturing, and general uses. Their apparatus is the only one worthy of the confidence of those who desire an economical and brilliant light, with perfect safety from accidents.

These works are in successful use in the following private residences: Gov. Haight, the Encinal, Alameda; H. F. Williams, Esq., South San Francisco; J. R. Arguello, Esq., Santa Clara; A. P. Brayton, Esq., Oakland; O. W. Childs, Esq., Los Angeles; Mrs. Brayton, Oakland; Capt. Wilcox, San Diego; J. P. Jones, Esq., Gold Hill, Nevada; W. B. Isaacs, Esq., Post St., San Francisco; Jos. A. Donohoe, Esq., Menlo Park; M. Schallenberger, Esq., San Jose; Capt Kidd, Stockton; John Parrott, Esq., San Mateo; Col. J. C. Hays, Oakland; A. A. Cohen, Esq., Alameda; A. D. Bell, Taylor street, San Francisco; J. S. Emery Oakland, and Isaac Requa, Esq, Virginia City, Nevada.

Also in the following public institutions: the City and County Almshouse, San Francisco; the County Hospital, Sacramento; the Industrial School, San Francisco; the State Institute for the Deef, Dumb and Blind, Berkely.

Also, the following private institutions: The College of Santa Clara, Santa Clara: the Alameda Insane Asylum; Alameda; and the New Hall and Theater, Petaluma.

Also in the following Mining and Manufacturing works, The Pacific Iron Works, San Francisco; the Chollor-Potosi Hoisting Works, Virginia City; the Eureka Gold Mining Company's Hoisting Works and Mill, Grass Valley, California; the Crown Point Mining Co.'s Mill (the Rhode Island), Gold Hill, Nevada.

Also, in the following stores; E. Cohn & Co., Marysville, Gibson and Cross' (saloon), Gold Hill, Nevada; P. Brown & Bro., Marysville; Wm. Klein, Marysville, J. M. Browne, Gilroy; and N. Wagner & Bro., Marysville.

Also, in the following hotels; Horton's New Hotel, South San Diego; the International Hotel, Virginia City, and the St. Charles Hotel, Carson City.

Also, in large works adapted for town purposes: in the Workshops, Streets and Officers' Residences, at the United States Navy Department, Mare Island.

Pacific Pneumatic Gas Company; office 206 Sansome street, San Francisco. Send for Illustrated Pamphlet and Price List. A. D. BELL, Secretary.

J. W. STOW, President. 1v1-3m-r

MARIPOSA, DEC. 27th, 1870.—Messrs. Dewey & Co. Patent Agents:—*Gentlemen:*—Allow me herewith to tender you my sincere thanks for the efficient assistance you have tendered me in securing my patent and other papers, as well as the promptness and energy displayed by you in our business transactions.

Very Respectfully Yours, JAY. R. PALMER.

## TREES AND PLANTS!

By the 100, 1000, or 100,000, both at

WHOLESALE OR RETAIL,

AT LOWEST MARKET

RATES.

Fruits guaranteed true to name. My stock embraces all the leading fruits of the country from the Apple to the Strawberry—including the

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Also all the leading and favorite

*SHADE AND ORNAMENTAL TREES, SHRUBBERY, VINES AND PLANTS, MULBERRY TREES AND CUTTINGS, AND SILK WORM EGGS, ALSO THE*

Osage Orange Hedge Plant for fencing farms. Patent Grafting wax for top grafting, and the common Grafting Wax for top or root grafting.

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1v1-3mr

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I am thinning out my MULBERRY PLANTATIONS and will sell my surplus trees

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1 year old Mutticauleis $20 per thousand.

2 and 3 yr, old do from $25 to $35 according to size.

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Liberal discount on large orders or to the trade.

### Shade Trees!

The large WHITE AND BLACK Mulberry's are the best shade trees in the State. I will sell well grown trees of these kinds from 12 to 20 feet high, at 25 and 50 cents each.

### Silk Worm Eggs and Silk Manual Free

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1v1-tfr **I. N. HOAG, Sacramento.**

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TAKE NOTICE!

Having a large quantity of fine large two year old

**MULBERRY TREES**

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Good Thrifty Growth,

and well adapted for shade or ornamental purposes or for feeding worms.

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**Landscape Gardener and Nurseryman,**

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—ALSO—

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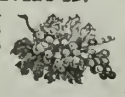
ROSES AND CLIMBING PLANTS.

Gardens and Grounds laid out, and planting superintended. Address, A. D. PRYAL,

3v1-2intir Oakland.

## HOPE VINEYARD. NAPA.



20,000 Cuttings of the best varieties of Foreign Grape Vines for sale by the undersigned, 3½ miles west of Napa.

R. S. THOMPSON.

N. B. Orders left with BROCAS, PERKINS & FRANK, 516 & 518 Sansome street, San Francisco, will receive prompt attention. 5v1-1mr

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100 ACRES OF NURSERY GROUNDS,

well stocked with all the leading and best varieties of Fruit Trees and Fruit Bushes, also, Evergreen and Deciduous Trees and Shrubs, including the rarest of Conifers, can fill all orders on the most reasonable terms, and with dispatch.

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of every variety. Trees and plants securely packed to travel any distance.

FOREST TREES

of Australia, Europe, China and Japan, in fact we aim to have and to get all and everything desirable.

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A choice collection of the most beautiful trees, shrubs, plants etc., to be found in California, suitable for general culture. Evergreen Trees, best standard sorts and fancy varieties; Deciduous and Evergreen Shrubery; Golden and Crimson leafed, and double flowering Geraniums.

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Containing lists o

Stove and

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Hardy Herbacious Plants,

### Dahlias, Gladiolus, Lillies,

and other bulbs, is now ready and will be mailed to all applicants. Address,

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Correspondence solicited, and quotations promptly given. Catalogue and Price List mailed free to all applicants.

☞ Special inducements offered to Market Gardeners.

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The best, most simple and effective mower in use.

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On the Los Gatos Creek 2 miles south of San Jose. This new nursery now contains as fine an assortment

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*FRUIT TREES, ORNAMENTAL TREES, FOREST TREES, NUT TREES, SHRUBS AND PLANTS, AMERICAN, EUROPEAN AND AUSTRALIAN EVERGREENS, AND PALM TREES!*

as any first class nursery in the State of California with this advantage, viz: we have no old scrubby stock to get rid of. Every care has been taken to secure

### iable Standard Sorts,

AND

BEST VARIETIES;

**Proper Training, and Vigorous Growth!**

We invite NURSERYMEN, DEALERS AND PLANTERS, to examine our

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Our large and splendid collection of

NUT TREES,

we deem worthy of special mention. These include 2000 Chestnuts, 1, 2 and 3 years old. 5000 Pecan Nut, 1 2 and 3 years old; Wood very valuable for timber. Butternut, 1 and 2 years old. States Black Walnut, 1 and 2 years old. California Black Walnut, 1, 2 and 3 years old. Hickory Nut. English Walnut, 1, and 2 years old. Sweet Almond. Soft Shell Almond. Paper Shell Almond, etc.

Orders promptly attended to. Address

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1v1-4in3m

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We are prepared to furnish a GENERAL ASSORTMENT of Fruit and Shade Trees at as low rates as they can be sold at any reliable Nursery in California.

Orders solicited from all parts of the Pacific States. All trees carefully labeled and packed in the best possible manner for transportation. A liberal discount will be made on large orders. For further particulars send for catalogue and price list.

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**Grape Vines and Cuttings.**

WE OFFER A LARGE LOT OF THE

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Of suitable size for shade trees.

The Mulberry is the most desirable tree to be had for shade or Ornament, and as rapid growers as the Locust. They are long lived and will flourish on any soil where other trees will grow, and will live in overflowed land as well as the Cottonwood or Willow, and can be used for Silk business if desired and are also valuable for timber.

ALSO,

### THE ELM, ASH AND OSAGE ORANGE,

All very desirable Trees for shade and ornament.

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Of all the choice varieties of Foreign and California, or Mission. Mulberry trees can be supplied by the 100 or 1000 to the trade at low prices.

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*FRESH SEEDS OF ALL VARIETIES FOR THE FARM AND GARDEN, ADAPTED TO THE PACIFIC COAST.*

All our seeds are warranted good and true to name, and are sold at lowest rates both at WHOLESALE AND RETAIL. A liberal reduction to the trade and those buying in large quantities. We are determined to

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Among our stock will be found all valuable kinds of Garden, Field, Flower, Herb and Tree Seed. Also 30,000 lbs. Alfalfa, of California growth. Red and White Clover, Timothy, Red Top, Blue Grass direct from producers in Kentucky, &c., &c.

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THREE DOLLARS PER POUND.

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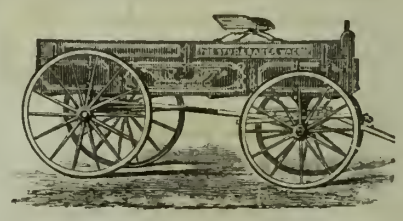

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For Cotton, Wheat, Corn, Grapes, Oranges etc. The "Abel Stearns Rancho," 200 square miles in sections, quarter sections, etc., on Government system of survey, forming blocks one mile square, with road on each side, fronting on the ocean; the Railroad to San Francisco to pass through them; the unsold portions subdivided, for sale on long credit, or rent. The famous Anaheim is on this tract. For Maps, Circulars, etc., apply to B. F. NORTHAM, 432 Montgomery st., San Francisco, or TIMO. LYNCH, at Anaheim and Los Angeles. 1v1-3mr

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**Light Brahmas,** the largest and best bred stock in America.

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**Pigs.**—White Chester, White Suffolk.
LOP EARED RABBITS.

Nothing sent C O D.

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**Light Brahmas and White Leghorn's,**

A few trios for sale. Also 3 very choice young HOUDON COCKS.

**EGGS**

for hatching from the following Breeds:

Light Brahmas,
Dark Brahmas,
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Buff Cochins,
Bl'k African Bantams,
White Leghorns,
Aylesbury Ducks.

**NICHOLS & WILLARD,**

Importers and Breeders of Choice Poultry.
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Patented May 17, 1870.

Has taken the premium at all the State Fairs East of the Rocky Mountains.

The Greatest Labor Saving Machine of the Age

*Warranted to make Butter in from Three to Five Minutes.*

It is self-cleaning, requires no scrubbing.

100 JUST RECEIVED.

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| Dyspepsia with 8 Remedies | $1 50 |
| Piles " " " | 1 50 |
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Each of the above little works contain a plain account of the diseases named, and their proper treatment, by Homœpathic remedies.

A neat case containing the remedies, and including the book, will be sent carefully packed, by mail, to any address on receipt of above prices.

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**Best Furnished House in this city.**

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Dealer in improved and unimproved Farms, Grazing and Timber lands. Particular attention given to procuring small Farms and Homesteads for purchasers. claims for pre-emptors &c., in every part of the State.
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## LYON & BARNES,

Successors to LYON & SON, dealers in Produce Vegetables, Butter, Eggs, Green and Dried Fruits, Cheese, Poultry, Honey, Beans, etc., etc.
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1871. 1871.

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*The only Literary Magazine*

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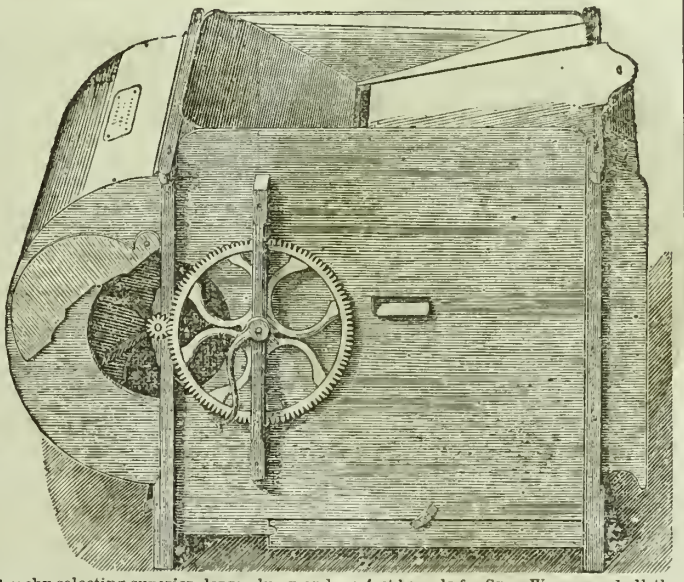

THE undersigned having purchased of the Patentees, WIRTS & SWIFT of Hudson. Michigan their right to this mill Patented June 22d, 1869 for California, Oregon, Washington Territory, Montana, Utah, New Mexico and Arizona, wishes to call the attention of FARMERS, MILLERS AND GRAIN DEALERS to one of THE GREATEST IMPROVEMENTS OF THE AGE for cleaning and separating grain. While it combines all the essential qualities of a first-class FANNING MILL, it also far excels anything that has ever been invented for the separation of grain. It has been thoroughly tested on all the different kinds of mixed grain, separating all the different seeds in almost a magical manner, placing them in their different compartments in the mill arranged for their reception, at the same time taking out all the *Mustard, Grass Seed, Barley and Oats*, and making two distinct qualities of wheat if desired, thereby selecting superior, large plump and perfect kernels for SEED WHEAT, and all the small and cut kernals, such as merchantable wheat, is deposited in another compartment. By the use of this Mill a great quantity of wheat usually sown that has been cleaned in the common mills will be saved to the farmer, as the cut or shrunken kernals will never germanate.

The above mentioned Novelty Mill is the only mill known to possess all these superior qualifications, and was exhibited and tested at the last Michigan State Fair held at Jackson, Michigan, September 21, 22, and 23, 1869, and bore away the palm over some thirty other different mills from all parts of the United States, including the famous Dicky Mill of Racine, Wisconsin. All who have witnessed here the operations of the NOVELTY MILL, declare it perfection, and the most beneficial invention to the Farmers, Millers, and Grain Dealers ever introduced on the Pacific Coast. The farmers in Santa Clara County, are loud in its praise, and also in other parts of the State where it is being introduced. No. 1 Mill, complete, is capable of cleaning 25 tons of grain per day; No. 2 Mill, 15 tons; No. 3. Mill, 8 tons. A large number of recommendations and certificates of the practical working of the mill will be furnished, Circulars containing references sent free by mail. N. B. Town, County, or State Rights for sale on favorable terms. For further particulars apply to
11v21-3m **R. STONE. 422 Battery Street, San Francisco.**

## Crandall Patent Spring Bed,

Received Premium for best Spring Bed at the State Fair and was on exhibition at all of the District Fairs in this State.

**IT EXCELS**

IN

**Lightness, Cleanliness, Elasticity and Durability,**

**Any other Spring Bed Ever Invented.**

Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

Manufactory—123 Front street, near corner of M, Sacramento.

**COOLEY & GREEN, Proprietors.**

## THE NEW TYPE

ON WHICH

**THE PACIFIC RURAL PRESS**

is printed, is from the

CALIFORNIA TYPE FOUNDRY,

**405 and 407 Sansome St.**

**GEO. L. FAULKNER, Agent.**

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## To Amateur Printers:

We have for sale in the PRESS office, one of Lowe's cheap hand Presses, which we will sell for $25, one half cash down, and the balance to be paid in 30 days, or the Press returned in good order. A handy article for a country office, which has no small job press.

## THE MASONIC MIRROR

Is the only Masonic Publication on the Pacific Coast. The Second Volume is published weekly, in the popular and beautiful form of a

**QUARTO-MEDIUM SIXTEEN PAGE PAPER**

AND IS A FIRST CLASS

Literary and Family Newspaper,

AS WELL AS THE

**Organ of the Masonic Fraternity on the Pacific Coast.**

ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

**TO ADVERTISERS.**

The MIRROR presents the best Advertising medium on the Pacific Coast, as it circulates in every town and hamlet, and among a class of citizens that it will be of advantage to advertisers to reach.

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| One Square per Month | 2.00 |
| Quarter Column, " | 5.00 |
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| One Column, " | 20.00 |

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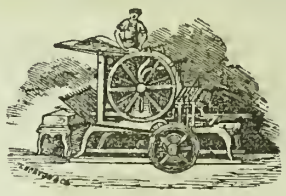

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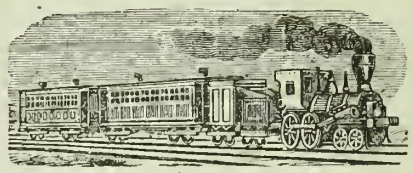

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Executed correctly and with dispatch.

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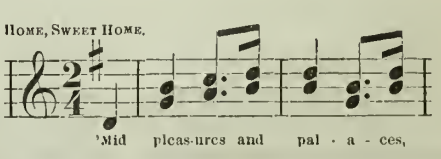


## "Live and Let Live,"

Is a good old adage, and we shall adopt it as our own. We do not pretend to do work at "less than cost," as some people advertise to do; but we do claim to do all kinds of printing as cheap as it can be done on this Coast—and we believe as cheap as it is DONE in Chicago. Customers, in the country or city, are invited to call in person at our office, or send their orders by mail or express, and they will be fairly dealt with.

**SPAULDING & BARTO.**
Scientific Press Office,
San Francisco.

## What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—*San Jose Ind.*

The first No. evinces marked editorial ability.....Fills up a vacancy that has been felt in our agricultural department. ...With its publishers there is no such word as fail.—*Mt. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, $4.—[*Sonora Dem.*

It is a work which no farmer should be without.—[*Yreka Union.*

An admirable specimen both as to execution and contents. ... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—[*Stockton Daily Ind.*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—[*Encinal Alameda.*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life."—[*Encinal.*

They can, if they will, make it a creditable work. [We will that.] It opens well.

Excellent paper and type—and a first-class agricultural journal.. .Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—[*Vallejo Recorder.*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—[*Arizona Miner.*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—[*Idaho Statesman.*

Just the kind needed on this coast, and merits an extended circulation.—[*Red Bluff Independent.*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation....

Is running over with entertaining and instructive reading matter, and embellished with numerous engravings.

The heading is beautiful and appropriate.—[*Pajaronian.*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press.*

If the first number is to be taken as an earnest of what will follow, each week, we can advisedly say to all interested in agricultural pursuits..subscribe.—[*Vallejo Chronicle.*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—[*Evangel, S. F.*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the hill.

We notice that I. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—[*Yolo Mail.*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unchasteness in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press"—which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—$4 a year; or to a club of 10 or more, $3. Sample copies sent on receipt of a postage stamp.—["Alpine Miner."

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—[Democrat, Downieville.

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—[Alpine Chronicle.

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—[Christian Advocate, S. F.

It will represent the agricultural interests of California and the Pacific Slope. * * * With so much ability as to command a wide circulation and influence.—[Helena, (M. T.) Gaz.

Will he found worthy the patronage of the people of this State.—[Argus, Snelling.

We heartily welcome the new publication.

The interests of our own county are about equally divided between mining and farming.

Not a farmer in it, however well informed, but may learn something of value pertaining to his business, from an ably conducted paper, specially devoted to the consideration of the peculiar conditions of soil, climate and seasons of the Pacific Coast.

From the well known ability and energy of the publishers, we doubt not that the "Rural Press" will fulfill all these conditions.—[Inyo Independent.

FROM A CORRESPONDENT.—I have seen your "Pacific Rural," and I never tire of looking at and studying its "head and front." It is a *taking* picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

---

SUCCESS IN BUSINESS.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALD'S BUSINESS COLLEGE, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and HEALD'S COLLEGE JOURNAL, which will be sent free upon application. Address, E. P. HEALD, President, business College, San Francisco, Cal. 1v1-3msnr

# New Advertisements.

*No quack, indelicate or other disreputable notices will be accepted. All advertisements in this paper appear in our monthly edition and bound volumes of the Pacific Rural Press for Railroad Depots, Steamboats, Hotels, and other free reading Rooms.*


MILLER & CO.,

**Wool Commission Merchants,**

10 DAVIS STREET, SAN FRANCISCO.

Doing Business exclusively on Commission.
All Lots carefully examined before naming price to Purchasers.
Consignments insured and handled in wool rooms under our own supervision.

**THE BEST WOOL SACKS AND TWINE Furnished Consignors.**

N. B.—Mark M. & Co. with your initial letters on each package. fe25-tf

Sonora Hotel,

T. BRODIGAN,.....Proprietor.

Best Meals and Beds in Sonora, Cal. fe25-3m

E. J. FRASER, M. D.,

Operative Surgeon and Homœopathic Physician,

No. 108 Stockton Street,.....San Francisco, Cal.

Poultry Yard, N. and Castro Sts., W. cor. Sixteenth OAKLAND.

BAKER & HAMILTON,

IMPORTERS AND DEALERS IN

ALL KINDS OF

FARMING

**IMPLEMENTS AND MACHINES, PORTABLE STEAM ENGINES, HARDWARE,**

Would call the attention of Farmers and Dealers in Agricultural Implements to their very extensive stock for the trade of 1870-1871,

CONSISTING OF

**Plows, Harrows, Cultivators, Horse Hoes, Gang Plows, Seed Sowers, Buckeye Grain Drills, Hill's Cal. Sowers, Hay Cutters, Seed Cleaners, Grist Mills, Barley Mills, Cider Mills, Fan Mills, Grape Crushers, Mow-**

ers, Reapers, Headers, Header Wagons, Threshers, Wheeled Rakes, Hay Presses, Rubber Belting, Leather Belting, Baling Wire, Baling Rope, Nails, Shovels, Bolts Rivets, etc., etc. Orders by mail or Express will receive prompt attention. BAKER & HAMILTON,
Nos. 9, 11, 13, and 15, J street, Sacramento,
1v1-3mr Nos. 17 & 19 Front st., San Francisco.

THE CHEAPEST

**Agricultural and Horticultural Journal In the United States.**

**The Journal of the Farm,**

**16 Large Octavo Pages.**

*HANDSOMELY ILLUSTRATED,*

**Price one Dollar a Year.**

CLUBS OF 20 - - - - - - - - FIFTY CENTS.

**ADVERTISERS**

Are informed that its circulation is larger than that of any other paper of its class published in the state of Pennsylvania.

*Address* *JOURNAL OF THE FARM.*
20 S. Delaware Avenue, Philadelphia,
24v21-tf 230 S Water Street, Chicago.


MILLVILLE, CAL., FEB. 9TH, 1871.—DEWEY & CO: Inclosed find a $5 greenback for the RURAL. As long as you publish as good a paper as the first No. indicates, consider me a life subscriber. I would like to begin with the first number.
Yours, W. A. S.

The Pacific Rural Press is meeting with Popular Success. New correspondents are coming to its aid and its patrons are increasing from various sections at home and abroad. Testimonials of the great value of its timely and fresh information are daily received, and we now know that we can and shall publish and maintain a first-class agricultural journal of great profit to every reader and of essential benefit and importance to the community of the Pacific Coast. Subscription, $4.


PACIFIC RURAL PRESS
BY
DEWEY & Co
PUBLISHERS SAN FRANCISCO
A FIRST CLASS
Agricultural Home Journal

**SUBSCRIPTION IN ADVANCE.**

| | |
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| One copy one year | $4 00 |
| One copy six months | 2.50 |
| One copy three months | 1.25 |
| Single copies | 10 |

**CLUB RATES.**

Ten copies or more, first year, each..... $3.00
[A free copy or premium sent to getter up of club.]

A select variety of advertisements only will be inserted. Circulated widely among the most thrifty of our population, the P. R. P. will be the cheapest and most effective medium for a large range of first class advertisements in the Pacific states.

Correspondence is respectfully solicited from every worthy source.

LOCAL CANVASSERS WANTED for every town, city and county. Special inducements offered.

Parties desiring to get up clubs or act as agents, will be furnished sample copies and prospectus free.

DEWEY & Co.,
Publishers Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

**ADVERTISING RATES.**

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| One-half Inch | $ 1 00 | $ 3 00 | $ 6 00 | $ 20 00 |
| One inch | 2 00 | 5 00 | 10 00 | 36 00 |
| Two inches | 3 75 | 7 00 | 18 00 | 70 00 |
| Three inches | 5 25 | 12 50 | 27 00 | 105 00 |
| Four inches | 6 75 | 16 00 | 36 00 | 140 00 |
| One-fourth column | 6 00 | 12 00 | 28 00 | 100 00 |
| Half column | 12 00 | 20 00 | 54 00 | 200 00 |
| One column | 20 00 | 40 00 | 100 00 | 400 00 |


## TO CLUBS.

Send in your subscriptions as fast as obtained. After the first ten names have been paid for, others can be added within any reasonable time, thereafter on the same terms. Clubs may be composed partly of names for RURAL, and partly for SCIENTIFIC PRESS. Blanks and extra copies furnished when desired.


**HINTS FOR INVENTORS.** We will send on receipt of stamp for postage FREE, our 48 page Circular, containing 112 Illustrated Mechanical Movement; a digest of PATENT LAWS: information how to obtain patents, and about the rights and privileges of inventors and patentees; list of Government fees, practical hints, etc., etc. Address DEWEY & CO., Publishers and Patent Agents, San Francisco.


**Send us Communications.**—They will be respected. If you have not time or the experience to write finished articles, send us facts brief and plain. We will take care of them. Remember that writers improve themselves with others by use of the pen. Officers of societies, clubs and meetings, please report.

**Our Printed Mail List** notifies subscribers when their term expires, the last figures on the label signifying the year. We wish to be notified at once if any errors occur in names or dates.

**Thursday Noon** our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

**Our General Agent at Sacramento.**

Mr. I. N. HOAG, at the office of the State Agricultural Society, in the Pavilion, corner of Sixth and M streets, in the capital city, is our duly authorized agent for receiving subscriptions, advertisements, and receipting for the same.

**Mr. S. H. Herring,**

Our valuable agricultural correspondent during the past year, will continue to travel, and will report for the PACIFIC RURAL PRESS.

**Eastern Travelling Agent.**

WM. H MURRAY, our active and valuable agent and correspondent, is now on his way East, and will look after the interests of our papers in the Western and Eastern States.

**L. P. McCarty,**

Is our live California travelling agent and correspondent.


**Douthett's Patent Double Motion**

DASH CHURN.

**Making Butter in from 6 to 10 Minutes.**

**The only really useful and practical**

CHURN

Ever Offered to the Public.

The old style of DASHER CHURN always had the preference over all others, and with this simple and

practical attachment, now stands WITHOUT A RIVAL At the East it is rapidly taking the place of the

Thermometer and Cylinder Churn,

and its sales are enormous. Having bought the

**Right for this Coast,**

we are now prepared to furnish either large or small

CHURNS AND CASTINGS

as may be desired. We manufacture six different sizes of churns and the small casting can be applied to the three smaller sizes, and the large one with the frame and balance wheel to the three larger ones.

**WE CHALLENGE COMPETITION**

in this churn and invite any one needing a good churn to examine and try this one before purchasing elsewhere.

The gearing is all simple, leaving nothing to get out of order; the dasher is easily removed by simply opening or removing the guide holding it in its place, leaving the churn

ENTIRELY CLEAR OF ANY OBSTACLE.

In fact, it is the only churn that ever has been offered which is ENTIRELY

FREE FROM ANY OBJECTION,

and we offer it as the

**Best Churn in Existence.**

No. 1 Churn holds 2 gallons;
2 do do 3 do
3 do do 6 do
4 do do 8 do
5 do do 13 do
6 do do 22 do

E. K. HOWES & CO.

Nos. 118, 120 and 122 Front Street, San Francisco, C l
1v1-eow3mr

PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, MARCH 4, 1871. [Number 9.

## A Family Scene in Pompeii.

Sixty-three years before Christ, a violent earthquake shook the city, ruined many of the buildings and drove almost everybody from the place. The people returned after awhile and went vigorously to work to rebuild the city. Very much had been done, temples had been finished, private residences completed, business and pleasure had resumed full activity. A crowd was assembled in the amphitheater on November 22d, 79, to witness a gladiatorial display, when there occurred a terrible eruption of Vesuvius. A deluge of dust is thrown over the city. The people rush hither and thither, some out of the city, some to seek shelter in the shops, under the theaters and in underground retreats. But there comes a deluge of fiery stones and ashes which fills the streets, breaks down the roofs, enflames the houses, and when the eruption had ceased, the city was buried.

Some attempts were made to recover valuables by excavating, and the Emperor Titus sent senators to see whether the city could be restored, but nothing of importance was accomplished and gradually vineyards, orchards, gardens and forests covered the ground and Pompeii was forgotten for centuries. In 1748, some vine-dressers, in digging, unearthed statues, and excavations were made, but it was eight years longer before any one suspected that it was Pompeii that was being exhumed. The work was carried on slowly and with interruptions, until, in 1860, it was resumed with activity, and since then very much has been accomplished. Pompeii is again being brought out to the sight of man, and about one-third is now unearthed. In these excavations, not only are the buildings exposed and the various household utensils, etc., etc., discovered and saved, but even the bodies of the inhabitants or rather the forms of their bodies. The smaller articles, which might be stolen, are placed in a museum at Naples.

A number of years ago, a Belgian artist, Coomans, visited the place and was so struck with its beauties that he devoted himself to delineations of antique life. A copy of one of his most charming works is here given. He has examined the city and the Museum at Naples, and has thus been enabled to re-construct a scene as well as if from actual life. One or two points illustrated by this picture, may be spoken of here.

The dress of the women, as can be seen, was of a rather light description. The complete costume consisted of three parts, a simple shift, worn next the skin, a tunic, sometimes with short sleeves, which, however, generally covered only the upper part of the arm and were not sewn together but fastened over the shoulders by means of clasps, and a long flowing outside garment for wear out of doors. The tunic was confined around the waist by a band, which was concealed from view by the folds of the upper part of the garment. That of the lower classes reached only to the knee, showing the ornaments on the legs; but the higher classes wore tunics reaching to the feet. Sandals were worn in the house, and bootees in the streets, both being often of bright colors and highly ornamented.

Fine long hair was highly prized. There were various methods of dressing it. The simplest way was in smooth braids with a knot behind, but sometimes a storied edifice was used. To keep the hair in place, bands and pins were used. Often at night, or when busied with household affairs, nets, frequently of gold thread, were employed. Ornaments were worn in the hair, on the arms and neck and even on the legs. The Pompeiian ladies seem to have been very fond of ornamentation of their persons. Evidently the dress of the children was very simple.

The houses were sometimes finely decorated with pannellings. Carpets were not used, but we see here a tesselated pavement. The household utensils were varied in form, often of the most complex and beautiful manufacture. The engraving shows a handsome condelabra on the table and one on the floor near the fountain.

By examining the engraving other points in the domestic economy of the ancients will be discovered, but we have no space for further description. Our engraving is not taken directly from the original painting, but from one of Prang's fine chromolithographs. This and other chromos can be obtained of Messrs. Snow and Roos, 21 Kearny street, San Francisco.

A FAMILY SCENE IN ANCIENT POMPEII.—BY P. O. J. COOMANS.

## Ramie.

Much has been said of late about certain machines which have been invented in the East, for the preparation of the fible of ramie for the market, which renders it easy and cheap; but nothing of the kind has yet been seen on this coast. Under these circumstance several parties interested in the cultivation of the plant, in Alameda county, are said to have combined and sent a gentleman—Mr. Gilbert Lyman—to New Orleans, to personally examine the machines and look carefully into the method and success of their operations, and report to his correspondents here. Mr. L. has sent back the following report:—

I found Lefranc's machine at work on the stalks of Ramie raised in Louisiana. It turns 600 pounds of clean new fibre per day—doing its work with ease and perfection; I send you samples. This is an improvement on the first machine by this maker, and they cost more. The price is $500, if boxed for shipment. It goes by hand or steam power. It has made a revival of interest among the planters, and there will be a large increase of production.

Mr. Lyman advises the Alameda farmers to cultivate ramie as extensively as they can, expressing the opinion that when they have the machine, they can make money faster than by any other crop. The plant may be cleaned in the field, where it grows, and it is calculated that from and after the second year of its growth, it will yield two tons to the acre, valued at from $75 to $100 per ton. The inducement held out is certainly a large one; but we should not advise any one to go very extensively into the speculation, until a machine is put up in this State, and its practicability fully demonstrated here. We have suggested several times that those persons extensively engaged in cultivating the plant for sale, for propagation, should unite in purchasing a machine for this State by which an occular demonstration may be given *here*. When that is done we shall take much pleasure in making the fact known. If such an experiment should prove successful we see no reason why the cultivation and preparation of ramie should not become an important industry in this State. There is no question about the demand for the staple, both at home and abroad.

---

THE CORN CROP OF TENNESSEE, for 1870 is set down as an average of 20 bushels per acre; the potato crop is put down at an average of 50 bushels.

## MECHANICAL PROGRESS.

THE BARRON STEEL-MAKING PROCESS.—Of this Dr. Newberry says: "This is a new method, and one perhaps not yet beyond the condition of an experiment, but it has at least sufficed for the production of steel of as fine a quality as has ever been made by any other means. The whole process consists in *exposing malleable iron to the action of gaseous hydro-carbons* at a temperature just below that of fusion. Under these circumstances the iron rapidly and regularly absorbs the carbon of the gas, and becomes steel. *By the Barron process, shapes of iron are converted into steel without change of form*, and this is the most satisfactory application of it I have seen. For example: *tools* or implements of any kind may be moulded and cast, these shapes made malleable by the ordinary process, and then, by impregnation, *converted into steel*, coming out as scissors, knives, axes, or other implements of the very best quality, with no forging whatever. Whether this method is capable of effecting cheaply the conversion of large masses of iron, is not yet demonstrated, though it is claimed; but from the fact that a piece of iron may by this means be covered with a sheet of enamel, or coated with a layer of any desired thickness of steel, while yet retaining all the toughness of its iron core, and that by a coating of clay, the absorption of carbon may be limited to any portion of the surface acted upon, it is evident that this method is destined to have extensive application in the arts. The quality of steel made by this process is such as leaves nothing to be desired. With tailors' shears, cast in form, made malleable, and then converted by the Barron process, I have cut Florence silk so nicely as to prove the edge perfect; then with these same shears have cut up sheets of tin and untempered steel; returning to the silk have found the edge wholly unimpaired, and this after a repetition of the trial more than twenty times."

FOUR-CYLINDER LOCOMOTIVE WITHOUT OSCILLATION.—At a meeting of the London Institution of Civil Engineers, Jan. 24th, W. B. Adams read a paper upon "Train Resistance on Railways." *Engineering* gives an abstract, from which we quote: "A new class of engine, adapted to give great increase of power and steadiness, was described, in which four cylinders might be used without causing oscillation. The engine had eight driving wheels, the four central flanged, with a sufficient length of wheel base for steadiness, and the end wheels with plain tyres, adapted to run without flange friction round curves of 3 chains radius. The cylinders were placed at the central length of the frame, equidistant between the four wheels—two on each side, one under the other; the two pistons on each side working in opposite directions, and thus neutralising oscillation, each piston working a pair of coupled wheels. The engine might be worked by one set of eccentrics on the forward axles, but in case of an irregular slip of the wheels interfering with the due entrance and exit of the steam, eccentrics could be used to each pair of cylinders, and either pair have the steam shut off at pleasure, by the driver on the foot plate, when the full power might not be required. An express engine on a similar plan might have the four end wheels drivers, and the four central wheels sliding laterally to suit curves."

ENGLISH VS. AMERICAN WOOLENS.—A *Tribune* correspondent gives the reason why the first hold color best: "The fatty matters in the pores of the wool or adhering to its fibers cannot be completely removed at one operation, even by the best chemical agents known to the trade; and, as my informant describes it, the practice abroad is to keep wool for first-class goods three years, giving it a cleaning process once each year. In this way the fatty matter on the surface of the wool is eliminated by the first cleansing process; that which gradually exudes during the first year, by the second cleaning; and so on till the whole is finally removed, and the wool left in a condition to take the dyes well, and also to become thoroughly shrunken before being made up. On the other hand, as the American manufacturers do not thoroughly cleanse their stock, the fatty matter left therein not only prevents the complete penetration of the dye, but renders it impossible to fully shrink the goods made therefrom."

NAYLOR'S CONTINUOUS BRAKE.—London *Engineering* speaks of this as one of the most promising devices yet. It is about to be applied on the London & Dover Railway. We quote:—"Mr. Naylor fits each brake carriage with a long brake lever fixed on the weigh shaft which carries the arms by which the brake blocks are applied. This long lever is, when the brake is out of action, held up by a chain, which passes under a pulley at its extremity, this chain extending throughout the train, and being kept taut by suitable appliances. On this chain being slackened, the long lever falls partly on account of its own weight and partly because it is pressed down by the action of a spiral spring. * * The chain which holds up the levers can be released with great promptness by simply slackening a brake applied to the drum on which it is wound, and this being done the brakes go on throughout the train one after the other as fast as the chain can run out, and under the influence of the springs this is very fast indeed. Of course in the event of the train parting, the brake chain is broken, and the brakes brought at once into action, so that if the breaking away occurs on an incline the brake will be applied before the hind part of the train has time even to commence running back. In this respect Mr. Naylor's arrangement possesses a decided advantage over those in which it is necessary that the train should run a certain distance before the brake blocks are applied. For tightening the chain, and thus taking off the brake, Mr. N. employs several arrangements, according to circumstances."

THE SHERMAN IRON PROCESS.—We have before spoken of this. London *Engineering* for Jan. 27th has a second article upon it, giving its rationale, and stating that further experiments have been successful, especially in the puddling of iron. We quote:—"The Sherman process consists in the application of iodine, for the purpose of removing sulphur and phosphorus from the iron. The specification of Mr. Sherman's patent is very well worded, and covers all forms and methods by which a metallurgist can directly or indirectly apply iodine for effecting the purpose in view. The rationale of the process, however, is not given in the specification, nor is it readily perceptible on the face of any description of the process itself, particularly when the smallness of the quantity of iodine employed by Mr. Sherman is taken into consideration. It appears, however, that an indirect action may take place between the phosphide of iron in the liquid metal, and the free iodine in contact with it, by which a combination of iodine and phosphorus is formed. This new compound is readily decomposed by contact with the atmosphere, or with additional quantities of phosphide of iron, and the iodine leaves the phosphorus in the amorphous state, in which it seems to be unable to combine with the iron, but is readily burnt, and escapes as vapour or phosphorous acid with the flame. The property of iodine to render phosphorus amorphous is well known, and the action upon the phosphorus combined with the iron may be analogous to this interesting reaction of the two elements upon each other."

EFFECT OF COLD UPON IRON AND STEEL.—A series of papers have been read before the Manchester Philosophical Society, upon the question of the effect of intense cold upon the strength of iron and steel, and the results show that the cold has no appreciable effect. Mr. W. Brockbank collated the results of experiments made by various persons. Similar bars were tested whilst frozen, and after having been thawed and allowed to cool to the ordinary temperature. The frozen bars were more crystalline, and showed no sign of fiber, whilst those thawed show a good amount of fiber, and were slightly crystalline. Dr. Joule has made a series of experiments upon the subject, which result in the general conclusion that frost does not make either iron (cast or wrought) or steel brittle, and that accidents arise from the neglect of the companies to submit wheels, axles, and other parts of their rolling stock to a practical and sufficient test before using them. The experiments by Mr. P. Spence, which form the subject of another paper, showed that reduction of temperature, other things being equal, increases the strength of cast-iron. *Lond. Min. Journal, Jan.* 28.

THE GLUE WORKS at Peabody, Mass., cover 33 acres of ground and produce about 2,260,000 lbs, per annum, mostly of cabinet and the higher grades of glue.

## SCIENTIFIC PROGRESS.

MIVART ON THE GENESIS OF SPECIES.—This new book is reviewed in *Nature* for Feb. 2d by Alfred W. Bennett. We have space only for a brief notice of this review. Mr. Bennett names the objections brought forward by the author against the theory of Natural Selection, and dwells for a time upon those most fully worked out in the book. He remarks that "hitherto the attention of those naturalists who have concerned themselves with the intricate problems of organic life, has been directed almost exclusively to the animal kingdom;" while he believes that on the contrary more light will be thrown upon them by a consideration of the phenomena of the vegetable kingdom. "Plants have less power of adapting themselves to new conditions; their locality and their food are prescribed for them by the circumstances of their birth; here therefore we might expect to find the rule of survival of the fittest to reign supreme." Mr. Bennett closes thus: "The present state of the argument we take to be this:—The theory of Natural Selection, in the hands of Mr. Darwin and Mr. Wallace, afforded a simple, a beautiful, and a valid solution of the origin of a large number of the organic phenomena by which we are surrounded; by many disciples of Mr. Darwin it has been assumed, perhaps too rashly, as adequate to account for the entire evolution of all the existing forms of animal and vegetable life from one or a few primordial germs. To this idea, so seductive in its very simplicity, a number of more or less cogent objections have now been urged. It is possible that on still closer examination, these objections will be found to break down; but in the meantime we must suspend our judgment; and in order to save defeat, the next move must be made by the advocates of Natural Selection, a *prima facie* case against them having at all events been made out. Mr. Mivart has no counter theory to propose, beyond a belief that there exists in all organic life an innate power analogous to intelligence, which controls their actions as reason does those of men. Should the inquiries which are now being energetically pursued on every side result in our acquiring more accurate knowledge of such force, it will be safe to predict that to it will then be ascribed a more easy and natural solution of many phenomena which we are now forced to attribute to Natural Selection."

"BALL LIGHTNING."—A paper was read, Jan. 12th, before the Royal Society, by C. F. Varley, in which were detailed some new electrical experiments. One of these, which the author thinks may afford an explanation of the phenomenon known as "ball lightning," we copy,—premising that a Holtz machine was used, and that the brass balls on the poles were about an inch in diameter:—"Tie to the negative pole a small thin strip or filament of wood three inches in length, and bent so as to project on each side of the negative pole, and a little beyond it towards the positive. On rotating the machine, two bright spots are seen upon the positive pole. If the positive pole be made to rotate upon its axis, the luminous spots do not rotate with it; if, however, the *negative pole*, with its filament of wood, be rotated, the spots on the *positive pole obey it*, and rotate also. The insertion of a non-conductor, such as a strip of glass, in front of the projecting wooden end, obliterates the luminous spot on the positive pole. When the author first discovered this, he, seeing apparently pieces of dirt on the positive pole, wiped it clean with a silk handkerchief, but there they remained in spite of all wiping; he then examined the negative pole, and discovered a minute speck of dirt corresponding to the luminous spots on the positive pole. When the filament of wood is removed from the negative pole there is sometimes a luminosity or glow over a large portion of the surface of the positive ball. If in this state three or four little pieces of wax, or even a drop or two of water, be placed upon the negative pole, corresponding non-luminous spots will be found upon the positive pole, which rotate with the former, but do not with the latter. It is therefore evident that there are lines of force existing between the two poles, and by these means one is able to telegraph *from* the negative *to* the positive pole to a distance of eight inches through the air, without any other conductor than that which the electrical machine has constructed for itself across the non-conducting gas. The foregoing seems to the author to give a possible explanation of "ball lightning;" if it be possible for there to be a negatively electrified cloud sufficiently charged to produce a flash from the earth to the cloud, a point in the cloud would correspond to the wood projection on the negative conductor; if such a cloud exist, a luminous spot would be seen moving about the surface of the earth, corresponding to the moving point of cloud over it, and thus present phenomena similar to those described by the privileged few who have witnessed this extraordinary natural phenomenon."

CONTINUITY OF THE CHALK.—The following is the concluding paragraph of an article in *Nature* by Wyville Thompson, whose remark that "we may be said to be still living in the Cretaceous epoch" has been objected to by Sir Chas. Lyell:—"Sir Charles asks if we have dredged belemnites, ammonites, baculites, hamites, turrilites, &c.,; that question is, I think, best answered by the record of the old Cretaceous beds themselves, which are scarcely more remarkable for the presence of these singular and beautiful forms than for their rapid extinction. According to the view which I have felt myself compelled to adopt, the various groups of fossils characterising the Tertiary beds of Europe and North America represent the constantly altering fauna of the shallower portions of an ocean whose depths are still occupied by a deposit which has been accumulating continuously from the period of the pre-Tertiary chalk, and which perpetuate with much modification the pre-Tertiary chalk fauna. I do not see how this view militates in the least against the "reasoning and classification" of that geology which we have learned from Sir Charles Lyell. Our dredgings only show that these abysses of the ocean which Sir Charles Lyell admits in the passage quoted above to have outlasted on account of their depth a succession of geological epochs, are inhabited by a special deep-sea fauna possibly as persistent in its general features as are the abysses themselves."

BASTIAN REPLIES TO FRANKLAND.—In our issue for Feb. 18th we gave the result of an experiment by Dr. Frankland to disprove Dr. Bastian's conclusions in regard to the production of organisms from unorganized matter. Dr. B. replies, in *Nature* for Jan. 26th, that the experiment proves nothing, —the conditions not being the same with those under which his own were made. The time, the temperature, the solution, and probably the character of the glass used, were all different. There was in his own case no internal corrosion of the tubes. Moreover, portions of the *pellicle* were used by him for microscopical examination,—not portions of a "flocculent sediment." He closes thus:—"Perhaps I may venture to recommend Dr. Frankland to destroy the other two tubes which are corroded, as being worthless, and to hope that in any future experiments, he will subsequently expose his fluids to a somewhat higher temperature, and also, before immersing his experimental tubes in any fluids, that he will thoroughly satisfy himself as to the transparency of such fluids to the actinic or chemical rays of light. We are informed that his tubes were 'exposed to bright diffused daylight, and sometimes to sunlight,' but any amount of exposure to light would be more or less useless if strong sulphuric acid and strong carbolic acid are as black to the chemical rays of light as nitrite of amyl and other fluids have been shown to be. Dr. Frankland makes no statement concerning this very important point."

ACOUSTIC STUDIES OF FLAMES.—This is the title of an article in a late number of *Poggendorff's Annalen*, by E. Villari. The author found that the tone of a vibrating tuning-fork was reinforced when brought near to a large gas-flame. When the flame, which was thus thrown into sympathetic vibration, was looked at through radial slits in a rapidly revolving opaque disc, it was found that, if the rate of rotation of the disc bore the proper relation to the rate of vibration of the fork, the flame appeared to be divided by stationary bands showing alternate maxima and minima of brilliance. When the rate of vibration was changed, but all other circumstances remained unaltered, the distance between the bands was found to vary inversely as the rate of vibration.

# CORRESPONDENCE.

## SAN DIEGO CORRESPONDENCE.

### Industry Essential to Prosperity

EDITORS PRESS:—Dr. Temples, in a late alumni address, expresses the following opinion as to what men rank highest, or should: He says "The time has come when he who can do the most for the benefit of his fellow creatures, either in the way of comforting them, in promoting either their improvement or their happiness; whether a laborer with his head and his heart, or a laborer with his hands, will be reckoned the most important member of society." And again, "it is quite certain that the arts of industry, of the various employments that are put together under the head of labor, all these employments must very soon take the first rank above all others. The man who will be lowest will be the man who is thoroughly idle."

Now are not those admirable sentiments? It is my firm belief that if they were immediately made a plank in the San Diego platform, it would be the best move toward making this section the most desirable point in a social, as it is already in a climatic point of view, to immigrate to.

### Pernicious Ideas About Making Money.

In order to do this, it will be necessary to uproot some of the preconceived notions many of us have come here with. Too many have brought with them, to this their adopted home, the once fashionable ideas that necessitate making money—honestly if we can; but at all events make money. Now these notions must be laid aside, as entirely incompatible with the new order of things which it is to be hoped, will be inaugurated.

Realy, making money, in the majority of cases of that chronic disorder, means to get something from somebody without giving value received. But in order that such a growth as we desire shall thrive upon the soil at hand, it will be necessary that we dispense with some of the present axioms in the money maker's creed, and adopt, instead, the fact, that no large fortunes can be accumulated except at the expense of the general welfare. When we have fully made up our mind to this, and act upon it, then, and not until then, our good time draws near.

Let us look a little into the theory advanced more than eighteen centuries since, that our greatest gain, is in doing unto others as we would like to be done by.

No doubt it would go hard at first for those who have graduated in the old school of those who hold that the world is your goose—pluck it; or your oyster—open it; but then how much better we shall feel after we determine to take the cold plunge, and *have* taken it. We shall come out invigorated by the wholesome tonic, ready to enter the grand arena of labor, of manly endeavor, of useful citizenship. No satire like the following can then be applied to this people, however applicable it may be elsewhere; where it is no longer

> "Strike for your altars and your fires,
> Strike for the green graves of your sires,
> "God and your native land."

But it is—"Strike lusty blows or feeble, as the vitality within you enables, for food and raiment, of the scantiest, for you dear ones, and for a pauper-grave in the potter's field. It is, strike upon the anvil, in the mill, on the ship, upon the plantation belonging to the master; it is strike for a little higher pay that the wife and little ones may have a dime to enable them to go out to get a gasp of fresh air, which a ride to the end of the horse car route would give them. "Labor and wait," say the priests that minister around the altar of the Golden Calf; which rightly interpreted, means "labor" to fill the graneries and vaults already plethoric, and "wait" to starve upon the husks that are doled out by the privileged few who would have the people believe that they are the two exponents of justice, of right and of progress.

The great people, are great no longer, except in the sense of a great domain to be used in this age of vaunted progression. Progress in what? Well, let us speak plain; progress in firmness, in subterfuge, in making black white, and white black; in making justice the oppressor, and right, wrong; in fact, in doing everything that was done by the feudal robber and freebooter; in doing it in the name of law, civilization and christianity. The progress of the gambler; and those gamblers have in too many instances thimble-rigged themselves into the high places of the earth, and sustain themselves there by the same craft.

It would almost appear that lying, as a fine art, was a necessary accomplishment, when so many adepts in plausible falsehood succeed!

It may be said, this is too terribly truthful a picture of society to present for general inspection; but may we not, by its contemplation, be drawn to consider whether the proposition of endeavoring to make our locality, that is so favored by nature, also favored by the trial of so Utopian a scheme, as attempting to live the Golden Rule instead of the *rule of gold*, the cent per cent., the pound of flesh.

There is much reason to fear that this aspiration after wealth, as it is generally pursued, will prove the rock upon which this people, as a nation, will eventually founder. The present age is especially notable for its tendency to the individual aggregation of wealth; to luxurious idleness and to the creation of gigantic monopolies. And if something is not soon done to stay the increase of these evils there is reason to fear that the most disastrous consequences may result therefrom. F. M. SHAW.

San Diego Feb. 1871.

## Notes of Travel in Tuolumne County.

[Written for the PRESS.]

Tuolumne County has a sectional area of 1,430 square miles, or 915,200 acres. There are about 45,000 acres enclosed and about 7,000 under cultivation. There are, in round numbers, 80,000 fruit trees and 900,000 grape vines; about 50,000 gallons of wine were made last year. It has an assessed valuation of $1,700,000, and contains a population of 9,500; it has 500 miles of ditching (original cost, over $3,000,000) and 20 saw mills, making yearly over 5,000,000 feet of lumber. The county is mountainous and celebrated for its mineral wealth, particularly of gold. It is one of the oldest mining counties in the State, from which more gold has been extracted than from any other equal area in California. (?) Some of the richest gold mines in the State are located here. Constant developments are being carried on by mining companies, and hundreds of thousands of dollars have been expended here for quartz mills alone, of which there are 45 in the county, 11 now successfully in operation.

One of the most valuable and extensive marble quarries on this coast is located about two miles from Columbia. The marble is pronounced equal to the Italian white. The quarry is owned by John McNamee; the machinery and derricks for hoisting are run by water power. This county could supply the State with lime and marble. It is well adapted to raising cereals and fruits; and the eastern half, about 15 x 30 miles, is covered with the finest of timber. It has an unlimited supply of sandstone of the finest quality, and could supply from two to five thousand tons of graphite (plumbago) yearly, of which material there are used in the U. S., annually, 10,000 tons. It has any amount of water power. With the proper means of communication (a railroad *via* Copperopolis), it could supply the San Joaquin Valley with lumber, wood and ice. And, in addition, its undeveloped mineral resources of iron, copper, zinc and lead, with a proper cheap transit to market, would yield abundantly.

They paid off this last year (1870) $24,000 of the county debt, including interest. The outstanding indebtedness will not now exceed $71,000. They will reduce the taxation slightly this year, and still pay off as much of the old debt next year. The current expenses also have been paid in cash, leaving a surplus and no new indebtedness, which predicts for this county that it has seen its worst days.

### Sonora.

Sonora, the county seat, is distant from Stockton 64 miles. It has 1,650 inhabitants, contains two good hotels and as many livery stables, a fine public school, a very complete foundry and machine shop, owned by Messrs. Phelps, Shephard & Cowie, where, in addition to the usual machinery and castings made at such a place, they are now making a large amount of plows. Their arrangements for making of cores and baking the same are as complete as I ever saw.

E. J. Marsters, of Shaw's Flat, is the inventor of a field press and horse power that is really deserving of merit. It is mounted on wheels, like an ordinary farm wagon, and presses directly from the winrow.

L. P. MC.

## WHY FARMING DOES NOT PAY.

BY NIBS.

[Written for the PRESS.]

We often hear it remarked among business men in the city, that farming is tremendous hard work, and does not pay; and to anyone who displays any incipient symptoms of ranch fever, a sneer comes forth with the remark that Mr. so and so, gave up a good business, bought himself a ranch, and in two years came back in debt, and as poor as a church mouse.

### Let us Illustrate.

Three yerrs ago, this coming May, your obedient servant was one of a committee to examine a large tract of land, with the view of purchasing it for homestead purposes. We had enjoyed a splendid week; the country looked magnificent, with fine air, clear, cold water, the ground carpeted with flowers, and everything tending to produce an elastic, buoyant, ever-joyous feeling in the system—such as few, even of the healthiest in the city ever experience.

It was the day of our departure, and we were lounging away the intervening time, previous to the departure of the stage, on the piazza of the hotel, with that non-chalant, self satisfied air, which men assume when all their tasks are done, and they have not a care, save to puff away a cigar; when along the road and up to the hotel, a wagon was driven, far superior to the average of country teams. The horses were well matched, young, and of good style and figure. The harness was new, bright and clean; the wagon, a studebaker, looking nice enough for a family turn out, contained two crates of poultry and three chests or boxes, such as butter and eggs, are usually packed in. The person driving, had every appearance, both in dress and deportment, of an easy going, well-to-do gentleman. Our landlord came out and recognizing the gentleman, accosted him with the salutation: "Ah! good morning, Judge, glad to see you." The gentleman alighting, both proceeded inside the house. A few seconds after we were called in and introduced to the gentleman, who was acquainted with two of our party, and the usual formula of an introduction in California—*i. e.*, taking a drink—was gone through with, at the expense of the gentleman, who we shall henceforth designate as Mr. Farmer.

After a short time Mr. Farmer proposed a game of billiards with one of our party, and while they are playing, we will tell who and what he was.

Mr. Farmer had formerly been a lawyer in San Francisco; accounted a smart, quick, thorough business man, a man of wit and ability, a good companion and an ornament to society. During the practice of his profession, he had acquired a portion of a large ranch under a Spanish grant, and having been defeated in an election wherein he aspired to a high political position, which cost him much chagrin and a great deal of money, he had moved out to his ranch, and taken up the calling of farmer.

His place was well cultivated, well stocked, and in all its surroundings betokened the most flattering prosperity; but still, as he said, he was running behind hand—farming did not pay. Owing to his hand being out of practice, Mr. Farmer lost two games of billiards, with concomitants; he then inquired of the landlord what butter was worth in town, answer—40 cents; and eggs, answer—35 cents. "Won't do it," says Mr. Farmer, "go to the city first. Let the boy give my team a feed; I will take dinner with you and go over this afternoon. Well, gents," addressing our crowd, "let's smile, and then discuss matters in general. I see we are bound to be companions for this day;" and in general conversation we whiled away the time until dinner, after which, by special invitation, two of us took seats in his wagon and preceded the stage to the steamboat that was to convey us to the city.

But lest our sketch should become wearisome, we abbreviate into general facts. We spent a pleasant day. On arriving in the city, Mr. Farmer placed his produce in the hands of a commission merchant, his team in a livery stable, repaired with us to our hotel, in the evening to the theatre, after which to the club and supper, then to bed. The next day in the afternoon, on taking his departure and bidding our farewells, he said, "Well, gentleman, I shall make but a sorry return at home for my load of butter, eggs and poultry. The expenses of this trip have very nearly consumed the entire proceeds. I tell you, boys, farming is hard work, and does not pay. Good-bye; call and see us when you come over again."

## AGRICULTURAL PROSPECTS IN SAN DIEGO.

MESSRS. EDITORS.—Another glorious rain! Enough water has now fallen in this part of the State to insure a crop of all small grains that were sown previous to or immediately after the first that fell this winter, provided it was sown upon ground that was properly prepared. I am ready to admit that grain sown upon ground that was just skimmed over, and lightly harrowed without passing the roller over, thus leaving the ground in half pulverized clods, has dried out and the grain is turning yellow; but all grain sown in such a manner ought to die, and if those that sowed it in that slovenly and shiftless way do not starve to death, it will be good luck simply. They ought to go a little hungry, at all events, until they can learn that it is better, infinitely, to prepare one acre properly, than ten.

### Thorough Culture.

I notice there is one man, of Teutonic persuasion, who will raise a crop, without doubt. He began upon one side of a small field, and dug a trench fully 18 inches in depth; then scattered into it and along the outside a coat of manure; then went on throwing over with mattock and spade, until he is well across his little field, keeping all the time down to the depth at which he started. His ground is planted with vines and fruit trees, from which he confidently expects to realise not less than $500 per acre within the next three years, and he will do it.

As I mentioned in a former communication it is really rather desirable to me that no favorable action upon the Southern Transcontinental Railroad Bill should be had this session at least. The reason for that desire is, that, by the delay, the class of persons that are gathered here purposely, to prey upon the laboring classes, will get disgusted and go away, and leave our little community to float, as it will, if once relieved of the "do-nothings." There are enough desirable elements in soil and climate here, to constitute the basis of one of the most flourishing States in the Union, if but a tithe of the energy is used here to build it that has been employed to place some of the Eastern States in their present condition. F. M. SHAW.

A BAD PRACTICE.—The system of throwing all the trade and business into the hands of speculators and retailers is ruinous to the farming interests, destroys what little influence might otherwise be gained by men in that branch of industry, and puts all or most of the profit of the product thereof, into the pockets of speculators, instead of dividing it between the producer and consumer. If the producer would sell to his neighbor or the consumer at his farm, at the same figures that he sells to the retailer for and hauls it to town, sometimes a half a day or day's drive, both parties would be much benefited. I noticed some time since an account of a shipment of grain by the producer, which was a good move in the right direction and I hope it will be followed by more of the same sort. C.

C. P. R. R. LANDS.—There has been filed with the County Recorder of Ormsby county, Nevada, a mortgage on all the unsold lands of the Central Pacific Railroad Company lying in the States of California and Nevada and in the Territory of Utah. The mortgage is to secure the payment of 10,000 bonds of $1,000 each, or ten millions of dollars, and interest thereon, payable in twenty years. The instrument is dated October 1st, 1870, and was acknowledged October 31st of the same year, and is drawn in favor of Charles Crocker and Silas W. Sanderson, trustees and mortgagees. The document bears United States internal revenue stamps to the amount of $10,000, but has no State stamps. A duplicate of the same mortage has been recorded in eighteen counties in California—*Nev. State Reg.*

COLORADO OIL WELLS.—A correspondent of the Colorado *Register* writing from Canon City, Col., under date of Jan. 27th, says:—On the afternoon of the 27th we visited the oil wells of this locality, situated five miles from the town, on 4-mile Creek. The wells are six in number, their aggregate depth 800 feet. Four are regularly flowing two barrels per week. The crude oil is refined on the ground, and those who have used it say that it is as good as that of Pennsylvania. Several coal veins have been opened that look promising. Ten miles below town, H. M. Teller, of Central, is the owner of a vein five feet thick that compares very favorably with that found in the Boulder valley.

# HOME AND FARM.

## SHORT PAPERS ON AGRICULTURE.

NO. 4.

[For the PRESS, by Dr. J. R. THOMAS.]

### World's Population Needed Large Bread Supplies.

It is absolutely certain that Europe, Asia and Africa nourished, each, a large population, both, before and during the flourishing periods of the Greek and Roman dynasties. Moreover, nothing can be more certain, than that the bulk of material supplies, which entered into the subsistence of these multitudes, was drawn from agricultural sources.

On the Spanish Peninsula, which at one time was a Roman province; in the regions of Carthage, on the African Coast of the Mediterranean, and at earlier periods in India, China, Babylonia, and the Grecian provinces of Persia, to say nothing of the valley of the Nile, and other regions that were peopled during the earlier ages of the world, the human family literally swarmed, like bees in a clover-field. If we add the fact that the Roman people, with a large population, during the later periods of their history, drew liberally for their supplies, upon their distant provinces; and remember that every one of these teeming millions was a quasi bread machine, we shall then begin to appreciate the vast amount of corn that was needed to meet this demand; and also, how large a portion of the earths' surface, then occupied, must have been brought under the plough, in order to produce these immense supplies. We infer, therefore, that Eastern nations must have pursued agriculture on a scale of great magnitude.

### Not Necessarily a High Grade of Civilization Among the Nations of the East.

But it would not be safe to infer, that these Asiatic nations had reached a very lofty type of civilization. While it is true that the civilization and the agricultural status of a people bear a sort of fixed relation to each other, yet this proposition contemplates, rather their methods of tillage, than the extent of their operations. Under the instinct of self preservation, a people may cultivate extensively, without cultivating skillfully. Indeed, with a given demand, the former habit may be necessitated by the absence of the latter. The one implies only common sense; the other presupposes skill, progress in the arts, in short, a high degree of civilization.

Some of our standard historians suppose that other ancient people may have surpassed the Greeks and Romans in all the elements of social progress. We confess, however, that the presumption in this direction is not strong enough to command our belief. Authentic history is silent, as to any facts, that seem to warrant this opinion.

While it is true that the silence of history with reference to those subjects upon which it does not profess to treat directly, cannot be construed as proving anything positively; yet this silence may, sometimes, have great value, and may carry great force, as evidence on subjects that lie outside the record. We think this remark applicable to the case now on hand. The silence of Herodotus and of Thucydides, of Tacitus, of Pliny and of Juvenal, on the subject of a highly advanced state of progress in the polite arts, as well as in the common industries of civilized life, among Eastern nations, is not of itself so significant as their silence with respect to any standard histories, which these nations themselves had furnished, testifying, in detail, of their progress and their achievments. Had such authentic chronicles existed, the above named histotorians could hardly have resisted the temptation to draw upon them, in order to enrich and adorn their own immortal pages.

If, then, these nations have left no such authentic records of their superior civilization, the presumption is, that there was no approximation to the Grecian and the Roman standard.

There are not wanting, it is true, many wonderful memorials of mechanical and architectural skill among the Egyptians, Babylonians and Assyrians; but we see no evidence of anything that approaches the refined and noble civilization of Greece and Rome, those two great powers of Southern Europe, each of which, respectively, had prowess enough to conquer the world; and both of whom had genius enough to tell mankind, in after ages, both when and how they did it.

### Effect of Barbarian Invasion upon Agriculture and upon the Arts Generally.

When the tide of barbarian invasion came down from the north, spreading over Europe, and sweeping away the Roman dynasty, the sun of civilization went down, leaving the world in night, doomed to shiver and moan in the cold damps of its own dark shadow, for more than a thousand years! During this sombre period, we have only enough of authentic history to tell us, that nothing was done, that was worthy the high powers of man; nothing that put him forward in achieving the objects of his mission upon the earth. Under the heel of the conquering vandal, the fine arts perished, agriculture languished, commerce folded its wings and went to roost among the mouldering timbers of its own transports; brute force demolished tribunals of justice; anarchy substituted, regular forms of law and government, and the world, as if diverted by the God that made it, was left to groan through this long night of agony, under the rough tread of of iron clad millions, arrayed against each other in mortal conflict.

During this long period, agriculture makes but a poor figure. The cultivation of the soil was committed to serfs and dependents, under a sickly feudal economy; the products of the soil in the meantime being liable either to be exclusively appropriated by the local master, or to be snatched away by some marauding chieftain and his followers, thousands of whom were constantly in motion, making predatory excursions all over the southern portions of Europe.

### One Bright Spot in the Picture.

On the Spanish Peninsula, the Saracenic power having obtained a strong foothold, marshalled its strength and raised an effectual barrier against the tide of barbarious conquest, which overflowed the rest of Southern Europe. In this sunny region was commenced and prosecuted a system of Agricultural operations, which made it one green spot to gladden the heart in the midst of surrounding desolation.

It has already been stated that in the more northerly regions, a system of drainage was necessitated by the nature of the soil and by the topographical features of the country.

In Spain, the opposite system of irrigation was equally demanded by a different condition of soil and surface. An immense amount of means were expended in these works of internal improvement—such as aqueducts, cisterns or reservoirs, with surface conduits and projectile fountains, which enabled the husbandman to utilize every foot of soil, and to bring it up to the maximum of productiveness. These water works laid the foundation of that powerful and opulent dynasty, which grew up so rapidly under the Castilian auspices, after he light of day had again dawned upon he world.

### A Glance at Britain,

After the down-fall of Rome, which happened in the 5th century, and onward to the 16th century, we find very little worth noticing in the way of progress in agriculture, excepting only on the peninsular province of the Mediteranean, as has already been stated. We are astonished at the shamefully depressed state of field tillage on the island of Great Britain, as late as the 15th and and 16th centuries.

When the Romans first made descent upon Britain, under Julius Cæsar, they found on the island, a barbarous people and a very rude state of cultivation. During the 400 years of their occupation, many improvements were made in this and in other industrial departments; and yet, more than a thousand years afterwards we find a miserably botched system of agriculture, which shows that the island had greatly retrograded, in this respect, after the exit of the Romans. This is not strange, for the island next fell under Saxon domination, after the Romans abandoned it. In one of Sir Walter Scott's novels we find a representative man of the Saxons of that day in the character of "Gurth, the swineherd"—a fat, coarse-haired, big-footed lout of a fellow, who, one might almost think, would be a *swine himself*, if his bristles had only been in the right place.

These Saxons were greatly addicted to swine's flesh, and also, to swine-herding. Being too indolent and too untutored to bring themselves down to any system of regular, well sustained industry, they had the hardihood to risk their hopes of subsistence upon the precarious destiny of numerous herds of swine, which were turned out to ramble over the island, and to "root for a living." Thousands of the animals died, every year, to the delight of ravenous vultures, and to the dismay of the no less ravenous Saxons.

Of course Agriculture could make no progress under such a regime as this.

Neither was there much improvement under the "Norman conqueror," who supplanted and followed the Saxons in the occupation of Britain.

With the Normans, the feudal system was introduced into Britain, which, as already stated, was by no means favorable to improvement, and careful method of husbandry.

It is a thing not to be believed, except on the best of historical evidence, which we have in abundance, that on the island of Great Britain, as late as the 16th century, there were raised no edible hoed crops, such as cabbage, carrots, turnips or potatoes; or any thing of this class. It is a well attested fact that, as late as the reign of Henry the VIII, one of his numerous and unfortunate queens was under the necessity of importing from the Continent, salad for the royal table.

The peasautry subsisted upon a coarse bread made from barley, which is a nutritious cereal, and raised at small cost of labor.

There was often great suffering, owing to blight in crops, especially so, as, in sowing, no margin of area was allowed for the chances of partial failure in the harvest.

But this paper is growing beyond its proper limits. We will resume the subject in our next.

Vacaville, February 16, 1871.

## INFORMATION WANTED.

A gentleman writes to the publishers of this paper, from New Haven, Conn., as follows:

I am studying up the "forage plants of dry climates," and I take the liberty of addressing you in order to make a few inquiries on the subject. I feel more free to trouble you, since I have chosen agriculture for my calling, and may be able to return your favors in kind. A year from now I shall probably be a practical farmer in California, which State I consider my home.

To begin with, Prof. Wm. H. Brewer tells me that he procured the seed of the Australian kangaroo grass, and left it for distribution in California. Have you ever heard of any experiments made with it?

To what extent is lucerne, or alfalfa, cultivated as a forage crop? I know that the latter variety is wild on many parts of the coast, but am not aware that any of the farmers make a regular crop of it.

Will red clover live during the dry season unless it has an unusual source of moisture? I believe that during a residence of over four years in California I saw only one crop of clover hay. That was near Alameda, on land that was penetrated by creeks from the bay, and only a few feet above the level of the water.

Has anything been attempted with the Italian rye grass? (*Lolium Italicum.*) It is an important grass in countries having a climate similar to California, and a great favorite with some of the New England farmers.

Have any experiments been made with the various kinds of sorghum, or millet—*Panicum*—or the grasses usually cultivated on this coast? Is Indian corn often planted for green fodder?

Any information on these points I shall consider a great favor, and also in regard to any other forage plants that may have come into use in California.

I believe there is a great deal of truth in the Belgian proverb: "No grass, no cattle; no cattle, no manure; no manure, no crops." The California farmers may well boast of their rich soil and fine climate, but they must improve their system of cultivation and cropping if they expect permanent success.

We should be pleased to receive answers to any one or all of the above queries, for publication in the PRESS, for general information as well as for the particular information of our correspondent.

A REDWOOD TREE WART.—Mr. D. Pomery, of the firm of Hobbs, Gillmore & Co. of this city, has in his possession, as a curiosity, a board, sawed out from a sort of wart or projection, which grew from the side of a redwood tree, which is of a delicate red color, and of a grain much resembling that of the curly maple. The board is about four feet square. Some 500 feet of similar lumber was obtained from this excrescence.

A HIGH COMPLIMENT. — Perhaps the highest compliment which conductors of a journal like ours can receive, is one which comes entirely unsolicited from the workingmen of the country. We may be allowed to publish the following which we have received from Shermantown, White Pine. We are unacquainted with the writer, but believe from what he says that he possesses the qualities of industry and intelligence to a degree which cannot fail to compel success.

I have been engaged in mining in this district for the last two years, during which time I have been a constant reader of your valuable paper, though not able to subscribe for it, for the want of means. But perseverance is generally rewarded with success, and after laboring hard for such a long time, in the language of the miners we have "struck it." We have got one of the best base metal mines in this district, although we do not make a great fuss about it in the papers. At some future time, if it will be acceptable, we will send you nice specimens, so that you can judge for yourself. I regard the PRESS as the best journal of its kind on the coast, besides being a *friend to the workingman*; so I enclose the money and wish you would please send me the two papers, the Agricultural and the Mining PRESS for the term of one year. Before closing, I must inform you that my partner and myself are both colored men, and the only ones in this district that are mining. As a great many white gentlemen think black men are not capable of doing such kind of business, we are going to show them their mistake.

FROM TULARE COUNTY.—A correspondent writes as follows from Orange Grove, Vandalia, Tulare County: "I have often said it is strange that California, so prolific in its resources; a State where there is so much new to be told on the subject of fruit and grain farming; where nearly every one has to adopt a new system and try more or less experiments, has no Agricultural Journal worthy of attention,—so you may judge I was glad on receiving from the Post Office, last evening, Nos. 5 and 6 of the PACIFIC RURAL PRESS, and to find, on examination, the prospect is that you are going to do well, a work so much needed. I like the size and general character of the paper, and will gladly send to you, at times, such ideas, experiments and results as come under my observation.

Our correspondent sends us a brief article on what is being seen and done in Tulare County, which will appear next week. We hope to hear often from the same source.

STOCKING CREEKS WITH FISH.—It is well known that all the creeks in this section which do not connect with the Humboldt river are destitute of fish. Reese river and some of its tributaries are the only ones where fish is to be found. With little trouble every creek in the country could be stocked with trout, for the experiment has been tried and proved successful. Last year Mr. Riotte and others, brought to Grass Valley from Reese river a lot of the trout common in that stream and placed them in skull creek, near the ranch of Mr. Callahan. They have been left undisturbed till now, and Mr. C. informs us that fair fishing can be had in the creek at present. Let persons living on the banks of creeks emptying into Smoky Valley, and others not connecting with the Humboldt river imitate this example.—*Elko Independent.*

PRICE OF BEEF IN ENGLAND.—In England the price of beef rarely reaches 12 cents per pound. And this is the case, when farmers hold their farms as yearly tenants. These farmers buy stock cattle, or cows or sheep, and then buy corn or linseed cake *from America*, on which they feed them. Why then can they sell their meats at twelve cents per pound? The answer is that the English farmer feeds his stock *for the sake of the manure;* and the more stock he feeds, the better does it pay. There is no other explanation.

A CHEAP WAY OF PUTTING UP ICE.—A resident of Taunton, Mass., has obtained his ice for summer use, for several winters past, in the following manner: Procuring about fifty empty flour barrels, at a cost of twenty cents each, he gradually pours in water until each contains a solid mass of ice. The barrels are then put away in his cellar and entirely covered with sawdust. As ice is required a barrel is opened.

TEA CULTURE.—Parties in San Diego county, have sent to Japan for 200 pounds of tea seed, for the porpose of trying the experiment of tea culture in that county.

# AGRICULTURAL NOTES.

## CALIFORNIA.

POPPIES.—Dr. C. K. Farley, of this city, says the Gilroy *Advocate*, purposes planting a quarter of an acre of poppies the coming spring, for the purpose of testing the adaptability of our soil and climate to their growth. The experiment will be of great service, and should it prove a success, will be the cause of inducing our farmers to cultivate this most remunerative of crops.

FLAX CULTURE.—A correspondent of the *Immigrant Union* writes as follows from Tomales:—From the experiment that I made in Flax culture, I am fully satisfied that the soil and climate of the coast of our State are particularly adapted to the production of the finer fibres of flax, such as is imported into the Belfast (Ireland) markets from France, and which sells there at £1 per stone of 14 lbs., when the best Irish flax will bring but 10s. in the same market. There is, however, one difficulty that presents itself to my mind, viz.: the pulling. Our ground gets so hard that the pulling is a very serious affair, and cutting —except for seed—would be ruinous to the best part of the fibre. I am of the opinion that until labor and capital approximate more closely to the relations they sustain to each other in Europe, flax culture in this State will be neglected.

A NICE PLANTATION.—The Los Angeles *News* says that at Florence, a place between Los Angeles and Wilmington, a Mr. White has five hundred acres under fence, 5,000 orange trees, 18 acres in walnuts, 50 acres in the black-thorn locust, unrivaled for hedges, and a young and thrifty nursery of pecan trees. The striking part of the matter is, that not one drop of water has been put upon the land by irrigation. It is claimed that the native richness of the soil is sufficient to mature almost anything without artificial aid.

A MAMMOTH CAULIFLOWER.—Messrs. Gilfillan & Hohenschild, of the California Market, recently exhibited a cauliflower of extraordinary dimensions. It measured 15 inches in diameter and therefore 45 inches circumfereuce. It weighed, with its accompanying leaves, about 20 pounds. A bouquet of these "flowers" would weigh, say a quarter of a ton, and could only be offered to a Titan female of proportionate dimensions.

ORANGES.—The *Amador Ledger* says that one tree in the garden of Mr. H. L. Loveridge, at Jackson, had yielded this season two hundred and fifty oranges.

THE vicinity of Los Angeles is yearly making great improvement in both the size and the quality of her orange crop. The crop this year is said to be from a quarter to a half larger than it was last season. They are of unusually large size, and the flavor is excellent.

PROLIFIC.—The Los Angeles *News* says a sheep raiser in that vicinity remarks an unusual fecundity among his ewes this season, 1,400 averaging from three to four lambs each.

FAT CALF.—D. Ury, of the San Leandro market, recently slaughtered a calf which was just seven months old, and weighed 408 pounds.

A RUSSIAN RIVER "PORKER."—Says the Healdsburg *Flag*, of the 23d. inst.:—Wiswell & Powell yesterday bought of Mr. Wagenseller a hog which weighed 676 pounds. Ransom was a little astonished when he saw the beast weighed. "Why, confound it," said he, "I only pay six cents a pound, and the blamed hog's goin' to cost me over forty dollars!"

### LANDS IN KERN COUNTY.

The *Courier* of Febuary 11th remarks concerning the lands in its section as follows: Commencing near Bakersfield, and extending southward in the direction of Kern lake for a distance of fifteen miles, is a very fertile and beautiful tract of country, mostly in the hands of private parties, who offer it for sale in tracts to suit. Through adventitious circumstances this Kern county country is, at present, considered the most desirable part of the island. An irrigating canal, twenty feet in width, to convey a stream of water four fect in depth, to be completed in April, is being conducted over it. A large portion of it is within a desirable proximity to town, and it all lies contignous to the route of the railroad.

In short, we can assure poor men that they will find no difficulty in obtaining land on Kern island, and those in possession of means that they will find none whatever in making desirable landed investments, if they should be disposed to look in this direction.

HUGE HOG.—A hog which weighed 1,100 pounds—one of the largest ever raised on this coast—was sold in Sacramento recently for $155.

A FINE HORSE.—John Christian and Israel Larock, of San Jose, have purchased of Gen. Fox, of Stockton, the celebrated pacing horse "Defiance." The price paid was $3,000.

LIVE STOCK.—J. C. Tyler, of Sacramento, recently received from the East a fine Rifleman stallion, and his son, a young gelding. The elder horse has been brought here for breeding purposes.

CALIFORNIA WINE.—Landsberger & Co. have received a very large order for California wines, to be shipped to Louisville, Kentucky.

WINE dealers say the vintage of 1870 was one of the best ever realized in California.

THERE is a tract of 200 acres near Marysville, sowed with the castor bean, that will yield 125 tons.

J. R. Totman, of Yuba county, will plant 171 acres to castor beans this season.

FROM SIERRA VALLEY.—An esteemed correspondent, who differs radically with our land correspondent, writes as follows, from Sierra Valley: "Your paper is generally spoken of in favorable terms, except Bower's article ridiculing the Sierra Valley Memorial, and bolstering up the landgrabbers. That is looked upon as malicious. No man in his senses can journey over this valley at any season of the year and come to any other conclusion than did "Traveler" in the *Union*; the most of the land claimed as swamp and overflowed is either now suited to plowing and the raising of cereals or else needs more water and extensive irrigation "to make it so."

## OREGON.

### THE WHEAT CROP.

Increased quantities of wheat are being sown this season in every part of Oregon. In Jackson County the amount put in is set down at an increase of fully one-third over any previous year. Similar reports reach us from all the other wheat growing districts. The Willamette *Farmer* says that an unusually large quantity is being sown in the upper part of the Willamette valley.

The breadth of barley sown has also been very much increased, for which, according to the *Farmer*, there is much need, as large amounts of this grain have been taken to Oregon the past year, to supply the home demand—the farmers of that State ought to supply their own consumption, as the soil there favors its production, and the price paid pays well for growing it.

The work of plowing and sowing is still in vigorous progress, and may be safely continued there as late as May. The past winter has been a rather dry one, still the early grain crops are now looking well—while the later sown is coming up finely.

Wheat in Oregon is considered *almost* a certain crop—in fact it has never yet failed there. Dry winters, like the past, hinder and retard progress in preparing the ground, and putting in the seed; but they never endanger the completion of the work or seriously interfere with the final production of the crop.

It is claimed that wheat at fifty cents a bushel, on the farm, will pay well for its production in Oregon. If so, there must certainly be a handsome margin for profit this year. Direct shipments will doubtless be of great advantage; the experiments in that direction, this year, will fully test that question.

In view of the large prospective increase of the wheat crop of that State for exportation, the papers there are very properly warning the farmers to take care of their land, and not exhaust it with constant cropping, without in some way keeping up its fertility.

FLAX IN OREGON.—It is stated that an unusual breadth of flax will be sown in Oregon this season. The Willamette *Farmer* says the crop is steadily increasing there. A short time ago it was almost impossible to obtain seed enough to supply a small oil mill in Salem; but the seed now raised is largely in excess of such supply, and is shipped to San Francisco. The *Farmer* thinks there should be another mill put up at some central point, so that all seed raised in Oregon might be manufactured there.

The raising of flax and manufacture of oil might be made an important business in Oregon, as the soil and climate there is considered better for flax than it is in the Eastern States. It is nearly if not quite a sure crop there, whenever the seed is put into well prepared ground. San Francisco makes both oil and cake for export, and imports a large portion of the seed from which they are made. Why may not Oregon be equally as enterprising, especially when she possesses superior advantages for raising the seed upon her own soil?

SMALL FRUIT IN OREGON.—Much larger demands than usual have been made, the present season, upon the nurseries of Oregon for a supply of trees for small fruits and grapes, which shows that increased attention is being paid to such cultivation.

ANNEXATION.—Efforts are being made to bring about the re-annexation of Walla Walla county, now in Washington territory, to the State of Oregon.

LINN COUNTY FAIR.—The annual Fair of Linn county will commence on the 26th day of September, 1871, and continue five days. From the fact that the only premiums which the papers have seen fit to announce, so far as we have seen, are for horse-racing, we fear that it will be a sorry af-*fair*. Perhaps, however, when the full list of premiums is announced a different face will be put upon it. We hope so.

GRAPE WINE.—The Jacksonville *Sentinel* says David Stearns has some 300 gallons of good home-made grape wine, and intends manufacturing a still larger supply the coming season.

LARGE FOR HIS AGE.—The *West Side* tells of a yearling bull owned by D. B. Crawford Esq., near McMinnville, that is thirteen months old, is 13 hands high, measures 76 inches in length, girths over 78 inches, and weighs over 1,400 pounds.

HEDGES.—The Walla Walla *Union* is urging upon the peopls of that region to plant hedges, on account of the growing scarcity of timber there. The old cry is being raised there, which is still so little heeded here:—"A careless and wonton destruction of young trees has made timber scarce, and, unless a change is soon made, farms that are improved at the expense of all the timber naturally growing upon them, will be less valuable than those that are less improved, and have more timber growing on them. Timber in fences will soon be counted less valuable than it would be were it standing and growing."

## WASHINGTON TERRITORY.

EASTERN OREGON AND WASHINGTON.—Immense tracts of country in Eastern Oregon and Washington, covered with the richest grasses, are entirely unoccupied by man or beast. Those regions of country are high, healthy, perhaps cold—but never as cold as the New England States.—Here is a vast field inviting farmers with their stock, the care of which would be a sure and certain employment for the realization of wealth. No diseases affect stock in these grassy regions—the bunch grass, in its dried state, is as rich in fattening qualities as when green—and selections can be made where hay can be secured for the sustenance of stock for the few weeks when snow covers the grasses.

We are not surprised to hear that many persons have gone from Wall Walla to seek places for grazing farms in the prairies of the upper Columbia; and that herds of cattle have gone from this valley to increase and fatten in the country of rich grasses in Eastern Oregon.

Our people have not realized the vast wealth in the great grazing regions east of us; or, at least, they have not availed themselves of the advantage offered. Enterprising emigrants will not overlook these advantages. In a few years, the prairies and grassy valleys east of the Cascades in in this State and Washington will cease to be wastes.—*Willamette Farmer.*

PEANUTS IN WASHINGTON TERRITORY. The Willamette *Farmer* says that the peanut crop will be cultivated to a considerable extent in Walla Walla and Touchet valleys, the coming season. Seed, and Chinese laborers acquainted with the cultivation of the plant, from California, are already on their way for the purpose. Heretofore the supply of this article, for Oregon and Washington Territory has been chiefly derived from California.

## EASTERN STATES.

BY raising cotton the Florida planters get $45 for an acre's yield; by raising sugar cane, $393, with no more work or responsibility.

Charles Fowler, of Westfield, (Mass.) is attending sixteen yoke of cattle, ten of which already weigh over 2,000 pounds, and five over 2,500, The entire string are good for 67,000 pounds.

INDIAN CORN in Iowa has to be turned into pork, to make it pay. Very careful experiments show the relative values of raw and cooked corn. Twenty hogs of similar character were fed on raw corn, and their increased weight realized 50½cts. per bushel for the corn. Fed with ground corn dry, it netted nearly 59cts. for the corn. On moistened meal nearly 66 cts: on cooked meal, nearly 75 cts. per bushel. Our Southern counties raise 100 bushels of corn to the acre, but it pays less than a living profit. If the farmer would follow the Iowa fashion of converting it into pork it would pay handsomely.

THE ORANGE.—The seed of the orange reproduces the exact fruit from which it was taken; but often the fruit is different on the same tree in different seasons, one year being coarse, thick-skined, large and acid; another year medium-sized, thin skins and sweet.

A HERKIMER DAIRYMAN.—The Utica *Herald* says that Nicholas Smith of Herkimer county, N. Y., has made as high as 14,200 pounds of cheese, shipping weight, in one year, from a herd of twenty cows. He makes his milk up at home, and sells for the highest prices paid in Herkimer market. He sells every fortnight, thus saving shrinkage. He also keeps the best cows, and none but the best; and slops them a little in the spring and at times of drought, and does not overstock his farm. His cows do not come in early, and he has juicy, early cut hay to feed them from the time of calving until they are turned to the pasture. Probably most any dairyman, with the same care in selecting and treating his stock and the manufacture and sale of his cheese, could also show a yield of 710 pounds to a cow.

IT is stated that the celebrated trotting horse Blackwood, of Scott county (Ky.,) has been sold to a company of New Yorkers. The price said to have been paid is $95,500, more, by long odds, than was ever given before for anything in the shape of horseflesh. How fast Blackwood can trot is not known. He made one race in public as a three-year-old, and scored 2:31. Some of the knowing ones think his trainers have since gotten him down to Dexter's time.

A pair of large cattle were recently sold in Clark county, (Ky.,) for $412.80. Their combined weight was 5,160 pounds. The largest one weighed 2,625, and the other 2,525 pounds.

POTATOES FROM SEED.—The Rushville (Illinois) *Citizen* says: Wm. King, of this vicinity, has been experimenting with potatoes as follows: He planted, last spring, several qarieties of potato balls in a hot-bed, and then transplanted the shoots as is done with sweet potato plants, one in a hill. They grew and thrived finely, making an unusually large yield of the very best quality of potatoes. In one hill he counted seventy-five potatoes; in another the product weighed eight pounds.

THE hog crop of 1870 is set down at a little over 20,000,000 tons, which is fifteen per cent, less than that of 1869.

NORTH CAROLINA must be a capital place for real estate investments. A short time since 3,000 acres were sold for $13

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INDIA RUBBER VS. GRAFTING WAX.—It is said that several English gardners have successfully used strips of india rubber in place of grafting wax, as being neater, more perfect and not soiling the fingers.

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DRIED ANTELOPE.—The Deseret *News* says that Messrs. Hunt & Smith, of Salt Lake are shipping several tons of dried antelope and elk meat to this city. The animals were killed near Carbon, last summer, the place on the Central Pacific Railroad, where the coal mines were recently reported on fire.

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SAN DOMINGO.—The N. Y. *Tribune's* correspondent, who accompanies the San Domingo Commission, writes that Prof. Blake has found no coal, but immense deposits of lignite. Also, that San Domingo has no harbor for large vessels.

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APPLES—An eminent French physician thinks that the decrease of dyspepsia and billious affections in Paris is owing to the increased consumtion of apples, which fruit he mantains, is an admirable propylatic and tonic, as well as a very nourishing and easily digested article of food. The Parisians devour one hundred millions of apples every winter.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports to DEWEY & CO., U. S. and Foreign Patent Agents, and Publishers of the Scientific Press.]

**For the Week Ending February 14th.**

Printing-Press.—Amos H. Bangle, Brooklyn, Cal.

Lamp-Bracket for Sewing-Machines.—Henry Campbell, San Francisco, Cal.

Hub and Axle.—Carlos R. Donnar, Sonora, Cal.

Lubricator.—Nicholas Seibert, San Francisco, Cal.

Locomotive-Boiler Furnaces.—Andrew Jackson Stevens, San Francisco, Cal.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

Hay and other Presses.—M. T. Northrup, Horuitos, Cal. The object of this invention is to provide an improved press for packing hay for transportation, and for wool or cotton. The press consists of a strong frame or box which lies on the ground, so as not to rise to an inconvenient hight. A follower is arranged to move forward and back within the box. After the cords are laid, the box is filled with hay, the door at the top closed and drawn down tightly by a peculiar elbow lever, and the follower is moved by a long lever operating in a horizontal plane, one end being pinned to the follower, while the fulcrum is on a block or guide a short distance from this end. The guide moves in ways at right angles with the movement of the follower, so that as the lever is moved around, it carries the guide across the line of travel of the follower, until the outer end of the lever, the block and the follower are in a line with the plane in which the follower travels, and the follower is thus driven in so as to press the bale completely. The bale is then tied and rolled out by a side door, the lever returned to its former position, and the press again filled. By this construction, it is claimed, an excellent device can be built much more cheaply than can other forms. The power brought to bear on the bale is very great, and the labor of filling the press is comparatively light, and the whole device seems very convenient.

Seed Sower.—S. H. Sheplar, S. F., Cal., and W. G. Conklin, Portland, Oregon. For sowing small grains, such as wheat, this revolving seed-sower seems to possess a number of advantages. It consists of a perforated cylinder, made in two parts, into each of which the grain is fed from an intermediate hopper, a peculiar trough serving to divide the grain as it falls from the hopper and convey it equally into both ends of the cylinder. In each part of the cylinder is fixed a spiral flange, which serves to convey the grain towards the ends and to distribute it equally, so that the sowing will be evenly accomplished at every portion of the length of the cylinder. The device is very simple, and is worthy of attention.

Rein-Holder.—W. Barstow, S. F. This simple but ingenious device consists of two vertical leaves or plates with upper edges so constructed as to present a gradually widening mouth into which the reins can be readily introduced. In the side of one of the plates is an opening to a chamber which is made narrower at its front than at its rear end. In this chamber is placed a ball of such a size that it will partly protrude into the horizontal slot between the two leaves. This ball may be held in place, so as to prevent any motion when not in use, by a spring. A cylinder may be used instead of a ball if desired. The holder may be fastened to the dashboard. When it is desired to secure the reins, they are placed together and introduced between the leaves. By drawing them a little way back, they move the ball so as lie between it and the opposite leaf, but a forward movement causes the ball (as the chamber is narrower at the front) to bind them tightly. The whole affair is very simple and cheap and recommends itself highly for practical use.

# POULTRY NOTES.

## POULTRY AS A BUSINESS.

The Antioch (Contra Costa) *Ledger* very truly says: "If a man has a well-conducted chicken ranch in these days he can make money. Eggs are high, and will be higher still, before the winter is over, and chickens and ducks always have a good marketable value about holiday time—in fact they find sale at fair prices any time. A few acres of land with four or five hundred dollars, can be made to yield a good income, more than if put to any other use, and we cannot understand why farmers do not pay more attention to this profitable business. A dozen eggs is worth more *here* than a bushel of wheat in the Western States, and can be produced with less trouble and risk. Care and attention are requisite, to be sure, to make success certain, but no more than in any other business. There are plenty of places in this vicinity which cannot be advantageously used for any other purpose. Rabbits, frogs and terrapins will pay well, too. We have known fortunes to be made in this business with a small outlay of capital. We expect some day to see farmers paying more attention to poulry raising."

## POINTS OF POULTRY.

A subscriber asks us to give the appropriate terms for the different points of poultry, so that they may be understood. To more fully illustrate the answer to the

query, we give herewith, from Moore's *Rural New Yorker*, an engravigg of a cock with the points marked. A, neck-hackle; B, saddle-hackle; C, tail; D, breast; E, upper wing coverts; F, lower wing coverts; G, primary quills; H, thighs; I, legs; K, comb; L, wattles; M, ear lobe.

## DETERIORATION OF POULTRY.

A correspondent of the *Poultry Bulletin*, gives the following as one of the chief causes of the deterioration of poultry: The majority of farmers have always considered poultry of little or no consequence, and they have allowed them to run wild and take care of themselves and degenerate from year to year. They generally let them roost in their pig pen, or on their wagons, or wherever they can find a place. They seldom if ever feed them, and allow them to make their nests wherever they can, all over the premises. When they hatch and make their appearance with their chickens the farmers wives and children feed them occasionally. But they very rarely coop them and keep them out of the wet grass or feed them regularly, in consequence of which, fully seventy per cent. die; of those that are raised, the largest and best are selected and sold, as they are thought to be worth too much to keep, and the culls which are not good enough to sell, are kept and bred from the following season. This results in reducing the size of poultry and eggs to an alarming degree, so that the farmers' chickens and ducks average from two to four pounds, turkeys and geese from six to eight pounds, and eggs 10 to the pound.

A certain economical doctor is so penurious that when he goes to make a call in the country he take a hen in his gig to eat up the oats his horse scatters when eating. The hen knows her business so well that she gets right out and goes to work without being told.

## POULTRY RAISING.

**Why Hens must be kept in Small Flocks.**

Whenever we try to make any animal live contrary to its habits in a wild state, nature, unwilling to be thwarted, will have its revenge in some way. The hen originated in the jungles of India, and when wild and before taken from its native forest, this variety of bird had an abundance of pure air to breathe and plentiful ventilation through their leafy roosting places. One leader, only, accompanied the flock, who allowed no rival in his family.

With proper care a large number of *chickens* may be raised together; but when they begin to lay, if their natural habits are interfered with, the keeper will fail to receive due returns, as the penalty he must pay for violating a law of nature. The natural and proper way to keep hens is to provide separate apartments for every family, and not allow the family to exceed, say 25 in number, including one male bird. Mr. H. H. Stoddard, of Hartford, Conn., writes to the *Poultry Bulletin*, upon this matter as follows:—

In the Indian jungles the wild parent stock, Gallus Bankiva, like all allied species of fowls that live principally upon the ground, associate during the breeding season in small families, each having its male head, and appropriating an exclusive territory for a range. This being the law, as unalterable as that of the Medes and Persians, man must respect it. For three thousand years (perhaps six,) men have successfully kept domesticated fowls. They have succeeded by scattering small flocks in every village, thus unconsciously imitating the state of things in the jungles of India. Herded together in a large multitude, the ancient instinct thwarted, they will not utterly refuse to lay, (that too would be unatural, for the tendency to produce eggs is also deeply implanted), but the yield will not be nearly so great as if they were in flocks of tens or twenties.

Scores of illustrations in poultry-keeping might be given, where Nature resists infractions of her laws. It will not do to neglect any point, because it seems a small matter. No ordinance of Nature is small.

Large Geese.—The weight of the prize Toulouse geese at the last Birmingham show was 57 pounds 14 ounces for the old pair, and 48 pounds 14 ounces for the young pair. The prize gander of 1868 weighed 39 pounds.

A few years since the rearing of a pair of geese that would weigh half a hundred weight would have been regarded as an impossibility. This limit has now been surpassed and we cannot believe that the "ne plus ultra" has been reached. I believe a cross of the Toulouse and Bremen would make the best of all geese for market, and that the goslings would average twenty pounds each at Christmas. This would be an improvement worth making, as our common market geese now hardly average eight pounds. The change would soon take place, not only with geese, but with all kinds of poultry, if the farmers would consider the importance of the subject, and take a little pains in procuring the best varieties for breeding stock. I hope the time will soon come when poultry breeding will be considered of the importance that it justly merits.—*Cor. Poultry Bulletin.*

Poultry Tonic.—Many breeders recommend bread soaked in ale, as a healthful tonic for fowls. A writer in the *Journal d'Agriculture Pratique*, recommends for debilitated birds, especially for young turkeys when "shooting the red," the following preparation: "Take Cassia bark in fine powder, three parts; ginger ten parts; gentian one part; anise seed, one part; carbonate of iron, five parts. Mix thoroughly by sifting. A teaspoonful of the powder should be mingled with the dough, for twenty turkeys, each morning and evening. It is of the greatest importance to begin the treatment a fortnight before the appearance of the red, and to continue it two or three weeks after."

Moulting fowls should have a few nails placed in the water furnished for their use. The rust occasioned by the nails renders them less liable to disease.

## AGRICULTURE IN ARIZONA.

Arizona produces something besides gold and Apaches. Cotton of a texture similar to the best product of the Atlantic States is produced there. The seed from this Cotton has been planted in South Carolina, where Sea Island Cotton of good quality has been raised from it. Grapes bear there the second year after setting out the slips. Tobacco, figs, oranges, lemons, sugar-cane and sweet potatoes, the finest ever seen, are raised there. Corn does not do well generally, for want of rain. Irish potatoes are grown, but not with much success; the summers are too hot and dry. Wheat and barley yield from 30 to 35 bushels and more to the acre, according to the nature of the ground and care employed in the culture. A field of 90 acres was reported, last season, to have yielded a fraction over 41 bushels to the acre. Another person reports 60 bushels of barley to the acre, and a profit of $1,600 last season, from a small farm of only 20 acres. Farming operations there, are said to be conducted very loosely. There are many extensive and fertile valleys, where the soil needs only to be *scratched* to yield bountifully. The cost of harvesting grain there is set down at about $5 per acre. Fruit trees have been taken to Arizona, for the first time, we believe, the past season, and an abundance of fruit is expected there soon—a great desideratum. A good market already exists there for the limited produce heretofore produced; and the market will increase as the county fills up with miners, as must soon be the case.

The Salinas or Salt River is described as running through a beautiful and fertile valley, 20 miles long by 5 in width, and carrying an average of fully 50,000 inches of water; all of which may be utilized for irrigation purposes. The valley is so level that fully 14 out of every 15 acres can be irrigated. The only incumbrance in the way of cultivation is the mesquit, which can be easily removed. Two irrigation ditches, one on the south and one on the north side of this river are now being constructed, the former to carry 10,000 inches and to run 12 miles; the other to carry 20,000 inches. There are numerous other localities in the northern portion of the Territory which are almost or quite as favorably situated for irrigation. The future of Arizona, both as a mining and agricultural region, is certainly most encouraging.

The Turpentine Business once so profitable in North Carolina is now nearly worthless. The high price of turpentine, at the close of the war, induced many people, in that section of the country to go into the business; but as the result of five years of hard labor, the people there find themselves worse off than when they commenced. They have met with nothing but disappointment, and are now said to be reduced almost to starvation. What has become of the turpentine business of this State? We have heard but little of it for the last two or three years.

Novel way of Preserving Grapes.—The Chinese have a novel way of preserving grapes, and one which is said to be very successful. They keep them in pumpkins. The pumpkin is carefully chosen; must be ripe, and without blemish. An aperture large enough to admit of the hand is made; the inside is well cleaned, and the ripe grapes are protected by a tight cover. The grapes retain excellently their size and flavor. Perhaps so.

A Good Suggestion.—The Prairie *Farmer*, in an article on prizes at Fairs, suggests that premiums be offered for plans for saving the produce of the farm, and for making the farmers' home pleasant and comfortable. It further says it should be the aim, in making up the premium list, to offer prizes "for things that will encourage research and investigation, bring forth new facts, and reward patient industry.

# POPULAR LECTURES.

## Chemistry and its Applications.

[Prof. EZRA S. CARR before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

### Carbonic Acid—Its Occurrence.

LECT. II. Feb. 25.—In my last lecture, said the Professor, I spoke about the most common thing in the world,—oxygen. I propose this evening to speak of another common thing, carbonic acid, which, although not so abundant as oxygen, is yet very plentiful and has some remarkable relations to animal and vegetable life.

Carbonic acid is found in the atmosphere, but in minute quantities, constituting about .04 per cent. of it. Carbonic acid is one of the products of volcanic action, and it is often produced in the vicinity of volcanoes, when these are not in action, from some subterranean source. It is produced in connection with many mineral springs, by combustion, respiration, and decay. We find it in nature chemically combined with other bodies and forming solid materials. Marble, limestone, chalk are all composed of carbonic acid and lime.

I called attention in the last lecture to the enormous consumption of oxygen which is going on. Now this consists mainly in its union with carbon to form carbonic acid. Carbon, as you know, is a very common substance which occurs in a pure state as diamond, less pure as graphite, still less pure as anthracite and yet impurer as bituminous coal.

There are many simple processes by which we can generate carbonic acid. One of the simplest is this. I put in this jar some marble, a compound, as I just said, of carbonic acid and lime. If now I add an acid, as sulphuric or nitric acid, which has a stronger affinity for lime than has the carbonic acid, it will drive off the carbonic acid and unite with the lime. I add, in this case, hydrochloric acid. This boiling or effervescence which you see, is caused by the carbonic acid rising up through the liquid.

I suppose now that the jar is full of carbonic acid, although I cannot see it, for it is colorless and transparent. It is likewise poisonous. To see if it exists here. I insert a lighted taper which is extinguished, for carbonic acid does not support combustion. As carbonic acid is about once and a half again as heavy as air, if it exists here I can pour it into another vessel and then test this vessel with a lighted taper, or I can hold the taper under this vessel and pour the carbonic acid upon it. The flame, you see, is extinguished. Another and decisive test is to add lime water. The carbonic acid unites with the lime forming a white deposit of limestone.

### Carbonic Acid in Bread-Making.

I can get carbonic acid by bringing carbonate of soda and tartaric acid together, or carbonate of soda and cream of tartar, or soda and phosphate of lime. These are substances sometimes used in bread-making to make the dough rise, for this action is caused in such case merely by the generation of carbonic acid gas in the pasty mass, and this gas expands the dough. The use of tartaric acid or cream of tartar, however, is bad because it leaves injurious salts in the bread. We should do better to use carbonate of soda and hydrochloric acid, could we be sure always of having these brought together in just the right amounts, for then we should have formed common salt and carbonic acid. But there is too much danger of having an excess of one or the other of these substances for common use. Carbonate of soda and phosphate of lime are better, for these form phosphate which exist in the blood and bones, and are desirable articles in food, all the more so since the common fine white flour is deficient in this necessary substance, being rejected with the bran.

When we use yeast for bread-making the case is somewhat different. Yeast is a ferment and this acts on the sugar (and on the starch which it converts into sugar) in the flour, causing the formation of carbonic acid and alcoholic compounds. This occasions a loss, for the alcohol is driven off in baking and about one-sixteenth of the flour is thus consumed.

### Carbonic Acid in Nature—in Drinks.

Carbonic acid is generated by breathing, by combustion, by decay. In wells or shafts where organic substances decay, it is formed and makes the place dangerous for people to enter. In the island of Java which is of volcanic nature, although there are now no volcanoes in action, there are basins which are filled with the gas which comes from the ground. As the Upas tree often grows in these basins, it has acquired the reputation of emanating deadly gases, which it does not do, although its sap is poisonous. In volcanic districts there are often caves where the gas, being heavy, flows along the ground, so that a small animal dies on entering the cave, while a man, whose head is above the stratum of gas, can enter with impunity.

Carbonic acid causes soda water to effervesce. But the gas, although poisonous to the lungs, is not poisonous to the stomach. It exists in beer, champagne and all effervescing drinks. The danger from soda water, however, comes from the fact that an excess of carbonic acid causes water to be a solvent of carbonates to a considerable degree, and hence if lead or copper are used in the manufacture of soda water, poisonous carbonates are formed and then dissolved in water. One of the best antidotes is simple syrup, sugar in solution, and this we are accustomed to use in our soda water, which fact undoubtedly explains the reason why more persons are not injured by this drink.

We have examples of this solvent action in nature. The rain gets charged with carbonic acid from the atmosphere, falls to the ground, meets and dissolves some of the limestone, runs to the sea where the limestone is taken up by marine animals and thus coral reefs are formed. Some remains in the water of springs. This solvent action explains the existence of caves in limestone rock. If we heat saturated lime water, we drive off the excess of carbonic acid and get a precipitate of carbonate of lime. Or if we let the saturated solution flow through a large body of fresh water, it gets diluted and limestone is precipitated. So often marble is formed. Carbonated streams flow into large bodies of water, the animals there get the lime which forms their shells.

### Carbonic Acid Provides Food for Plants.

We can try another experiment. We pass carbonic acid into this solution of silicate of potash. We get carbonate of potash and a jelly-like mass of silica. This illustrates a natural operation. Carbonic acid will drive off silica from its combination with potash or soda. Now potash and soda occur in the soil and are necessary for certain plants. The carbonic acid takes it from the older rocks (which consist largely of the potash and soda silicates combined with other silicates,) being brought to them by the rain water. It takes out the silicates for the use of plants and leaves the clay, and thus are formed deposits of porcelain clay. When much soda is there, we can see how the alkaline deposits (of carbonate of soda) are thus formed on our interior plains.

Again, this jelly-like silica is slightly soluble in water, and thus it is carried to plants which need it to give firmness and hardness to their stalks. Almost every form of natural water holds a little silica.

One more point may be spoken of here. If we have two gases in contact, one heavy and one light, they will flow together and mix up intimately. It may be remarked that the lighter gas will rush into the heavier much more rapidly than will the heavier into the lighter, the velocity being inversely proportioned to the density. [The lecturer showed this by a very beautiful experiment in the case of hydrogen and air.] This fact and the agitating action of the wind explains why the heavy carbonic acid gas does not settle on the surface of the earth and render life impossible, but is as abundant in the upper as in the lower regions of the air.

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NEVADA COAL.—The Humboldt *Register* has seen some specimens of good coal taken from a vein lately discovered near Argenta station, Lander county.

QUICKSILVER.—Another quicksilver mine has been opened which promises very favorably. It is owned by the Whitton brothers, and located near Sebastopol, in Napa county. A shaft was sunk 115 feet, a tunnel then run 550, a sink again made about 30 feet, when water was struck, with a bed of from four to six inches of cinnabar. The owners have a furnace in full blast, and have obtained about $2,000 worth of quicksilver.—*Grass Valley Union.*

THE Leyden coal mine, near Golden City, Colorado, is on fire. It was opened and then allowed to remain unworked sometime, when it commenced to burn.

# GOOD HEALTH.

## SORE EYES.

[Written for the PRESS.]

Those who are not acquainted with the structure of the eye are apt to look upon it as a very small thing, having a single individuality, and therefore subject to a single form of disease. In other words, a sore eye is simply looked upon as subject to no more variations than is a rotten potato. Such persons suppose that all that is necessary to do in the treatment of a sore eye is to apply some kind of eye-water, and if that does not cure, nothing more can be done.

We meet people almost daily who have had sore eyes, varying in time from a few days to weeks or months or, perhaps, years, till their sight is either entirely destroyed or greatly impaired, without making any effort to save it, except simply to make some kind of local application that somebody has told them was "good for sore eyes."

### Different Kinds of Diseases of the Eye.

A little review of some of the most common forms of diseases of the eye, it is believed, will be both instructive and profitable.

*Conjunctivitis*, commonly called inflammation of the eyes, is the simplest form of all the diseases of the eye, and is perhaps more frequently met with than any other; yet, simple as it is, there are more than a dozen distinct varieties, *viz.*:—Catarrhal, conginital, diphtheritic, Egyptian, eruptive, exanthematous, gonorrhoeal, granular, purulent, pustular, scrofulous, simple traumatic, etc. Some of these differ as widely in their nature and successful treatment as do measles and small-pox.

Eyewater may give some of them temporary relief, while with others it would be worse than useless. All are benefitted by medicines taken internally, and some of them can never be cured in any other way.

The conjunctiva has also a great many other forms of disease, except inflammation, to wit: pterygium or a thickening of its substance, cysts in, warts upon, and symblepharon or a "growing together" of the portion which lines the lids to that which covers the eyeball.

It will be understood that all of the above-named diseases belong to the covering membrane of the eye, while the eye itself may be perfectly sound.

The eye itself is subject to a great many forms of disease, all of which have a tendency to destroy the sight; but their detailed description here would be too long and tedious for an article of this kind.

It is perhaps sufficient to say, that the corna, the iris, the lens, the schlerotic coat, the choroid, the retina, the hyaloid membrane, the vitrious humor and the optic nerve are all liable to a number of separate and distinct affections peculiar to themselves, each having a tendency to either impair or destroy the sight, and each requiring treatment peculiar to itself.

Taking into account the delicacy of the eye, it is a matter of surprise that it really does endure the amount of rough usage to which it is sometimes subjected.

Of all the senses, that of sight is certainly the most pleasing and the most useful. The most pitiable objects that we meet are persons that are blind. Such being the case, it is of the utmost importance to take good care of the eyes, and by all means to keep them in a healthy condition; but if they should become diseased, prudence would dictate that they should never be tampered with, but the very highest order of scientific skill should be employed, without delay, to restore them to a healthy state as soon as possible.

E. J. FRASER, M. D.

San Francisco, February 15, 1871.

ANOINTING WITH OIL.—When a child, or an adult, for that matter, takes a heavy cold which settles on the chest, or in the throat, or in the head in the region of the nose, one of the first things to be done is to anoint the parts affected with sweet oil. The oil should be heated, which can be easily done by pouring a little into an iron spoon, and holding the latter over the flame of a lamp for a minute, and then rubbed into the skin of the patient with the hand. Do this always at night, and at other times in the day when the case is a severe one. It is a certain relief, and will do not a little toward effecting a cure. Incipient influenza and croup may not unfrequently be warded off in this way.

## AIDS TO DIGESTION.

Dr. Marcet writes, reports the *Lancet*, in a pamplet just issued from the press "On a New Process for Preparing Meat for Weak Stomachs, as follows:—

"I have often thought that, if there were a means of preparing meat, so as to enable its easy digestion by weak stomachs a great boon might be conferred on a very large class of sufferers; and it has occurred to me that by submitting cooked meat to some process similar to that which it undergoes in the stomach, food thus prepared would require but very little effort of the stomach to complete its digestion, and thus the body could be efficiently nourished notwithstanding a debilitated condition of the digestive organs." Hydrochloric acid and pepsine being the principal natural agents for the digestion of meat in the stomach, he has thought that these substances might be applied to digest cooked meat in some degree, previously to its being eaten; and that by giving the stomach animal food thus softened and dissolved, sufferers from diseases of nutrition, causing wasting and emaciation, and who can take but little food, which they have much trouble in digesting, and others miserably tormented with dyspepsia, whose irritable stomachs cannot digest animal food, let it be ever so carefully cooked, might be enabled to take a little meat, and digest it well, the stomach being saved a certain amount of work. The food obtained by the process is a fluid "holding in suspension a light pulpy substance, most of which, when the liquid is allowed to remain undisturbed in a glass, is seen to fall to the bottom; it is in a great measure to this substance that its nutricious properties are due; but the pulpy mass is so minutely divided and so soft, as to be swallowed unperceived." It is a very palatable food, and is said to be acceptable to invalids.

PROPAGATING CONTAGIOUS DISEASES.—Professor E. Lankester says in *Nature* that scarlet fever is the most destructive of all contagious diseases, and that it is often spread by the particles of the skin which peel off from the body as the patient is recovering. He mentions a case where scarlet fever attacked a large number of those who received milk from a particular diary. It was discovered that those who had recovered from the disease had been milking the cows before the sloughing of the cuticle had been completed. Mr. Lankester insists that a free use uso of disinfectants will destroy the poison germs. All secretions of the mouth or nose, as well as of the other excretory organs, should be immediately brought in contact with a good disinfectant; and all clothing should either be washed in a disinfectant solution or exposed to heat in an oven.

INGROWING TOE NAILS.—The trouble and pain from this cause can be immediately and permanently relieved, without pain, by filing down thin all the exposed part of the anil, till it is soft and pliable. This will immediately relieve the part pressing into the flesh, which need not be cut or extracted. The filing is not in the least painful as the file will not take hold of the skin or flesh, In the course of several months, the nail will grow out thick again, when the filing should be repeated. The edges of the nail will never grow into the flesh so long as the top of the nail is soft and pliable; and there is nothing so simple, convenient, safe, and painless for keeping it so as a file.

CURE FOR STYES.—Put a teaspoonful of soda in a small bag, pour on it just enough boiling water to moisten it, then put it on the eye pretty warm. Keep it on all night and in the morning the stye will most likely be gone; if not, a second application is sure to remove it. We have heard also that the white of an egg, when applied to the eyelid with a leather just before retiring, soon effects a cure. Styes arise from impurity of the blood, and no permanent cure can be effected by a mere external application. The blood should be kept in a healthy condition by the frequent use of some mild purgative—say a dose of rhubarb and magnesia.

A YOUNG man named Regan died in Albany recently from a mole or wart on his face cut by a razor while being shaved. The wart was on the left cheek, and, while the whole right side was paralyzed, the left leg and arm became rigid, and the face turned over the left shoulder.

AFTER all, there are only two sorts of disease, says a French doctor—one of which you die, and the other you don't.

*Good Health* remarks that what people call "bile" is generally lobsters, clams, or some indigestible food.

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SAN FRANCISCO:

Saturday, March 4, 1871.

## OUR WEEKLY CROP.

A small but ancient and reconstructed Family awaits our visitors this week at the very entrance to our farm. The paucity of their raiments will be excused, for they are a late importation and have not yet become accustomed to modern ways and customs. We have placed a Ramie plant near at hand, behind which they may retire, if overcome in time by a sense of their exalted position. Close at hand they have the library of Mechanical and Scientific Progress, which will contain many wonders for them.

From San Diego and from Tuolumne county contributions come to our post-office, where is given an illustration of one of the reasons Why Farming does not pay. Dr. Thomas tells us still more of Ancient Agriculture as practiced by the Greeks and Romans. Letters of encouragement and inquiry find here a nook. Oregon is well represented, and has a place beside California in the Agricultural Notes. And just round the corner, Arizona is met with. Then come Notes of Recent Patents, which happen to be mostly agricultural this time, and close at hand, stands a specimen rooster in the midst of a crowd of musical Poultry Notes.

Prof. Carr reads us an excellent lecture on a very common and a very important article, and its occurrence and application in bread-making, in drinks and in providing food for plants. Our Health Department contains contributions of value and interest.

We view our Vineyard this week with especial pride and pleasure. It shows some points which are new for the coast and are especially important for grape growers. Mr. McCormick has placed in our fields one of his excellent harvesting machines, and its introduction would seem favorable to our Crop Prospects.

After our rambling excursion to see all these things, we must of course visit the ladies who preside over the Home Circle. That Ill Wind that Blows Nobody Good has found a corner here. Up Country Letters still arrive, and a Chapter for March is given, and the space devoted to Household Reading is well filled.

Our New Zealand Flax continues to grow and furnish a good article. Santa Cruz sends us a letter, and a deputation from the Santa Cruz Farmers' Club. From Humboldt county we have also good news. Then we have a little more Rain and finish with the Market Reports.

THE AMERICAN SUBMERGED PUMP.—This pump has been successfully used in the Eastern states, in Europe and in South America, so that, as the manufacturers say, it is no untried novelty. We have been shown letters from various parts of this coast, also, testifying to its excellence. Its principle is that of a double-acting force pump, with a heavy double-acting piston, cast in one piece, and a double-acting iron valve within the same, without the use of leather valves or any packing whatever. As a ship and factory pump, for use on the farm or in the house, for pumping coal tar, acids, etc., it is highly recommended. It is simple, durable, cheap and powerful. We refer our readers to the advertisement on the last page.

JAPAN SHEEP.—A cotemporary asks: "What has become of the Japan Sheep introduced into the United States several years since? They were said to be of good size, hardy, had coarse wool, and produced lambs twice a year, from two to four at a time."

## THE WHEAT MARKET.

It is somewhat singular that the wheat market in this city should be declining while an important advance is taking place in Liverpool, as will be seen by reference to our market report. The abundant rains in most sections of the State, seeming to guarantee full crops, and the statement, in certain quarters that the advent of peace in Europe will permit of a large sowing of spring crops has doubtless led to this result.

But with the present programme of both the German and French armies, in and around Paris and elsewhere, there is very little probability of any present utilization of much of the labor which has been so long withdrawn from industrial pursuits. Men who have been through such exciting scenes as have characterized this terrible struggle, cannot doff their uniforms and go immediately into the field of labor—be it on the farm on in the shop.

Throughout a large portion of France most of the essentials of agricultural industry have been so utterly destroyed, that two or three years will be required to place that industry where it was before the war. For the present season it is utterly impossible that anything of much amount can be done. There are neither tools, nor seed, nor animals wherewith to recommence farming opertions; while the last years, crops have been entirely exhausted, even to the seed. With regard to animals the effects are more serious than can well be imagined. In the invaded districts the sweep has been almost clean. Even a very large proportion of the breeding animals have been consumed, so that the renewal of the stock—horses, cattle and sheep—in the present condition of the country, must be exceedingly slow; and in the meantime there must of necessity be a much larger consumption of cereals to take the place of meat.

This condition of things is fully understood in England, as is evidenced by the advance of 3d on wheat since it was known that peace was, in effect, already established.

THE RAIN FALL for the present season, and up to the present time, has been reported as follows:—Sacramento, 5.20 inches; San Francisco, 10; Stockton, 5; Contra Costa, 5.86; San Jose, 5; Santa Barbara, 6.50; Los Angeles, 4.50; Napa, 10 (?); Oakland, 9; Davis Station, Yolo county, 7.22; Colfax, 22.50; Nevada, 30.80. The last rain was much more copious along the coast and interior than it was in the mountains; thus reversing the usual order of the rain fall.

While the fall of the present season, thus far, has been a little more than three-quarters that for the same period last year; its beneficial effects have probably been quite equal to the larger fall of last season, in consequence of more favorable meteorological conditions, generally. Napa, Lake, Mendocino, Santa Cruz and portions of Santa Barbara appear to have received fully their average supply, and have favorable prospects for good crops. Accounts from the extreme northern and the northern coast range counties are also quite favorable. The chief apprehensions are felt for the central portions of the State; but there is much reason to believe that even there, fair crops will be the rule. At all events high prices, better cultivation and a more diversified system of farming will secure to the farmers generally, fair returns for their labor in the field.

THOMPSON STEAM WAGON FOR LOS ANGELES.—The Los Angeles *News* says that one of the Thompson steam wagons is to be tried on the route between Los Angeles and the Yellow Pine Mining District with a view to introducing that means of transportation, if it can be made practicable.

# THE VINEYARD.

## CULTIVATION OF THE VINE.

Having completed the annual pruning, the next operation to be performed in the vineyard is the spring cultivation. It requires some experience and judgment to determine when and how to cultivate the vineyard; for each locatity and soil requires a treatment peculiar to itself. And the same vineyard requires a different treatment, depending on the purposes for which the grapes are to be used.

### Cultivation on Dry Soil.

If your vines are on a dry soil—one that is not well calculated to retain the moisture well into the summer months—then the cultivation should begin early, and continue as long as any weed seed will sprout and grow. The cultivation of such should be deep and thorough. The ground should be finely and thoroughly pulverized, from the depth of eight inches to a foot or sixteen inches; plowing both ways and close up to the vine. Care should be had that this plowing is done when the ground is in the proper condition, so that it will not break up into lumps and clods. After plowing, each time, a cultivator or one horse harrow should follow, so as to keep the ground level and smooth on the surface. Such cultivation will insure a good crop of grapes, for wine purposes, on the dryest soil in our State, even in our dryest seasons. Of course we speak of vineyards of some age, say four years or over.

### Cultivation on Moist Soils.

Vineyards on our low, rich, river bottoms require very different treatment. Indeed, such cultivation as we have pointed out above, given to vineyards along the banks of our rivers, where the soil is deep, damp, and rich, would most certainly render such vineyards nearly, if not quite valueless. We have known many vineyards on such lands and, cultivated under such a thorough system of cultivation to bring nothing but disappointment to their owners, for years in succession. The vines grow luxuriantly, and each year put out an abundance of fruit spurs and blossoms, giving promise and hope of a large and valuable crop. But when the berries are about the size of bird shot, and from that up to the size of small peas, mildew makes its appearance on the leaves and grapes, and the more luxuriant the vine, the more vigorous the spread and growth of the mildew. From the time the mildew makes its appearance, the growth of the grape is checked, and when it should begin swelling the second time, instead of doing so, it remains stationary or nearly so. Some of the bunches on the same vine will do much better than others, and some of the berries on the same bunch will grow to twice the size of others. Some make an effort to color, while others remain a dingy green.

Year after year we have seen the same thing occur, the owners each year making renewed effort to give his vines better treatment, *earlier* pruning and more *thorough cultivation*, and each year meeting with the same unsatisfactory results; until at last, discouraged and disgusted, he digs up his vines and gives them to the flames. We have known quite a number of good vineyards thus destroyed.

### Personal Experience.

Three years ago the writer came into possesion of a vineyard on the Sacramento river bottom, on rich alluvial soil. Remembering what we had seen, we regarded this vineyard of but little importance. Indeed the first thing we did with it was to give about one-half of the vines to a neighbor, provided he would dig them up and take them off the ground. He did so, but before he had transplanted them, he also became discouraged in grape culture on such soil, and allowed the vines to die without resetting them.

Having a great amount of other farm work to do, the vineyard was not even pruned until the vines were green with young leaves, and the ground was thickly covered with weeds from three to four inches high. At this stage the vines were thoroughly pruned, leaving only from four to six fruit buds to each vine. The vineyard was then about seven years old. The fruit buds left on the vines, being near the base of the canes, had at the time of pruning swollen but little; those further towards the ends having robbed these of the necessary sap. The vines bled profusely for several days, but finally the bleeding ceased, and the buds began rapidly to expand and throw out leaves and fruit stems, in the greatest abundance. As two horses and a large plow could not be worked among the vines, the ground was then plowed, as well as it could be, with a small plow and a single horse. It could only be plowed from two to three inches deep, just enough to cut the roots of the weeds and turn them bottom side up, or roots up.

After the rains had all passed for the season, and the weeds had got a good start once more, the vineyard was again plowed, in a similar manner, and then dragged or harrowed with a one-horse harrow, and left for the season. As soon as the fruit was set, all the suckers and young canes that had no fruit on were pulled off. No other summer pruning was done, and no pinching off the ends of the canes. A quantity of sulphur was purchased to keep away the mildew; but as no mildew made its appearance, the sulphur was laid away for the next year. The next year the vineyard was treated in a similar manner, and with a similar result, and the sulphur is still on hand.

The average product of grapes for each of the two years was over *four tons per acre*, of the best quality of table grapes, of the California variety. The bunches were very large and compact, and the grapes large, fair and uniform. None of the fruit was sunburnt in the least. The vines also bore and matured quite a quantity of second crop grapes.

In the same neighborhood and on similar soil other, vineyards early pruned, and thoroughly, and deeply plowed and cultivated, produced nothing but a scattering crop of half-grown and half-ripe grapes, together with an abundant crop of mildew on both grapes and leaves.

### Causes of Mildew.

From the above experiments and their results, we think may be traced, at least, some of the causes of mildew on grapes. Where the vines are pruned early, a superabundance of sap is forced into those portions of the vines not cut away. This produces a rapid and unnatural growth—a growth of itself partaking of the nature of a fungus—and furnishing the most natural food for that fungus, known as mildew. When to early pruning we add deep plowing and thorough cultivation—of a rich and moist soil—we only increase the cause of mildew, by forcing the vine to a more rapid mushroom growth. By late pruning we take from the vine a large quantity of sap, with the canes cut off, and also bleed the vine, and thus relieve it of the superabundance of sap which early pruning retains in it, to force an unnatural growth and induce disease.

In other words, early pruning destroys the equilibrium between the wood of the vine and its food; while late pruning restores that equilibrium, or retains only the proper amount of food to sustain and keep up a natural growth of the vine, which is left after pruning. Again, by allowing the weeds to grow in the early part of the season, we extract from the soil the unnecessary moisture and nutriment which exists naturally in our rich alluvial bottom lands. Thus, in a degree, we reduce the lands to the condition of the less rich and dryer uplands on which the grape in California is never troubled with mildew or rot.

We believe the greatest cause of mildew is the presence of too much moisture, *both in the air and in the soil*. In countries where rain is frequent during the growth and ripening of the grape, mildew is much more prevalent than in our State on our richest and most moist soils. In such countries the grape growers have to contend with both a damp atmosphere and soil, while we have but one—and that only in our low bottom lands.

### Draining Low Land Vineyards.

Wherever vineyards on low lands are so situated that they can be thoroughly drained, either by open or covered drains or ditches, there is no doubt that much of the trouble of mildew can thus be got rid of. The system of allowing the weeds to grow, we would only recommend as a temporary expedient. We believe that draining will accomplish the same result, and has many advantages.

The vineyard can thus be kept looking well, while the growing weeds are an eyesore to any good farmer. Again, when the vineyard is once well drained, the trouble is removed for years, and perhaps for a life time.

## Harvesting Machines.

Reaping machines are peculiarly American. Although dreamed of and rudely experimented with in other countries for generations past, it was American genius and skill which turned these dreams into realities and produced the first really practical reaper and mower.

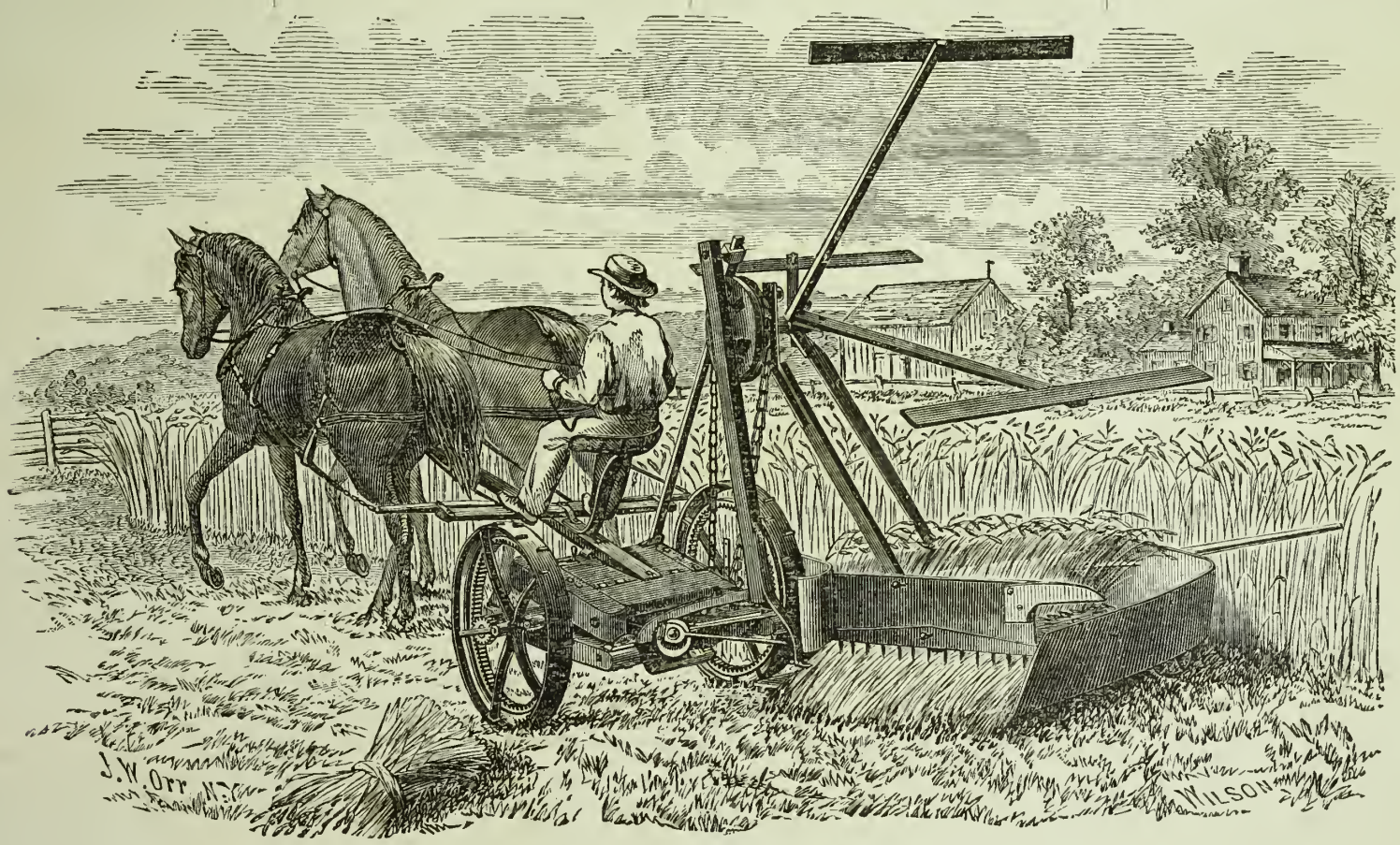
The first reaper, Mr. McCormick's, as made in 1848, was a queer and cumbrous-looking affair, yet it did good work, because it was founded on correct principles of construction, the same principles which, it is worthy of note, are to be found in one form or another in every machine of the present day. There is an old cut extant which shows the old reaper, and which would bring a smile to the face of our readers could we show it to them. This, however, we cannot do; but, in place thereof, we give an illustration of the McCormick as made in 1871, the so-called "Advance" reaper and mower.

The Advance is a self-raker, cutting a swath five feet wide, and delivering the grain at the side of the machine, where it can lie undisturbed until it suits the farmer's convenience to bind it, or until it is *fit* to bind: for grain is seldom in order to bind as fast as cut. It is often cut *green* to save it from some threatened danger, or so *weedy* that immediate binding is out of the question. The cutter is a serrated-edge sickle, which will cut an entire season without grinding. The rake revolves with the reel as one of the fans, until it brings the grain past the sickle, when it gently parts company with the other reel fans, and after sweeping across the platform, it as gently resumes its place as part of the reel. The revolving and eccentric motion of the rake being regular, continuous and well balanced, it is consequently free from all jars or jerks, and better still, whatever grain falls on the platform is sure to be raked off in good shape, let the straw be six feet long or but six inches.

As a mower, it cuts four feet wide with a separate cutter bar. When ready for mowing, it is identical with the Prize Mower, which we may perhaps describe hereafter.

The Advance was produced in 1868, but was not offered to the public until it had been thoroughly tested by the manufacturers. Then it was put on sale, and has been very successful, and a large number of testimonials are given to its excellence. The machines are light, simple, strong and durable, and the manufacturers warrant them. The price of the Advance is $200.

The machines are manufactured by C. H. McCormick & Bro., Chicago, who may be addressed for any further information.




THE McCORMICK "ADVANCE" REAPER AND MOWER.

## CROP PROSPECTS.

Never in the history of the State has so great an area of land been plowed and planted as this season. Plowing and planting has been pushed almost continuously since the first rains, and never before, in California, has there been so little interruption to this work from either rain or the lack of it. The last storm has done an incalculable amount of good; but of course it has not secured a crop. The great dependence, after all, is upon the spring rains. Without them, hardly any amount of rain in January and February will avail much in maturing the grain. Should the Spring rains be anything like abundant, the high prices which are sure to continue, will make the present the most prosperous season in its agricultural results of any which has preceeded it in the history of California.

The war in Europe, has closed too late in the season to admit of any benefit therefrom to the agricultural interests of either Germany or France. The season for planting will be past ere the armies can possibly be disbanded; while in those portions of France, which have been overrun by the armies of either side, will require two or three years or more to replace the improvements and stock which have been destroyed, and without which agricultural operations cannot be conducted to any considerable extent.

### Our Exchanges

from nearly all parts of the State, since the last rain, speak hopefully of the prospects; very little complaint is now heard from any quarter.

Los Angeles county appears to be troubled somewhat about the hay crop; but the fruit crop will be abundant.

The Visalia *Delta*, receives the most flattering reports from all parts of Tulare Co.; while the area sown is double that of any previous year—or about 9,000 acres.

The Stockton *Independent* reports favorably as compared with previous years, particularly in the neighborhood of the foothills.

The Mariposa *Gazette* also reports favorably, especially with the hilly portions of the County.

In Sonoma County the farmers think they can harvest at least a half crop without another drop of rain.

The Santa Rosa *Democrat* says:—"The rains thus far have been all we could desire, and the crops are coming along finely. We doubt whether farming prospects ever looked better for Sonoma County than at this time."

The Santa Cruz *Sentinel* says:—"From every portion of the county we have reports that the wheat crop is in a flourishing condition. We have conversed with our leading butchers, who travel frequently through the farming lands, in purchasing stock and selling meat, and they report that the wheat and barley never looked or was further in advance at this season of the year. The rains of the past week will add materially to the growth."

The Petaluma *Crescent*, said, before the last rain, the fall of the 13th and 14th ult., would place the safety of the crops beyond all doubt.

Of the condition of the crops about Pacheco, the *Gazette* said, also, before the last rain:—"Neither grain nor grass is yet suffering for want of rain. * * * The ground upon the adobe hills which has been unplowed, is wet to a depth of seven inches or thereabouts upon an average of several tryings, and the valley bottoms are generally wet to a depth of ten inches, and in some trials proved wet through."

The Humboldt *Times* says:—"The dry season of last year has had a good effect on our farming community. They, as a general thing, have realized good paying prices for their crops, and this, our incoming season, looking as though it is going being a dry one, has put everybody on the *qui vive*. An immense amount of land is to be put into potatoes, and a great deal of brush and timber land is being cleared and put under cultivation. Everything considered, we are in a prosperous and thriving condition."

However abundant the crop, a sure and high priced market awaits it. The European war has taken from the fields, there, immense numbers of laborers and producers, and the products of California will help to supply the deficiency. The beneficial effects of a good crop, this year, will pervade every department of business here; will elevate the State from its present financial depression, and do much to secure for the Pacific Coast the renewed tide of European immigration, which the closing of the war will once more set in motion across the Atlantic.

Irish Butter.—Cork is said to be the largest butter market in the world. The butter is divided into six qualities, or classes, which allows each quality to bring its own value in price. The record for three years, 1867, 8, 9; shows that butter ruled *very high* during the year 1869. The *top price* realized in January ranged from 143 to 145 shillings, or in dollars, $35,75 to $36,25 for 112 lbs., rather less than 33 cts. a lb. The lowest price for first ranged from 96s. to 125s. In January 1869 the value of 6ths, the lowest grade, was 97s.; in April 50s. for 112 lbs.

Large Growth.—There is a castor oil plant in a garden in Memphis, Tennessee, which was planted in May, 1870, and in November of the same year, it had grown to a hight of 23 feet, with an overhanging foliage of 15 feet diameter. The trunk was 18 inches in circumference, at 10 inches above the ground.

The merchants of Santa Barbara propose to establish a Chamber of Commerce.

Stock and Tillage in Great Britain. The area of land under tillage in Great Britain is only 53 out of every hundred acres, viz:—Scotland 22 per cent. Ireland 76, Wales 53, England proper, 71. Ireland has the largest proportion of cattle, Scotland of sheep, Ireland and England of pigs. In 1869 there were altogether in Great Britain, 5,300,000 cattle, 29,500,000 sheep, and 1,900,000 pigs—the annual consumption of poultry is equal to 20,000,000 head.

A Guava Tree.—William Patterson, a nurseryman of Sacramento, says the *Record*, has a guava tree growing in open air, which is loaded with fruit. It has been bearing for the past four years.

Passenger trains commenced running on the Copperopolis railroad on the 22d. ult.

New Grist Mill.—W. B. Clarke is about to erect a grist mill at Railroad Flat, Calaveras county, at which point he owns a fine water power.

That butter should be imported into this country from the States, is a reproach upon the farmers of this region, and seems about as sensible as our sending shoes to Massachusetts or coal to Newcastle.

Missouri has given up hopes of finding tin ore in paying quantities.

BY OUR LADY EDITORS.

## IT IS AN ILL WIND THAT BLOWS NOBODY GOOD.

A STORY BY NELL VAN.

[Written for the PRESS.]

Farmer Huntly was driving slowly home from town one bright autumnal day, when, in passing the school house, a merry group of children came running out—it being the hour for dismissal. Pausing a moment, the good-natured farmer called out, "Are there any little boys and girls going my way who would like to ride home with me?"

Now Farmer Huntly was extremely fond of children, and, having none of his own, he depended upon his neighbors for much of the real enjoyment of life; for who can say that a home without children is as complete and satisfying as the one where the noise and tumult of childhood prevails!

The farmer had no sooner uttered these words than two little boys and a girl came running out from among the others, saying, "Yes, we would like to ride home ever so much, Mr. Huntly." "Well, jump in then, Netty, and sit here on the seat, let Bob sit alongside of you, while little Jim tumbles in behind us there in the straw. All aboard!" And the wagon started off for the farm near which the children lived.

They were brothers and sister—these three, and bright intelligent children they were too, and very fond of an opportunity, like the present, of monopolizing the conversation, with as good a listener as Farmer Huntly.

"You should have heard Tom Green and little Sam on the play-ground to-day," said Bob. "Tom is growing rather fast, and he likes to show off. Says he, 'Come, Sam, let's roll up some paper smokes for cigars. I've got some matches in my pocket, and then we'll play we are men, smoking, will you? say, Sam.' 'No, no, Tom, I don't want to; my father never smokes, and I don't see any fun in it.' 'Ah, you don't, eh,' says Tom, 'I guess you never tried it; I tried to smoke a real cigar once, but it is rather rough on a fellow at first.' Then Sam said, 'Wasn't that the time your mother caught you at it, and gave you fits, and said no boy of hers should ever grow up a smoker, 'cause smoking and drinking always go together.'"

"Then Netty spoke up, and Tom said, 'Women don't know everything, because he'd heard the men say so; and he bet men and boys knew more what was good for them than women did; and he did not want to grow up to be one of them white-livered chaps you read about, that join temperance societies and such like.' 'Yes,' said Bob; and then little Sam told him as how his father wasn't a white-livered chap, and he believed in temperance, and never laughed about women wanting to vote, as some men do.'"

All this time the good farmer was wonderfully amused, and, watching an opportunity, he said a good word to the children in favor of temperance and the proper respect due to women. He warned them to avoid such dangerous companions as Tom Green, and bade them try to resist temptation as little Sam had done.

During this time nothing was heard from little Jimmy, who, curled down in the straw, had gone fast asleep. When the others discovered it, with true motherly instinct, the sister looked round for Jim's overcoat to cover over him, for she had seen it hanging over his arm when they jumped into the wagon, but now it was gone! "Mother told Jim to wear his overcoat to-day, 'cause he was not very well, but I can't see where it's gone to," said Bob. The farmer stopped his horses and bringing out a blanket from under the seat spread it over the sleeping boy, and on they went. Reaching home soon after, the little fellow awoke, and, unable to find the missing overcoat among the straw, they said good-bye, and thanking the farmer for his kindness ran into the house.

Not far from the home of these children, in the borders of a thick wood, there lived a widow and her son in a small hut. Her husband, who had been a wood-cutter, died some months previous, and Joe was very kind to his mother and did all he could to make her comfortable. He was out one day gathering wood to make the fire for her to get supper, when hearing the stage come thundering along the road, he ran to the road-side to take a peep at it. After it had passed he noticed something black lying in the road, which had the appearance of having been dropped from the stage; so he hastened to the spot and picked up what proved to be a nice overcoat. "Just what I want for winter," said he, "and mother was going to save up to get me one. Aint I lucky though."

But stopping a minute, he said, "Perhaps it belongs to some little boy in the stage, and he will be so sorry to lose his coat; I'll run along towards the village and try to catch up to it and see." So without further delay he started at full speed and overtook the stage as it drew up in front of the Post Office, where the driver tossed off the mail bags. Joe called out to him to know if some of his passengers hadn't lost an overcoat in the road, as he had picked up one, which he held up to view as he spoke. "No, my son," said the driver, "I haven't any boys aboard to-day; but you look as though you needed an overcoat as much as anybody I ever saw, so you had better keep it for yourself."

With a feeling of regret that he could not return the lost garment to its rightful owner, and yet with a joy, not easily concealed, as he thought of the glad surprise it would be to his mother, Joe hastily tried on the coat and found it fitted him exactly. So turning away he ran home as fast as his legs would carry him.

At the door he met his mother, who, wondering where Joe had gone, came to look for him. "See, mother," said the boy, "a first-rate overcoat—I found it in the road, and I ran after the stage, which had just gone along, to see if it belonged to anybody there; but the driver told me had no boys with him to-day to lose their coats; but that I looked as if I needed one bad enough, and I had better have it; so I put it right on and see how nice it fits! Look at these regular slap up pockets, velvet collar and cuffs and all. Fine, aint it? Nobody'd take me for poor little Joe, now, would they? And you can get you a shawl with the money you was saving to buy me a coat, can't you, mother.

"But I can't help half feeling sorry for the boy who lost it, somehow or other. I wonder who it can be." "Perhaps," said the mother, "that boy has both father and mother to get him another one, and may not suffer a moment for the loss of it. There are plenty of boys in the world who would be right glad to get rid of an old coat for the sake of having a new one to take its place."

When Netty and her brothers entered the house and told their mother that Jimmy had lost his overcoat, she listened patiently through the whole story, and chided the boy for his carelessness; but finding he had been well covered with the blanket while he slept, she hoped he had not taken cold. "The coat was getting rather tight for me anyhow, mother," said Jimmy, "and my best one is none too good for me to wear this winter, is it?" "Well, you're right, my boy, and I only hope the coat will fall into the hands of some needy person; but I thought it would last you this winter for every day."

Two weeks after this, one Saturday, the boys were out nutting in the woods, and came home jubilant, with full baskets. "Only see, mother, what a lot of nuts Joe, the wood-cutter's boy, gave us. And don't you think, he had on Jim's old overcoat, which he says he picked up in the road the very day we lost it, I guess. It fits him like a book; and when I told him I knew it by the velvet collar, he wanted to take it right off and give it back, but I wouldn't let him, 'cause Jim's got another and don't need it one bit, does he, mother? And so he filled our baskets with the nuts he had gathered, and made us take them. He is a real nice boy, and says his mother bought her a new shawl with the money she had been saving to get him a coat. Don't you think we might find something else to give them, for they are real poor?"

The kind-hearted mother listened to her son with great satisfaction, and promised to prepare a basket of clothing and provisions for them to carry to the widow on the following Saturday.

With joy the boys thought all the week of the happiness they had in store for Joe and his mother; and when Saturday came, and they started out, Jimmy carried a top from his own stores and a book from Netty to give to Joe, saying, "Don't you remember, mother, the day I lost my coat, you said you hoped it would fall into the hands of some one who needed it, and so it did. How strange it must look from God's home to see the things in the world that one person loses picked up and used by somebody else."

"Yes, my son, God so plans it for us that 'It is an ill wind that blows nobody good.'"

## UP COUNTRY LETTERS.—No. 5.

[Written for the PRESS.]

### Farmers' Homes.

DEAR READER:—I was wondering to-day as I rambled among the emerald hills, so soft with the fresh young grass, which hurries to welcome the early showers of this luxurious State of ours, why it was that farmers, as a class, give so little time and attention to the beautifying of their homes inside and out? Is it because poverty is a hard master and most of them are poor? or that when so many natural beauties surround them, they feel not the need to bring them into door yards, and living rooms? Are they, as a class, of a rougher, coarser, material than their city brotherhood, who many times spend *more* than they possess, in adorning their homes and themselves? I think not; for the family I am stopping at are well to do farmers, with blooming daughters, who enjoy the woods, and a ramble among the hills and dales, as much as I do; with souls pure, and minds gifted, tho' untrained; loving the beautiful everywhere, craving it too; and yet these girls have no knack of even dressing in taste; no idea of the little arts of fresh ribbons, and fancy aprons which set off old dresses; no idea how to train old starch boxes with hanging moss and rough boughs; planting ferns within to beautify a north window in the sitting room, which always looks so blank! or how to make blank paper frames for little engravings, to cheer the eye of the beholder, etc. No, they have no creative genius, simply because their early lives have been spent in a plain matter-of-fact way. Educated to believe farmers had no need to cultivate the æsthetic nature, nor their wives and daughters the time to devote to the beautifying of themselves or their homes. Anything was good enough for the country, and indeed such is currently believed by city folks as well.

This is all wrong, and let me tell you, good wives and daughters of farmers, upon *you* depends the bone and sinew of the land; and you are responsible if you do not try to make your farm life so attractive, that your sons and daughters will prefer to stay at home to going into cities and towns. Don't take too much of the fun out of your childrens' lives, nor work them so hard—they have no relish for youthful sports. Give them time for and assistance in beautifying home, both outside and in—with flowers, shrubs, trees, pictures, music, books, and good papers; and do not feel yourself even *too poor* to make home charming, and the holiest, pleasantest place on earth! Well knowing that "where your treasure is, there will your heart be also."

JEWELL.

AN ITEM FOR THE HOME CIRCLE.—Somebody says, and truly, that there are few families anywhere in which love is not abused as furnishing the license for impoliteness. A husband, father, or brother will speak harsh words to those he loves best, simply because the secresy of love and family pride keep him from getting his head broken. It is a shame that a man will speak more impolitely at times to his wife than he would to any other woman except a low, vicious one. It is thus that the honest affections of a man's nature prove to be a weaker protection to woman in a family circle than the restraints of society, and that a woman is usually indebted for the kindest politeness of life to those not belonging to her own household. These things ought not to be so. The man who, because it will not be resented, inflicts his spleen and bad temper upon those of his hearthstone, is a small coward and a very mean man. Kind words are circulating mediums between true gentlemen and ladies at home, and polish exhibited in society can not atone for the harsh language and disrespectful treatment too often indulged in between those bound together by God's own ties of blood and the most sacred bonds of conjugal love.

THE HAIR.—The microscope shows that the color of the hair is due to a deposition of pigment in its substance. When the hair glands become enfeebled, this pigment fails. One after another the hairs become white, or fall out, producing baldness. Baldness is easy to prevent but hard to cure.

## A CHAPTER FOR THE MONTH.

### March.

Few have sung thy praises, vigorous and spirit-stirring March; yet I owe much of happiness, even to thee; and though thou art somewhat rough and blustering, I hail thee as a friend. There is no deception in thee. Thou claimest not more than is thine own, and never seekest to delude us with false pretenses. There is a true, honest heart in thee, that I love. Thy sister, May, is a coquette, the gypsey! She advances with a smile; and the hoary Earth grows warm at her presence. She whispers winningly by, and the young blossom lifts its delicate head. Even the old trees are moved; and they send forth their buds to welcome her. But woe for the hope! and woe for the trust! Too often is that dangerous smile a herald of the impending storm; and the tenderling that trusts too far, is left to perish by her untimely frost.

Yet thou, good March, cold, and shrewish and wayward as thou art, hast none of this in thy nature. Thou comest with a frown but it is a right honest one. It seems to say; "I shall pinch you, and freeze you, it may be; but I shall never cheat you. Take care of your heads; it is fine sport for me to stifle you with catarrhs, or shatter you with agues! Take care of your throats! There is croup and quinsey in every wind! Take care of your lungs! Influenzas, asthmas and consumptions, are abroad in every breath!"

And though we shall be won by thy fairer sister, to praise *her* when she comes;—for no human heart can resist her magic influence;—yet we should be just to thee. Thou wagest battle with old Winter; right bravely; and Earth, from her inmost depths, is moved to bless thee. Thou breakest the tyrant's icy chains; and the disenthralled rivers, and the leaping rills, go abroad to praise thee. Even the delicate crocus opens her purple eye, and lays her tender cheek trustingly on thy cold bosom. The jay, when he hears thy echoing footsteps, calls to his mate; telling her that winter is gone; and the freshest song of the bluebird is for thee. Thy mantle of rustling evergreens is lovely to the eye; the buskins are fringed with lichens and verdant mosses; and there is a grand grace about thee, that pleases more than the comeliness of tamer beauties. The russet alder by the brook-side, sends out her humble flowers to greet thee; and the golden tassels of the willow blossoms, plaint forth with a look of joy.

So must the true heart ever salute thee with a blessing; for all the messengers of the FATHER are good.

### Canzonet for March.

The snows are gone, the brooks are free,
Bonny March, I welcome thee!
Soon the robin's mellow song
Through the copse will float along,
Waking all the gentle flowers,
Slumbering in their guarded bowers.

Hymns of blessing are abroad,
Every creature praising God!
Hark! The fountain lifts its voice
And the dancing streams r joice!
They are happy! they are free!
Singing, Joy for Liberty!"

Every season hath its charm,
This is sunny, that is calm;
But no time the year can bring
Is to me like early spring!
Wreaths of fine and budding larch
Are for thee, my bonny March!

## Marriage vs. Celibacy.

Marriage, says Jeremy Taylor has in it less of beauty, but more safety, than single life; it has not more ease, but less danger; is more merry and more sad; it is fuller of sorrows and fuller of joys; it lies under more burdens; it is supported by all the strength of love and charity, and those burdens are delightful. Marriage is the mother of the world, and preserves kingdoms, and fills cities and churches, and heaven itself.

Celibacy, like the fly in the heart of an apple, dwells in perpetual sweetness, but sits alone, and is confined, and dies in singularity; while marriage, like the useful bee builds a house and gathers sweetness from every bower, and labors and unites into societies and republics, and sends out colonies, and feeds the world with delicacies and obeys their king, and keeps order, and exercises many virtues, and promotes the interests of mankind, and is that state of good to which God hath designed the present condition of the world.

PUGET succeeding in adjusting the eye of a flea, so that by means of the microscope he was enabled to see objects through it. Thus a soldier appeared like an army of pigmies.

# HOUSEHOLD READING.

## Mixed Dishes.

Simple food is always the easiest to digest; but when people will mix up different meat dishes and highly seasoned, they should always be freely mingled with such things as celery, cauliflower, spinach, lettuce, and such easily digestible vegetables; for these, taken with concentrated food, give lightness and porority to what is eaten, so that it can be more readily attacked and assimilated by the digestive fluids. Each dish of meat should be served with some pleasant acid. Oysters and fish should be flavored with sections of lemons; mutton may be garnished with a little currant jelly; roast beef or turkey or chicken should come to the table with celery salad, and so on through all the mulifarious rounds of of meats.

A celebrated French cook, once declared he could give a dinner with which not even the most fastidious epicure could find fault, and yet one from which no symptom of indigestion would arise, though hours were spent at the table, and rest in sleep sought immediately after. His combination of dishes was much like that above described.

Though a call for such a dinner as we have suggested might throw the ordinary cook into utter despair, still there are many valuable hints and suggestions which may be gleaned therefrom by the prudent and thoughtful housewife. Apples, a little acid and well baked, are cheap, easily prepared, and form a most palatable and healthful accompaniment for meat; so does cranberry sauce. Cold slaw made from well chopped cabbage is a very good substitute for celery and so is lettuce, in its seasou.

As we said, at the outset, simple food and plain dishes are the most healthful and nutritious. A single variety of meat, with not more than two kinds of vegetables is always better than more; a nice baked apple (a recipe for preparing which is elsewhere given,) or a slice of uice light, white, or graham bread, with good sweet butter, forms a better desert than pie or pudding —if we can only be brought to think so.

How Oils Explode.—The expression often used that oil is explosive conveys a wrong idea. The oil does not explode. An oil may even extinguish a burning match when thrust into it, and yet be highly dangerous as a burning fluid. It is the vapor of the oils, mixed with the air, that is dangerous, as far as explosion is concerned. Where a partly filled lamp has the portion above the oil filled with a mixture of vapor and air, it may explode. When a lamp is filled, while lighted, the mixture of air and vapor in the can or filler explodes upon coming in contact with the flame; the oil itself does not really explode, though it does serious injury when scattered by the explosion.

The poor invalids who visited Congress Hall, at Saratoga, last summer, consumed thirty-nine thousand chickens, thirty thousand dozen eggs, fifty-nine thousand pounds of beef, forty thousand pounds of lamb and mutton, nine thousand pounds of veal, fifteen hundred turkeys, and of other fowls five thousand.

After reading the above, one can but hope that they *now* "rest from their labors!" And we question whether or no some of the *healthy* invalids who flirted, painted, powdered, and dressed to amuse and astonsh their invalid friends, will not, the coming season, be fit subjects for a share of the invalid diet? In plain words, does not the eating of such food, make and keep our people invalids.—*Jewell.*

How to Broil without Burning.—In broiling a beef steak, whenever the coals blaze up from the drippings, a piuch of fine salt thrown upon them will instantly extinguish the flames. By carefully attending to this matter, you may have your broiled steak or chicken, crisp but not scorched, and juicy, yet well done.

## Wood for the Kitchen.

Never use green wood in the kitchen. There is a saving of from one-quarter to one-third of quantity in using dry wood, according as the wood is more or less thoroughly dried, to say nothing of the saving of time and temper. If thoroughly dried the latter is the correct figure. There is no simmering with dry wood; but a brisk, cheerful fire, which never goes out till you have done with it. Then again you can always have a bed of bright, live coals, for broiling, or any other purpose, instead of the dead, smoking embers which result from burning green wood.

With dry wood your meals may always be served promptly; while cheerful faces and bright eyes enliven the kitchen. With green wood you can never depend upon your fire; the room is always full of smoke and unsavory odors which find their way into your butter, your cream and your milk, and the whole house is more or less effected; while everybody is cross and ill-natured with smarting, and blood shotten eyes.

In the one case, all are bright, pure and happy; in the other everyone is glum, morose and miserable.

This is no exaggeration. A smoky room and a cold room is the abomination of everybody. The reader's experience and observation will fully bear us out in what we have said.

The remedy is easy—simply cut or get your wood ahead, and keep it under cover in wet weather. The farmer who cuts his wood from the forest or riverside, should always keep at least a year's supply ahead; haul it home and cut it up at your leasure; but don't pile it close until it has become thoroughly dried and aired. Wood should never be kept in a close place, even if dry, for it will gather dampness, unless well ventilated, and in such condition will burn "dead," and without the brightness of flame so pleasant and desirable. Young wood is much better for fuel than old, large forest timber, even though the latter be vigorous and growing well when cut.

## New Bread.

New bread is not unwholesome if properly made. It was prescribed in former times, when bread was honestly made. In England there is so much inferior flour that great adulteration is induced to give whiteness to the loaf. In Paris and Vienna bread is always eaten fresh and no evil results. French bread is mostly crust. The secret of its excellence is in using the least amount of yeast and the greatest manipulation. Machinery is largely employed to insure thorough mixing, so that "a little leaven leaveneth the whole lump." The best mortar is made by sparing the lime, fining it to dust, and mixing it so effectually that every particle of sand gets a touch of lime, there being no excess in places and deficiency in others. So it is with breadmaking. The more you knead the dough the more you ripen the mass and the smaller is the quantity of yeast required. It is affirmed by the journal of *Good Health* that when bread is thus ripened in the dough it may be eaten fresh without any fears of indigestion. That journal is not partial to stale bread. The stomach does not crave it, and nature pronounces against it. Every cook knows the difference between shortcake well kneaded and that which is made hastily. The one is crisp, tender and digestible; the other is tough and dyspeptic. In California there is no excuse for adulterating flour and using alum to whiten inferior grades.

Nutritive Value of Bran.—A writer in the *Country Gentleman* gives the following valuable information on this subject.—Rye and wheat bran contain nearly one and a half as much albuminous substance as flour, twice the quantity of fat of the whole grain, three times that of phosphoric acid and postassa, and four times that of magnesia. The breeder and stock-raiser thus possesses in the bran a fodder that surpasses rape and linseed oil cakes in nutritive value. How highly these are estimated is well known. By mixing bran with straw and hay, which are deficient in phosphates, a most nutritious fodder for young and milking cattle may be made.

## Domestic Receipts.

To Bake Apples, take out the cores and fill or partially fill the cavities with crushed sugar; place the apples, so prepared in a deep dish or tin, and pour hot (not cold) water in the tin; bake in a quick oven, and you will have baked apples that are delicious.

Mashed Potatoes.—If potatoes served to the table mashed, are first *baked* instead of boiled, as is the usual custom, they will be found far more white and mealy, and of a delicate delicious flavor. The improvement in the dish is well worth the extra labor.

Apple Flitters.—Beat three eggs, the yolks and whites separately, add the yolks to the milk, and stir in the whites with as much flour as will make a batter. Have ready some tender apples, peel them, cut them in slices around the apple, take the core carefully out of the centre of each slice and to every spoonful of batter lay in a slice of the apple, which must be cut very thin. Fry them, in hot lard, to a light brown on both sides.

Custard Cake.—Two cups white or light brown sugar, three of sifted flour, half a cup of butter, three eggs, half a cup of milk, in which is dissolved one small teaspoonful of saleratus, and two teaspoonsful of cream tartar mixed with flour. Bake in four jelly tins.

*Custard for the Cake.*—Boil half a pint of milk with four tablespoonsful of corn starch with some cold milk, enough to wet it smooth, and three eggs well beaten; boil all five minutes. Have one pound of shagbarks blanched with boiling water, and stir them in after the custard is strained and cool. Almonds can be substituted for the walnuts. When the cakes are cold, add the custard between them. One can make two cakes of two layers, or one with four. If two of the whites of the eggs are left out of the cake, and frosting made of them, its appearance is much improved.

Rice Dumplings.—Put your rice in a stew-pan, and pour on each cup of rice one gill of milk; stand it near the fire where it will keep hot, but not boil. As soon as it has absorbed all the milk, pare your apples, take out the cores, and put your rice around them instead of paste. Boil them until the apple is soft. They should be tied in dumpling cloths.

A Good Imitation of Cocoanut Pie.—Grate raw, sweet potatoes into custard, making about an equal quantity of each, and bake quick in a hot oven.

Wine Sauce.—One and a half cups sugar, half cup of butter beaten well together, then add a glass of wine, two table-spoonsful of flour, wet with cold water, to prevent lumping; then add a tea-cup of boiling water and let it stand a few minutes on the stove, then pour it in the butter and sugar and beat it up; grate some nutmeg in it and serve hot.

## Mechanical Hints.

A Valuable Composition.—Dr. Scherzer, an Austrian official at Pekin, has sent to his Goverment some specimens of a Chinese composition called "Schioicao" which has the property of making wood and other substances perfectly water-tight. He says that he has seen in Pekin wooden chests which had been to St. Petersburg and had come back uninjured, and that the Chinese use the composition also for covering straw baskets, which are afterward employed for carrying oil long distances. Card-board when covered with the composition, becomes as hard as wood, and most wooden buildings in Pekin have a coating of it. It consists of three parts of blood, deprived of its fibrine, flour of lime, and a little alum. If the composition alluded to actually posesses the properties ascribed to it, it is certainly very valuable.

Closing Cracks in Stoves.—It may be convenient to know a ready method of closing up cracks, which are not uncommon, in cast-iron stoves, and we are assured that the following recipe is a reliable one. Good wood ashes are to be sifted through a fine sieve to which is added the same amount of clay finely pulverized, together with a little salt. The mixture is to be moistened with water enough to make a paste, and the crack of the stove filled with it. This cement does not peel off or break away, and assumes an extreme degree of hardness after being heated. The stove must be cool when the application is made. The same substance may be used when setting in plates of stove, or in fitting stove-pipes, serving to render all the joints perfectly tight.

## Life Thoughts.

The best consolers of human hearts bear broken hearts in their own bosoms.

It is better to endow one man, who will work as the Father works, than a hundred charities.

The essence of a kiss, as of a contract, is consent; without that it is not a kiss—it is an insult.

Principles believed will add fiber to the soul; but sentimental cant clogs the soul with dead matter.

The Sabbath does not stand on argument alone, but on the everlasting want of the human soul, of a seventh day's rest.

If the proud man could only see the vacancy his death would make, he would not be so vain of the place he occupies in life.

If you study history, you will find all great actions, whether bad or good, in the periods of transition from one state to another.

The violet grows low and covers itself with its own leaves; and yet of all flowers yields the most delicious and fragrant smell. Such is humility.

If prayer does not cause us to leave off, sinning will soon make us leave off praying.

"Cultivate not only the cornfields of the mind, but the pleasure grounds also," was a motto of Dr. Whateleys.

Happiness grows at our own firesides, and is not to be picked up in the stranger's gardens.

Moonlight is like a ladder over which thoughts and prayers may glide to heaven.

When there is love in the heart, there are rainbows in the eyes, which cover every black cloud with gorgeous hues.

Any feeling that takes a man away from his home, is a traitor to the household.

The more important an animal is to be, the lower is its start. Man, the noblest of all is born lowest. The next thing above a man is an angel,

Flowers are the sweetest thing God ever made, and neglected to put a soul into.

## Be A Man.

Foolish spending will ever be found to be the father of poverty. Do not be ashamed to work, and of hard work. Work for the best salary or wages you can get, but work for half price rather than be idle. Be your own master, and not let society or fashion swallow up your individuality—hat, coat and boots. Do not eat up, or wear out, all that you earn. Compel your selfish body to spare something for profits saved. Be stingy to your own appetite, but kind to other necessities. Help others, and ask no help for yourself. See that you are proud. Let your pride be of the right kind. Be too proud to be lazy; too proud to give up without conquering every difficulty; too proud to wear a coat that you cannot afford to buy, too proud to be in company that you cannot keep up with in expenses; too proud to lie, or steal, or cheat; too proud to be stingy.

Pleasure.—What we need now in life, above every thing else, is Christian men who take the lead in manly pleasures and make them honorable and noble. Pleasure is of God. So is suffering. Joy and sorrow are both of them born of God. There is a manly way of enjoying one's self which is not only permissible, but most wholesome, and, in moral things, most beneficial. Let men be free to take all rational amusement, free to take joy, and that abundantly; and yet the moment pleasure and its permissions become soiled or even sullied, let men turn away from them, and loathe them, so that the world, looking on them, shall see that they are "men of pleasure," not in the sense that they are men of eminent conscience.—[*Beecher.*

Duty is a stimulant that never fails. Be the disappointments of life what they may, duty puts a blue sky over every man. Men have tried all means to drown the heart's bitterest disappointment—the wine-cup, the suicide, the forgery, the abandonment of all worldy and religious restraint, but none has had such a soothing and stimulating power as the sense of duty.

It is not work that kills men, it is worry. Work is healthy; you can hardly put more upon him than he can bear. Worry is rust upon the blade. It is not the revolution that destroys the machinery, but the friction. Fear secretes acids; but love and trust are sweet juices.

Find fault only when you must, and then in private if possible. The blamed are less inclined to resist when they are chided without witnesses; and the accused may be impressed with the forbearance of the accuser.

## NEW ZEALAND FLAX.

### The Commercial Importance

Of this textile dates to a period some 30 or 40 years back, at which time small vessels were employed to go over to New Zealand from Australia for the purpose of trading with the natives or Maoris, as they are called, for the flax; paying therefor with guns, ammunition, blankets, and cooking utensils. The fibre was prepared, at that time, by a very simple hand process—the natives using a cockle shell to scrape off the outer husks from the fibre. This, as may be supposed, was a slow and tedious process; besides being very wasteful. One half the fibre, at least, was lost, and only the best kinds could be used. After scraping, they bleached. But this trade could only last while they were so desperately anxious to secure fire arms for defensive and offensive purposes. Those knowing their position amidst endless intestine wars can understand it; but as soon as this demand was satisfied they gave up producing it for commercial purposes, and this I suppose was the chief, doubtless the only reason why nothing of importance was heard about it again until McDougal's invention, some three or four years since. Two or three did make an attempt to discover means of taking off the outer husk, but without success, and during that time—a period of over 20 years—hundreds of acres were destroyed.

### Its Value.

I believe the original price in the Sidney market, when prepared by natives, was about $60 per ton; from the time of McDougal's first success, about four years ago, until February or March, 1870, the fibre continued to rise steadily in the Auckland market, beginning I believe at about $50 or $60, until it reached a maximum of $150 for choice cleaned, per ton. In England the best cleaned was worth, until quite recently, from $220 to $250 per ton. During May last, I think, the price began to decline again, and I am not aware what is the present market rate. It was reported to be chiefly used for the adulteration of Manilla hemp, which it almost exactly resembles in appearance, and almost the whole of the article manufactured in New Zealand was exported; there being few rope walks in the country, and these only using it partially. Among other reports, it was said that the fibre could not be manufactured into a good rope unless tarred; that it would not bear the action of salt water, rotting when exposed to that liquid; that it was inelastic in its nature, stretching to any extent but not regaining its original length; that it would not stand being knotted; that the fibre was liable to spontaneous combustion when packed in bales and placed on shipboard; but I believe most if not all these faults were merely tricks of trade, on the part of the holders and brokers of Manilla Hemp fibre, who saw a cheaper and stronger article forcing its way into the market, in spite of them; and who from being at first glad to use it for adulteration, were latterly afraid of its superceding Manilla. I of course was an outsider, and could not give the real reason of the ultimate fall in price, from positive evidence; but I have my own conclusions on the subject, and as New Zealand has at present no other market for any of her produce than England, it may well be supposed that she is considerably at the mercy of any "trade ring" which may be formed; and yet the day cannot be far distant when New Zealand flax will be one of the best recognized articles for the manufacture of rope, bagging, paper, and mattrass stuffing, in the world.

I can vouch for the very great strength of the fibre, and I distinctly remember the paragraph of a Thames newspaper, which certified to the fact of a 2½ inch New Zealand flax rope accomplishing the hauling of a heavy piece of machinery up the hills on the Thames goldfield, where a four inch Manilla hemp rope had snapped. I regret not having a bale of the fibre with me, for I would soon get Californian testimony to its capabilities, which I am sure would be flattering.

### The Manufacture of the Fibre

is conducted in the simplest method. One can only wonder now that it was not discovered long ago; but even now there is ample room for great improvements both in manufacturing and bleaching. The present method consists in cutting the leaf, and passing it at once through the machine, which is a circular drum of cast iron, about 20 inches in diameter, with a face about 10 inches broad. On this face, slightly convexed bars of iron or steel are placed, with wooden blocks between; these bars lie either diagonally across the drum, or in the form of a number of W's, with a space of half an inch between the ends of the bars.

These bars or ribs are about 1½ inches above the drum, which rotates very rapidly scraping off the outer coating of the flax, and leaving the fibre; the leaf being passed through a narrow tube, 1½ inches high by 3½ wide, with a fixed bar to offer resistance, situated about ⅛ of an inch from the revolving drum or mill. One man or boy feeds as fast as he can, leaf by leaf, and another catches it below, and when a hank as large as a man's wrist is collected, it is passed to another boy, who takes it to the washer, who wrings it once or twice, in running water, twists the hank up and passes it to the man who runs it out in a wheelbarrow to the bleaching ground, where it is spread out there for the space of from nine to thirteen days, according to the weather; being turned two or three times in the interim. It is then gathered up and stored away for a fortnight, to allow the fibre to toughen, when it is taken to the scutching machine, scutched and packed in bales; being ready for market in a month from the period of cutting.

I may say simply that there remains a clear profit of cent per cent., for the manufacturer, if he is his own producer of the raw material; probably more. This I can substantiate by figures, if required. The climate and soil of California is admirably adapted to its growth; I allude to the lower levels. It is naturally a lover of more or less damp, but not wet soils, varying according to species; but it will even grow, as proved at San Francisco, in sandy, dry land. The plants I have seen here are healthy and strong, and I believe of the "Tehore" variety. There are several other swamp plants, exactly similar to ones in New Zealand, which grow even more rankly here than they do there. The plant, when once started, is very hardy. In my next I will give some facts and figures with regard to the cost, producing and manufacting of the fibre. E. W.

## LETTER FROM SANTA CRUZ.

MESSRS. EDITORS.—Since writing my last we have been visited with a succession of rains, which have elicited from all, the welcome announcement that the country is safe. Santa Cruz certainly never before had finer prospects for the coming season, and the farmers are everywhere jubilant.

We learn from reliable authority that Rev. S. H. Willey has accepted a call from the Congregational Society of this place, at a salary of $1,800 a year, and a house provided for his residence.

The Skating Rink is in full operation and is quite a popular place of resort. One sees about town an unusual number of arms held in slings, sprained ancles and wrists, besides heads badly bumped, among sedate heads of families, as well as the younger portion of the community, which shows that the people are never too old to appreciate a little fun.

The great feature of the past week has been a grand Masquerade Ball given at the Pacific Ocean House, on the 22d, in honor of Washington's birthday. A select company was gathered together, the greater part in costumes and masked, which afforded a vast amount of amusement. The greatest objection to affairs of this kind is, that they do not commence until 10 o'clock and keep up till nearly dawn. If the good old custom of beginning at half-past 7 or 8 o'clock and closing at midnight or shortly after could be followed, there would be much more propriety in attending such places of amusement.

It always augurs well for the success of a paper when the demand is greater than the supply, rendering it necessary to become subscribers in order to be sure of a copy regularly. This seems to be the case in regard to the RURAL PRESS, which is becoming as great a necessity to the farmer's household as the traditionary baked beans and brown bread for the Saturday's evening meal.

In riding through town the other day I wondered if I could not make the acquaintance of your correspondent, "Mary Mountain," through your columns. If agreeable to her I should be most happy to meet her. Perhaps when she next visits Santa Cruz she would do me the honor of calling.

Santa Cruz, Feb. 26. NELL VAN.

## AGRICULTURAL VALLEYS OF HUMBOLDT CO., CAL.—No. 1.

[Written for the PRESS.]

### Mad River Valley.

While the lumbering interests and resources of Humboldt county are well known to nearly all, the extent and capacity of its agricultural advantages and interests are little known outside of the county. Its greatest disadvantage is in being so far removed from market; having but one accessible port of entry and no overland communication with the lower valleys. The farming districts of this large county run diagonally from the coast back into the interior and southern portion of the county, where may be found rich bottom lands, lying along the different streams that flow into the ocean. The valleys are well watered, adjacent to heavy forests, of fertile soil, and afford the best grazing lands to be found in the State.

Mad River Valley is situated about twenty miles north of Eel river, and is a beautiful strip of farming land, with a delightful climate and exceedingly rich, loamy soil. Mad River runs in a northwesterly direction, and empties into the Pacific, about seven miles north of Humboldt Bay. Several smaller streams, from the uplands, flow into the river, increasing its volume from time to time, before it reaches the ocean. Some portions of this fine valley are still unsettled, but all will in time attract the attention of people who are seeking for lands to cultivate.

The farmers who have already settled there, have prospered far beyond their anticipations in the raising of grain, fruit and potatoes. The soil is easily worked; the seasons are reliable and the harvests sure and bountiful. Many fine orchards are found there, and the apples of that section are superior in flavor to any similar production in the State. In Arcata, the only town of any size in the valley, a cider mill is running constantly, and producing a quality of cider equal, every way, to the cider of New England, where they claim, perhaps very justly, to make "the best cider in the world."

Apple trees in this valley blossom a month earlier than in other valleys in the same county, and the production increases yearly. Some of the best potatoes ever sent to the San Francisco market from Humboldt county, were raised in this valley. The usual yield is from 200 to 240 bushels to the acre. One hundred thousand sacks is the average yearly shipment from this valley.

The vegetables produced in this section are dryer, larger, and better flavored than similar productions of some portions of Eel or Mattole valley. The climate of Mad River valley is materially different from that of the lower and southern valleys. When the air is chilly, frosty, or damp in Eureka, it is warm, dry, and pleasant in Arcata. When vegetation is just putting forth its leaves in the lower valleys, the buds are opening and the trees blossoming in Mad River Valley. Wild magnolias blossom in brilliant colors, in the forests—the first and only variety of the species ever found wild and native in such a clime.

The choice fruits of the market could be grown with undoubted success in this valley. A few farmers have already ornamented their homestead grounds with cherry, apricot, pear, and plum trees; more as an experiment, than anything else. Berries of all varieties grow to large size and delicious flavor.

The great revenue of this section, however, is the production of grain and potatoes, and the sale of stock. A large profit is realized annually to this valley from its stock sales. The fine grazing lands, pure water, and good attention paid to the breeding of excellent stock, warrants success to the stock raisers. Large flocks of sheep, and herds of cattle are turned out to feed every spring, upon the wild oats and nutricious grasses and wild clover that covers all the uncultivated hills and bottom lands of the valley.

Hoopa Valley, and its extensive Indian eservation receives all its supplies through and from this valley. Quite an extensive packing business is carried on by the merchants of Arcata, and the extreme points north, making a ready sale for the marketable light products of the valley.

The flax-growing interest of this section is yet in its infancy, but satisfactory results from careful experiments have determined its perfect adaptability to the locality, and will no doubt form one of the principal productions of the valley in a few years. Flax yields two crops a year, with abundant seed and strong, vigorous stalks. This fibre is firm and healthy; it is easily cultivated and harvested, and will command a fair price at all seasons, when other products are liable to suffer from reduced prices.

In my next paper the better known southern valleys of Humboldt county will be taken up, where greater resources will claim attention. L.

## SANTA CRUZ FARMERS' CLUB.

[Reported for the PRESS by ROGER CONANT.]

The club met in the Court House on Saturday afternoon, Feb. 18th. Mr. Locke presented some samples of different varieties of apples raised on his ranch at Bean Creek, near the ruins. They are very large in size and of fine flavor.

### Plows and Plowing.

Subjects coming up for discussion, Mr. Mathison wished to know if the draft of the plow now in use was not heavier than it should be? Plowing with a team, two or three days, seems to completely take the vim out of them. He wished to know how a gang-plow affected a team, and if it worked a team down as much as the common plow?

Mr. Kingsley thought the gang-plow was an imposition on a good team. He discarded all other plows as soon as Smith's patent came into use. It was a cast steel plow with a thick mould board, and cost $21.

Mr. Sawin thought it would be easier for the teams, if the draft could be raised as high as on a wagon. Mr. Kingsley had doubts whether horses could pull more in drawing a plow than in drawing a wagon. In his opinion they could lift as much one way as in the other.

Mr. Mathison thought that a team could pull more when the draft was from the point of the shoulder, than from the back of the neck.

Mr. Kingsley thought that it required as much knowledge to be a good plowman as in any other business.

Mr. Sawin thought it required as much knowledge to know how to put in a good crop, as to know how to plow. Some men could plow well, but put in their seed so poorly as to realize only half a crop.

Mr. Daubenbiss thought a plow would run easier if placed upon wheels, and the wheels all of a size.

Mr. Kinsley said that the wheel which runs in the furrow should be six inches larger than the other. This would bring the axletree on a level with the other parts of the plow, and the lever would run of itself. He had seen these plows used in large fields comprising some 80 acres. They were drawn by five yoke of oxen, and turned a furrow of 18 inches.

Mr. Mathison said that a mechanic could tell as much as a farmer in stating how to use the plow.

Mr. Locke claimed to know something about mechanics. In relation to the application of plows he did not know as the present discussion could be bettered. But to discuss the question fully would require more time than could be devoted to it at the present time. One great object to be gained was to keep the plow from resting upon the ground. Thus where the plow was placed upon wheels, it would be easier for the team to draw than where it was allowed to drag upon the ground, as by that means you would get rid of friction, and the team would work easier.

The proposition to amend the Constitution so as to strike out the words, "Any Farmer," and insert the words, "Any Person," then came up for consideration, and excited considerable discussion pro and con. A number appeared to apprehend that it was a movement on the part of the lawyers to get into the club and use it for political purposes. Without coming to any conclusion the club adjourned for two weeks.

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JUST as a traveler was writing his name on the register of a Leavenworth hotel, a bedbug took its way across the page. The man paused and remarked: I've been bled by St Joe fleas, bitten by Kansas City spiders, and interviewed by Fort Scott graybacks; but surely I was never before in a place where the bedbugs looked over the hotel register to see where your room was." And he sadly gathered up his baggage and departed in search of a house where the bugs were less highly educated.

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 91 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF | | | | | TEER* | | | WIND. | | R'N† |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Barometer Corrected. | Temp. Air. | Rel. Hmdty Saturat'n 100. | Force of Vapor. | Amount of Cloudiness. | Maximum. | Minimum. | Range. | General direction f'm which it moves, and the Forces. | | Gauge 50 ft. above surf'ce |
| FEBRUARY. | INHS. | DEG. | ℉ C. | INHS. | 0–10 | DEG. | DEG. | DEG. | DIRECTION. | F'CE. 0–10 | INHS |
| Sunday.. | 19 | 29.756 | 50 | 64 | .236 | 7 | 59 | 6 | 23 | S. | 2 | ..... |
| Monday. | 20 | 29.598 | 52 | 80 | .321 | 10 | 58 | 43 | 15 | S. E. | 4 | 0.140 |
| Tuesday. | 21 | 30.003 | 45 | 81 | .215 | 10 | 49 | 40 | 09 | S. E. | 4 | 0.556 |
| Wedn.... | 22 | 30.274 | 45 | 60 | .176 | 5 | 52 | 35 | 17 | S. E. | 2 | 0.390 |
| Thurs.... | 23 | 30.472 | 41 | 72 | .190 | 10 | 47 | 32 | 15 | N. W. | 3 | 0.145 |
| Friday. . | 24 | 29.961 | 45 | 67 | .200 | 2 | 54 | 34 | 20 | N. & S. | 2 | ..... |
| Satu'day | 25 | 30.0 9 | 49 | 60 | ..07 | 0 | 58 | 35 | 23 | S. | 2 | ..... |

* Thermometograph. † Rain.

REMARKS.—We have experienced during the week the heaviest rains of the season, measuring, as shown in our table, nearly one and a quarter inches, and swelling the aggregate of the season, in this locality, to 5,369 inches. The storm on the night of the 20th was very general, extending over the mountains into Nevada,—the high wind causing considerable damage everywhere,—and accompanied with electrical disturbances unusually severe, particularly in San Francisco. The oscillations in the mercurial column have been remarkable. From the minimum of the season, (29,021 inches) on the evening of the 22d, it rose to 30,472, corrected for temperature, on the morning of the 25th, and still reads at a high figure at the present writing; (27th) indicating a continuance of the prevailing fine weather. Though comparatively light, the rains thus far have fallen under such favorable circumstances, viz.: prolonged cloudy weather and the absence of drying winds, as cannot fail to inspire confidence in the growing crop.

### Mare Island, Solano County, Cal.

Observations furnished to Dr. Thos. M. Logan by J. W. Browne, M. D., Surgeon in charge at U. S. Hospital. Lat. 38° 6′ 19″ North. Long. 122° 15′ 19″ West. Altitude of Bar. above low water mark 65 feet 6 inches. The means are derived from four daily readings, viz., at sunrise, 9 A. M., 3 P. M. and 9 P. M.

| 1871. MONTH AND DAY. | DAILY MEANS OF | | | WIND. | R'N. |
|---|---|---|---|---|---|
| | Bar. | Amount of Cloudiness. | Ther. | General direction from which it moves, and the Forces. | Gauge 6 inches above surface. |
| FEBRUARY | INS. | 0-10 | DEGREES | DIRECTION | FORCE 0-10 | INS. |
| Sunday.. | 19 | 30.06 | 8 | 50 | S.W. | 2 | |
| Monday. | 20 | 29.89 | 4 | 49 | S.S.E. | 4 | |
| Tuesday. | 21 | 29.77 | 8 | 41 | S.E. | 5 | 0.75 |
| Wedn.. . | 22 | 29.71 | 10 | 42 | Variable. | 5 | 0.95 |
| Thurs.... | 23 | 29.96 | 10 | 41 | " | 3 | 0.43 |
| Friday... | 24 | 30.32 | 2 | 43 | S. | 1 | |
| Satu'day | 25 | 30.22 | 1 | 46 | S.W. | 2 | |

REMARKS.—Heavy rain, thunder and lightning during the night from 20th to 21st. No damage done on the Navy Yard.

## Meteorological Observations in Tulare County.

[Reported expressly for the PRESS, by ISAAC B. RUMFORD, of Orange Grove.]

Our rain for this season has been as follows in 1870:

| | |
|---|---|
| A storm of Oct. 23, 24, 25 and 26 gave us | .80 |
| Nov. 6 | .50 |
| " 7 | .10 |
| " 26 | .60 |
| Dec. 3 | .25 |
| " 5 | .30 |
| " 15 | .60 |
| Total | 3.15 |

| Jany. 1871. | Ther. | | | Barometer. | | | Ins. of R'n | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | 6½ | 1 | 5 | 6½ | 1 | 5 | | |
| Sun. 8 | 43 | 73 | 65 | 29.25 | 29.10 | 29.11 | | |
| Mon. 9 | 47 | 75 | 68 | .14 | .07 | .07 | | Variable. |
| Tu. 10 | 54 | 63 | 51 | .18 | .11 | .07 | .10 | wind |
| We. 11 | 37 | 49 | 46 | .20 | .21 | .21 | .20 | Blustery cool N.W. |
| Th. 12 | 29 | 56 | 50 | .43 | .44 | .46 | | Hazy all day, eve. cldy |
| Fri. 13 | 31 | 57 | 48 | .50 | .39 | .39 | | |
| Sat. 14 | 39 | 57 | 47 | .56 | .27 | .30 | | Clear and pleasant. |
| Sun. 15 | 35 | 58 | 51 | .27 | .17 | .19 | | Variable. |
| Mon. 16 | 34 | 57 | 55 | .28 | .21 | .22 | | Clear. |
| Tu. 17 | 36 | 59 | 56 | .28 | .21 | .22 | | Fair. [variable. |
| We. 18 | 51 | 60 | 54 | .22 | .20 | .18 | .50 | A.M., stormy; P.M. |
| Th. 19 | 43 | 52 | 52 | .37 | .36 | .36 | | Clr. a ltle. fog in mng. |
| Fri. 20 | 39 | 45 | 45 | .50 | .45 | .42 | | Heavy fog all day. |
| Sat. 21 | 39 | 45 | 47 | .47 | .43 | .35 | | Light fog until noon then variable. |
| Sun. 22 | 36 | 50 | 51 | .27 | .16 | .17 | | |
| Mon. 23 | 45 | 59 | 56 | .18 | .16 | .15 | .05 | Stormy N.E. wind. |
| Tu. 24 | 50 | 56 | 51 | .24 | .27 | .27 | .40 | Cldy. Soil wet on top. |
| We. 25 | 49 | 58 | 55 | .40 | .35 | .33 | | but only 4 ins. deep. |
| Th. 26 | 43 | 54 | 54 | .37 | .30 | .27 | | A little fog, then fine. |
| Fri. 27 | 44 | 61 | 55 | .32 | .24 | .27 | | Clear. |
| Sat. 28 | 47 | 61 | 56 | .28 | .23 | .28 | | Variable, threat. strm |
| Sun. 29 | 41 | 55 | 54 | .41 | .39 | .40 | | Fair, blstry, with wnd |
| Mon. 30 | 39 | 58 | 46 | .46 | .45 | .47 | | Variable. |
| Tu. 31 | 40 | 55 | 55 | .43 | .35 | .29 | | Clear. |
| Total | ... | ... | ... | ..... | ..... | ..... | 1.25 | |

Total rainfall for January, 4.40; since then, on the 5th of February we had .05, on the 10th .45, on 14th .25, and on 16th .05, making a total for the season, up to date, of 5.20 inches.

SUCCESS IN BUSINESS.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALD'S BUSINESS COLLEGE, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circuluar, and HEALD'S COLLEGE JOURNAL, which will be sent free upon application. Address, E. P. HEALD, President, business College, San Francisco, Cal. 1v1-3msnr

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., March 2d.

FLOUR—The extreme dullness of the demand for both export and local consumption last week still continues and the quotations are more or less nominal.

We quote city mills, $5.75@6.00; extra, $6.87½@7.00. Standard Oregon brands, $6.50@7.00.

Transactions include 2,000 bbls. Cal. extra, 12,000 bbls. Oregon extra, at current rates.

WHEAT.—The market during the past week has exhibited but little animation, notwithstanding the very material advance in the Liverpool market. The receipts from the interior still continue light as compared with last year—the figures being as follows:—

| | Centals. |
|---|---|
| Total receipts last year to date | 5.542,500 |
| " " this " " | 4,410,000 |
| Deficiency this year | 1,132,500 |
| Total supply, this year, so far | 5,952,406 |
| " exports " " | 4,819,076 |
| Leaving balance on hand | 1,140,330 |

At present four large vessels are under engagement to load—one at Vallejo.

Transactions include 15,000 sacks fair to choice shipping and milling at $2.20@2.35, which may be taken as the present range of the market advance.

Liverpool quotations are telegraphed at 11s. 11d., an advance of 3d. New York telegraph rates continue at $1.70@1.75 per bushel, notwithstanding the advance above reported.

BARLEY.—Has been in limited demand and prices have declined 2½c. The receipts for the season thus far aggregate 544,000 centals, against 576,500 for the same period last year. We quote, feed, $1,35@$1,37½; brewing $1.40@$1.42½. Sales embrace 8,000 sacks.

OATS—We note still a limited demand for oats. Fair to good may be quoted at $1.50@1.75. Sales about 2,000 sacks.

CORN—Quotable at $1.40@1.50. The receipts have been heavy during the past seven days.

BUCKWHEAT—Nominal at $3.25@3.50.

RYE—In limited demand at $2.25½@2.50, a reduction of 25c.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $27.00@27.50; MIDDLINGS, $35 for feed; OIL CAKE MEAL $33.

HAY—Is in steady demand. We quote ordinary wild oat to choice wheat at $12.50@15 50 ₱ ton.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, $12@16, and Potter's, 2 lb do, at $4 ₱ dozen.

POTATOES—Receipts light and market firm. We quote Humboldt 1.85@2.00; other kinds $1.70@1.87½.

HOPS—This year's crop is quotable at 8@12½c. In the New York market the demand for new is better and prices are firmer.

HIDES—We quote Dry, slaughterer's stock, 16@17½ c; Salted; 8@8½c. Sales during the week 1,291 Cal. dry.

WOOL.—Receipts of small lots of spring clip have been received, and sold on private terms. Until larger receipts come in prices will be more or less nominal.

We quote good shipping, at 15@17½c; very choice, 18½c; burry, 10@12½c; slightly do, 13@14c.

The New York market continues in good demand; the market is very firm, and a slight advance on the better grades of pulled Wools, which are freely taken at full prices. Sales of 227,000 pounds at 35c. for spring, 20@25½. At Boston, 84,000 pounds fall at 22@28c.; 16,000 pounds lamb's at 22½@28; 17,000 pounds lamb's at 25½@28; 27,000 pounds, pulled part, 37½.

TALLOW—Quotable at 7@7½c, from ordinary to choice.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

BEANS—Prices but little changed. Bayo at $2.00@2.25; butter, at $1.90 for small and $2.37 for large; small white, $2.00@2.25; pink, $1.50; red, $1.75; pea, $2@$2.25 per 100 pounds.

FRESH MEAT—In good supply and quotations not changed. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 9@10c ₱ lb.
Do 2d do 8@ 9c ₱ lb.
Do 3d do 7@ 8c ₱ lb.

VEAL—Scarce and firm, has advanced to 12½@14c.

MUTTON—Steady at 9@10c. ₱ lb.

LAMB—Supply light, as yet, and quotable at 11@12c.

PORK—Undressed is quotable at 6¼@7½c.; dressed, 10@11½.

POULTRY, ETC.—In good supply, and prices remain unchanged. Young Chickens $7@8; Hens $7@8.50; Roosters $7.00@7.50; Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame, $2.50@$3 ₱ pair; live turkeys, 20c ₱ lb; Hare, $1.50@2.50 per doz; Doves, 50c do; Quail, $1.25@1.50.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 37@40c; Packed rolls, 32@35c. Eastern firkin 25@35c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California, new, 10@14c., Eastern, 16@17c.

EGGS—California fresh, 30@32c; California Lard, 11-lb tins, 14@15c; Oregon, 14½@15½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $1.50@$2.50; Oregon, $1.25@$2.75; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $25@$45; Lemons, per box, $16; Cal. Lemons, $3@4 per 100; Pears, scarce.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this department very promising stocks of all kinds are complete, and prices still low. It is thought, however, from the increased acreage under cultivation, and the encouraging prospects of a large crop of cereals, an active demand will undoubtedly follow for all kinds of seasonable goods in this line as the season progresses.

BAGS AND BAGGING—Are in moderate request only, with the exception of wool bags which are in demand. We quote wool bags at 55@65c. Oat Sacks 23x40, 12½c; 28x35, 18c; Potato Sacks, 17½c.; imitation Dundees, 18@19 c. Standard burlaps, 22x36, 12½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5½c; Oregon do, 6½c; Languedoc Almonds, 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ₱ lb; Raisins, layer, $4.25@5.00; Currants, Zante, 11½@12½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply; and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 16@16½c; Lard, California, 12½@13¼c; Oregon do, in kegs, 13@14½c ₱ lb.


## GAS.

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Also in the following public institutions: the City and County Almshouse, San Francisco; the County Hospital, Sacramento; the Industrial School, San Francisco; the State Institute for the Deef, Dumb and Blind, Berkely.

Also, the following private institutions: The College of Santa Clara, Santa Clara; the Alameda Insane Asylum; Alameda; and the New Hall and Theater, Petaluma.

Also in the following Mining and Manufacturing works, The Pacific Iron Works, San Francisco; the Chollor-Potosi Hoisting Works, Virginia City; the Eureka Gold Mining Company's Hoisting Works and Mill, Grass Valley, California; the Crown Point Mining Co.'s Mill (the Rhode Island), Gold Hill, Nevada.

Also, in the following stores; E. Cohn & Co., Marysville, Gibson and Cross' (saloon), Gold Hill, Nevada; P. Brown & Bro., Marysville; Wm. Klein, Marysville, J. M. Browne, Gilroy; and N. Wagner & Bro., Marysville.

Also, in the following hotels; Horton's New Hotel, South San Diego; the International Hotel, Virginia City, and the St. Charles Hotel, Carson City.

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### Stolen Land Warrant.

Notice is hereby given, that the undersigned will apply to the Commissioner of Pensions, as the law directs, for the re-issue of Military Bounty Land Warrant, No. 90,783, for one hundred and twenty acres of Land, issued April 28, 1857, to Annie Farnsworth, widow of James Farnsworth, private in the New York Militia, war of 1812; and which said warrant was stolen from the undersigned, in the city of San Francisco; on the nineteenth day of November, 1864; and all persons are cautioned against using or purchasing said stolen Warrant, as such purchase or use will be considered void.

T. HART HYATT.
Dated San Francisco, Cal., Jan. 21, 1871. 4v1-6wr

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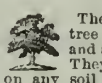

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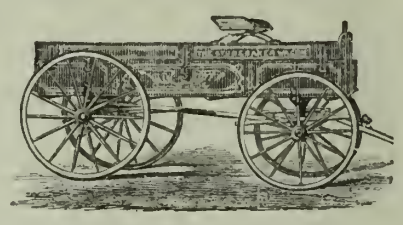

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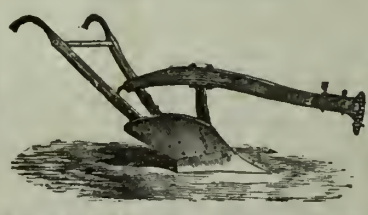

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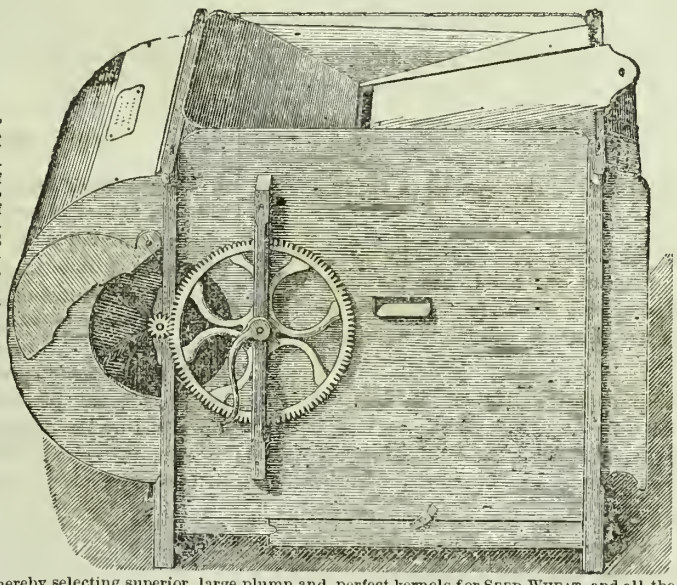

THE undersigned having purchased of the Patentees, WIRTS & SWIFT of Hudson, Michigan their right to this mill Patented June 22d, 1869 for California, Oregon, Washington Territory, Montana, Utah, New Mexico and Arizona, wishes to call the attention of FARMERS, MILLERS AND GRAIN DEALERS to one of THE GREATEST IMPROVEMENTS OF THE AGE for cleaning and separating grain. While it combines all the essential qualities of a first-class FANNING MILL, it also far excels anything that has ever been invented for the separation of grain. It has been thoroughly tested on all the different kinds of mixed grain, separating all the different seeds in almost a magical manner, placing them in their different compartments in the mill arranged for their reception, at the same time taking out all the *Mustard, Grass Seed, Barley and Oats,* and making two distinct qualities of wheat if desired, thereby selecting superior, large plump and perfect kernels for SEED WHEAT, and all the small and cut kernals, such as merchantable wheat, is deposited in another compartment. By the use of this Mill a great quantity of wheat usually sown that has been cleaned in the common mills will be saved to the farmer, as the cut or shrunken kernals will never germanate.

The above mentioned Novelty Mill is the only mill known to possess all these superior qualifications, and was exhibited and tested at the last Michigan State Fair held at Jackson, Michigan, September 21, 22, and 23, 1869, and bore away the palm over some thirty other different mills from all parts of the United States, including the famous Dicky Mill of Racine, Wisconsin. All who have witnessed here the operations of the NOVELTY MILL, declare it perfection, and the most beneficial invention to the Farmers, Millers, and Grain Dealers ever introduced on the Pacific Coast. The farmers in Santa Clara County, are loud in its praise, and also in other parts of the State where it is being introduced. No. 1 Mill, complete, is capable of cleaning 25 tons of grain per day; No. 2 Mill, 15 tons; No. 3. Mill, 8 tons. A large number of recommendations and certificates of the practical working of the mill will be furnished, Circulars containing references sent free by mail. N. B. Town, County, or State Rights for sale on favorable terms. For further particulars apply to

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Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

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The following resolution was unaniminously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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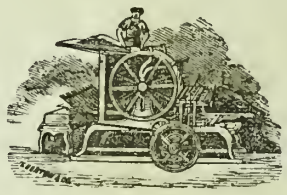

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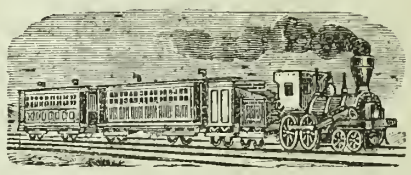

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Executed correctly and with dispatch.

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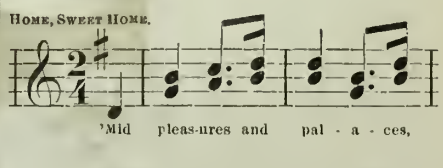


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Is a good old adage, and we shall adopt it as our own. We do not pretend to do work at "less than cost," as some people advertise to do; but we do claim to do all kinds of printing as cheap as it can be done on this Coast—and we believe as cheap as it is NONE in Chicago. Customers, in the country or city, are invited to call in person at our office, or send their orders by mail or express, and they will be fairly dealt with.

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## FOR THE PACIFIC COAST.

It is seldom that an invention of this kind has met with such wonderful success as has this Pump, which has now been thoroughly tested, both at the East and at the West. The manufacturers are in receipt of the strongest testimonials as to its efficiency, durability and superiority over other pumps, and are daily in receipt of large orders and of requests for agencies in different parts of the country.

The rapid introduction of the Pump into general use is the best proof that it really possesses the advantages claimed for it. Some of these advantages are as follows:

*First*—Simplicity. The entire Pump is composed of but six parts, all of cast iron, which can be put together by any mechanic. It is all metal, with no packing.

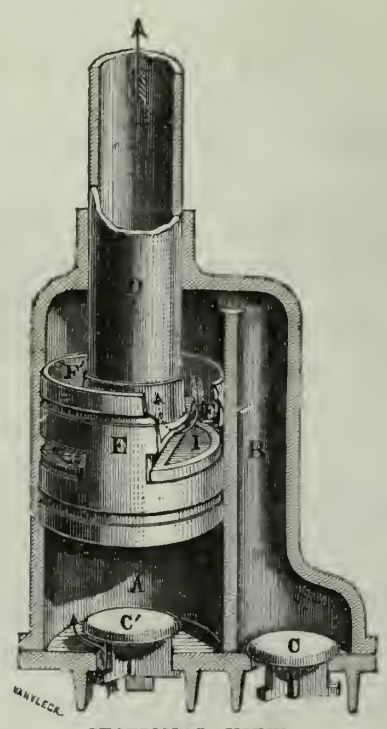
*Second*—Durability. From the fact that it is always submerged, it is perfectly lubricated, and requires no packing.

*Third*—Never Freezes. As no water can remain in the pipe when not in motion, there is no danger of freezing.

*Fourth*—Power. It is contended that for the power applied, this Pump excels all others. The No. 1 of this Pump, with the power of one hand, has the capacity of *twenty gallons per minute*, and will throw a stream *sixty to seventy feet into the air*. The working capacity of our largest size pump, by use of steam, can be brought up to *forty thousand gallons per hour*.

*Fifth*—Cheapness. For economy this Pump surpasses all others, its first cost being less than that of any other Force Pump of the same capacity; and being less, both in size and weight, there is a great saving in transportation. The cost of other Force Pumps for repairs per year is from five to fifteen dollars—our Pump requires *no repairs*.

Another important advantage may be mentioned here. By placing the Pump at the bottom of the well, and using all the pipe as a discharge pipe, no suction pipe is required which must be of larger size than a discharge pipe. The advantage is obvious.




SECTIONAL VIEW.

The method of operation is simple and is as follows: When the barrel, D, is raised, as shown, the valve, C, is also raised, admitting water, as shown by the arrow; at the same time the puppet valves, I, I, have seated themselves on the lower aperture, so that the water from the chamber, B, may pass, as shown by the arrow at F, into the barrel, D. On the return stroke, the barrel, D, with the piston, E, which are cast in one piece, drops, forcing the water from the chamber, A, by the puppet valves, I, I, being raised to their seats on the upper aperture, and closing C; the valve, C, at the same time raised, allowing the chamber, B, to be filled. This peculiar arrangement of the puppet valves, I, I, gives a solid head piston each way of the stroke.

### ITS USES.

*First*—For a House Pump. The smallest size of the Patent Submerged Pump is sufficient for all family purposes; placed in a well or cistern, water may be conveyed to every room in a common-sized house.

*Second*—For a Farm Pump, Windmill, or Drive Well, and all purposes connected with irrigating, watering stock, etc., this Pump can be placed in running streams, ponds, bayous, etc., and water conveyed to *any required distance, or taken from any depth*.

*Third*—For a Ship Pump. For ship purposes, either as a Bilge Pump simply, or for washing decks, it is superior to any now used. From its simplicity as a Bilge Pump, it will be found entirely free from choking, and will clear grain, dirt, stones, etc., with *perfect ease*, and from its great power would do incalculable service in the way of leakage.

*Fourth*—For a Factory or Engine Pump, or for Breweries, or for pumping acids, hot liquors, etc., it is invaluable. It can be made of composition which will not be affected by any liquid.

*Fifth*—In case of Fire it would act as a Fire Engine, with the use of hose, thereby protecting the building and lessening the insurance.

### OUR CLAIMS.

From our Testimonials we claim it has *greater power, simplicity and durability* than any other Pump, and is the *best and cheapest* Pump in the country.

### ITS PRINCIPLE

Is that of a Double-Acting Force Pump, with a heavy double-acting piston cast in one piece, and a double-acting iron valve within the same, without the use of leather valves *or any packing whatever*.

Since the Pump was first invented, several mechanical improvements have been made, so that the device might be as perfect as possible in every point. So popular has it become, after eight years of existence in the East, that contracts have been given for supplying whole villages, and the demand is continually on the increase. On this coast, several other Submerged Pumps have been introduced since this Company began business, but, after a short time, nothing has been heard from them with one or two exceptions.

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## THE IMPROVED POLISHED CYLINDER LIFT PUMPS.

The interior surfaces of these Pumps are polished by a patent apparatus, whereby not only is there a great reduction in the ordinary friction, but also the wear and tear, which necessitates the re-leathering or re-packing of the pistons so often in pumps where the cylinders are simply bored out, is entirely obviated. So closely does the packing of the piston fit into the cylinder, that the least movement of the pump lever produces an instantaneous and perfect vacuum, not an atom of leverage being lost. In a suit recently brought by owners of the patent against certain parties for infringment, it was demonstrated by the evidence that the packing of a piston in a cylinder polished by this process, would last nearly twenty times longer than if used in a cylinder bored by the ordinary method.

The fulcrum and lever of these pumps revolve, and can be adjusted to any position by means of a set-screw under the lever. The piston or upper valve can be drawn out

at the top of the pump, by simply loosening the set-screw that holds the fulcrum in position, and the lower valve can be reached by disconnecting the cylinder where it joins the base, there being only two bolts to remove them. The entire pump can be taken apart without detaching the pipe or disturbing the fixtures surrounding it. The flange on the bottom of these pumps is made larger than on the ordinary pumps, and consequently does away with the swaying of the suction-pipe. For Sale at the rates for ordinary Lift Pumps.

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These pumps are offered to the people of the Pacific Coast with the utmost confidence that they cannot fail to give the most perfect satisfaction. We can show the very best of testimonials from East and West, from North and South, from America, Europe and Africa. They are for sale by the

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PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, MARCH 11, 1871. [Number 10.

## THE VINEYARD.

### MARTHA (WHITE CONCORD) GRAPE.

The production of new varieties of fruit, grain, or vegetables, in whatever direction it may be attempted, is one of the most important efforts in which the husbandman can engage, as we have elsewhere, in the present issue, briefly hinted at; and it is one of the most pleasant duties of those whose business it is to record passing events in the progress of agricultural industry, to note the introduction of such novelties. Hence we are gratified, to-day, to lay before our readers a beautifully executed illustration of one of the lastest new varieties of the grape which has been brought to the attention of the pomological world.

The grape here shown was a seedling obtained by Mr. S. Miller, of Lebanon, Penn., from the well-known and popular Concord. Two varieties were produced, a white and black grape, which have been named respectively "Martha" and "Black Hawk;" the one here shown is the white variety. Mr. Miller has succeeded in producing several other varieties; but this is pronounced by good judges one of his best results.

The two seedlings mentioned are referred to in a late report of a committee of the Ohio Pomological Society as being particularly attractive on account of their color, —the Martha, a pale yellow; and both having the sterling good qualities of their parent—*vigor*, *hardness*, and *perfect health*.

The Martha (white) is larger in its berry and branch, more shouldered than the Concord, tough, hardy, and vigorous, with a delicate bloom; few seeds and small. Many exclaim on tasting it, "Sweet as honey, with a fine spicy aroma." It has yet been proven in but few places; but wherever tried, its value has been fully confirmed. It is said that when generally known, no white grape on the whole American list will stand as high in its reputation as this, and is also said to be broadly suited to the domain of our grape lands. It makes a delicate white wine, with aroma enough to be called "superb." It has been highly endorsed by some of the most distinguished pomologists and grape growers of the Western States.

From the description given we should think it would be admirably fitted for our high mountain valleys, both in this State and Oregon. It fills in the Atlantic States, a want long felt for a first-class white grape. We are indebted to Messrs. Cumming & Co., of Pittsburg, Penn., who, by the way, are advertising in the PRESS, for the beautiful illustration of this grape, which we are enabled to give herewith.

MARTHA (WHITE CONCORD) GRAPE.

THE WINE CROP.—The last seasons wine crop is now coming forward in large quantities. The receipt of last week, at this city, amounted to 38,000 gallons, the heaviest weekly aggregate with one exception, for a year. Of this amount, 11,100 gallons was from Los Angeles, 3,050 gallons from Sonoma, and 24,030 from other northern counties, principally Napa.

### CALIFORNIA RAISINS.

Mr. F. G. Jeffers, of Visalia, Tulare county, recently sent a box of raisins made by himself from three varieties of grapes of his own raising, to the editors of the New York *Tribune*, by whom they were referred to a committee composed of the principal hotel keepers of that city, who reported upon them as follows :—

*On the Rose of Peru.*—Mrs. Linthicum: This is fully equal to the best imported from Palermo: the skin is more tender and is sweeter. Warren Leland: I have been buying raisins for 30 years, and I seldom find a better article.

*Muscat of Alexandria.*—Mrs. L.: Fully equals the best; remarkably fine flavor; skin delicate and size fine. Mr. Leland: I never saw so good a raisin from Sicily.

*On the Zagos,*—Both Judges: Sweet, tender, rather small, a good cooking raisin.

Mr. Jeffers also communicated the following facts with regard to the production of the grapes, and the manner of their preparation :—

I gathered and spread on scaffolds in the sun, about the middle of September; after they are partly dry, I put loosely in large boxes under cover to finish drying; in about six weeks they were dry enough to box. The Rose of Peru averaged this year about 40 pounds to the vine; it took three pounds of green grapes to make one of dry. The Fiher Zagos averaged 25 pounds to the vine, and it took three pounds to make one of dry. The Muscat of Alexandria averaged 10 pounds to the vine, and took only two pounds to make one of dry. The vines are seven years old, and have brought grapes the last four years. Our soil is a light, sandy one, and slightly impregnated with alkali. I have not irrigated my vines since they were two years old. Fruits and grains grow here of as good a quality and as abundantly as in any part of the world.

Facts are fast accumulating which go, to show that no part of the world possesses greater facilities for the production of raisins, and almost all other kinds of dried fruits than California.

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RECENT orders for California still wines in considerable quantities, have lately been received from Louisville and Omaha.

LOS ANGELES is undoubtedly a prolific region; but we are hardly prepared to believe the report of the *News* of that city that "on the premises of Pio Dabilo, between Main and Alameda streets, in the upper part of the city, are growing several gigantic castor trees—two of which measure six feet in circumference at the base." Can't the *News* take off a few feet from that measure and still keep within the bounds of truth?

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PROPOSED POULTRY ASSOCIATION.—It is proposed to establish in this city a Poultry Association, with the view of sending some party to the East to purchase poultry for the benefit of the stock-holders. Particular information with regard to the project may be had by calling upon Mr. T. E. Finley, Liedsdorf street.

### THE ALVARADO SUGAR FACTORY.

The supply of beets at the Alvarado Sugar Factory, having become exhausted, the company suspended operations, for a short time, on Saturday last, preparatory to arranging for the new operation of "refining."

In the process of making sugar direct from the beet, (or cane either) several grades are produced, the poorer of which require a further process of refining before they are suitable for the market. A large quantity of this low grade (brown sugar) has accumulated, and the temporary suspension of work above alluded to, is to make the necessary preparation for this new work, none of which has yet been done at that establishment. After working up all their own low-grade or "raw" sugar, the company will go into the market and purchase raw cane sugar, sufficient to keep the works in operation until the next season's crop of beets comes in. By this arrangement the factory may be kept in constant operation the year round.

There is no necessity, as some interested parties have asserted, for a beet sugar factory to remain idle half, or any other portion of the year, anything further than for needed repairs. The Alvarado Company has equal facility for obtaining and refining raw cane sugar, after their own products has become exhausted, that other refineries in the city have. Small steamers can land their load at the very door of the factory, and, of course, take away the refined product as return freight.

The company has thus far done a good and profitable business. The sugar which they have put in the market, though equal to any of its kind ever offered in this city, is not of as good a quality as that will be which will soon be sent out as the product of the second working or "refining" process, which be will commenced in about two weeks.

The company has already commenced planting for the second crop, and some tests have recently been made of beets grown at Sherman Island, with the view of ascertaining the comparative saccharine value of the product grown on that island and at Alvarado. We have not yet been able to obtain any correct report of these tests, but are assured that the statements heretofore published do not give the correct figures. With regard to the proportionate yield of the land at Alvarado and Sherman Island, the advantage is largely in favor of the latter locality.

We are moreover assured of what, if correct, is of no little importance to persons engaged in beet culture, viz.: that there is a very decided difference in beets grown in this State from foreign seed, and those grown from seed which have been produced in this State. The beet seems to require an acclimitization here, which will probably not be fully attained until the third or fourth year. The advantage is largely in favor of the acclimatised seed.

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THE proposed flag of the new German Empire is black, white, red, and gold.

## MECHANICAL PROGRESS.

WOODEN RAILROADS.—The Chicago *Railroad Gazette* for Feb. 18th has an article by Wm. S. Huntington, in which he quotes the report of a Canadian committee appointed to examine the Clifton Wooden Railway, in Northern New York. We give an extract from this report: "The expense of keeping the track in repair will not, according to Mr. Hulburt, the engineer of the road, exceed the wages of two men to every three miles of road. These men will replace the worn out rails as fast as required. This does not include renewal of trestle or crib work. The 20-ton locomotive will easily take 80 tons per trip and make two trips daily—between Carthage and Harrisville, 47½ miles. The rails are made of maple, 14 feet long, 6 by 4 inches, laid edgewise. Mr. Hulburt suggests that rails would be best 7 by 3½ inches. The rims of the wheels are like those used on iron railways, only wider, and the flanges a little beveled, so that the flange, in pressing against the rail, does not cut it. We did not see a single rail "broomed up" or cut on the inside, and only a few on the outside, where the heart of the rail had been laid uppermost. The "switches" are made in the usual way, the rails being kept together with iron rods when required to be moved. The "keys" are made of maple plank. The rails are sunk into the ties (which are cut into, 6 inches wide and 4 inches deep) and are kept in place by wedges or keys twelve inches long by four inches wide, and one and a half inches thick at one end by three-fourths of an inch at the other and driven in on the outside of the rail, keeping it against the shoulder of the ties. The ties are put down without being sided. There has not been a single car off the track since the road went into operation. The country through which the Clifton Railway is built is not only broken but even mountainous, and there is no difficulty, in our opinion, in constructing such a railway in almost any part of these townships. From the information obtained as to cost of labor, materials, etc., in the vicinity of the Clifton road, we are of the opinion that the cost of grading, furnishing ties and rails, and laying the same, with a moderate allowance of rolling stock, sufficient for some years, will not exceed for our railroads $5,000 a mile exclusive of large bridges—and this to build in a more permanent manner than the Clifton road is built. We are fully convinced of the practicability of wooden railways, where the principal object is a freight traffic at rates of speed from 8 to 12 miles an hour; and that next to an iron railway, or where the cost of an iron road is too great to be undertaken, wooden railways can be cheaply built, economically carried on and a large paying business done by their means."

TRAMWAY FOR CITY STREETS.—The *American Artisan* for Feb. 22nd, gives Prof. Tillman's description of his own device for this purpose:—"Employing iron as the material for the wheel-ways or tramways, I would," he says, "cast it in hollow blocks, so as to be interlocked, and its face could be provided with a series of smooth raised surfaces, alternating with impressions or indentations; and the raised surfaces could be so arranged that the wheel would be constantly sustained on a true grade by rolling over one raised surface, which should touch the middle of the tire, or rolling over two raised surfaces, which either simultaneously or alternately would give a bearing to the wheel-tire near its sides. The transverse depressions thus formed allow the toe-calk or fore part of a horseshoe to sink below the raised or grade surface, and by means of such surfaces the horse would find a sufficient bearing against which to exert the leverage of his foot. A pair of iron paths, each about one foot wide, and placed four feet and a third apart, would provide a tramway suitable for vehicles of various widths, embracing the pleasure carriage, cart, lumber-wagon and omnibus, and a pathway for a pair of horses between such tracks. The tramway could be made of hollow cast iron blocks, each about a foot long, with a projection on one end and a recess on the other, so that when brought together and interlocked, the pressure on the edge of one block would be transferred to the center of the next. Such blocks could be laid directly on pure sand, or be filled in from beneath with wood and laid on a perfectly solid and smooth foundation."

SPIRAL CUTTER FOR PLANERS.—The *Manufacturer and Builder* for March describes Moore's patent device for a cutter, so constructed that it may be substituted for the ordinary knife without any alteration of the planing machine. We quote:—"Instead of making the knife straight, Mr. Moore twists it around the cylindrical body and makes the edge a spiral, usually having one third of a revolution, but it can be made of any twist; the greater the twist, the less the power required. Only a small part is in the wood at a time, and the edge has a drawing motion. On account of this, the work is very much smoother than any thing that can be done with the ordinary cutter head with its direct chopping. Finished work can be turned out, such as door-panels which are ready for sand-papering. Some of the gnarled, crooked walnut worked by this machine was as smooth as the jointer of the carpenter would have left it. The shavings are all sent to one side, showing the work clean as it leaves the machine, which is an important point. It can be made right or left hand twist so as to throw the shavings upon either side. The noise is very much less than that of the ordinary cutter. In fact, it can not be heard above that of the machine unless it is in the wood. Having a shearing motion, the knives do not become dull nearly as fast as those of the ordinary straight pattern. Another point worth attention is the mode of sharpening. This is done without taking the cutter from the machine, by taking off the driving-belt and substituting another running over the feed-pulley in its place. A file or emery-plate is then placed in a suitable block and passed along the bed under the knives. This brings them down "true." A hone then takes the place of the file, and finishes the job."

CAST RAILS.—The N. Y. *Stockholder* for February 21st has an article upon the Sherman steel process so called—really the invention of Mr. Atwood, of Ohio, but named in English journals after his nephew, Mr. Sherman, who introduced it across the water. We have copied several commendatory notices of it from the journals aforesaid. Mr. Atwood makes by it cast steel axes directly from 70 per cent. ore at one melting. It now promises to have another and very extensive use. We quote:—"Last week, at Bridgeport, in Connecticut, the process was employed for casting railway bar. The result was perfectly satisfactory, and the conclusion seems to follow that the best possible steel rails may be turned out at little over the cost of the poorer English rails landed at New York. The difference between such price and that at which bars made under this process may be offered in this market, will express the profit of the manufacturer, less the inventor's royalty. But the difference to the railway companies is far larger than this, since rails may be made by this treatment wherever pig and scrap iron can be found. The expensive apparatus for rolling is dispensed with. The rails may be cast in pits, in cheap works. Every railway concern has refuse iron enough at command to justify the use of an inexpensive furnace of its own to cast rails of the Atwood steel. The poorest pig iron as well as the best are indifferently used under this process."

SAFETY CAR-TRUCK.—The Rochester *Democrat* thus describes a recent invention: "The reader will picture in his mind an ordinary car-truck, with eight wheels. Between the forward wheels are four cone-shaped wheels of less diameter, with flanges on the outside, two of which are suspended on an independent axle from each side of the car-truck, a few inches above the level of the track. One of these wheels is on the outside of the rail and the other on the inside. The small ends of the cones face each other, but are a little over the width of the car-wheel apart. Having an independent axle, they are not in motion only when the car is off the track. On both the forward and rear trucks these wheels are hung, and their positions on each side of the car, and at each end are the same as described above. Now when a car-wheel leaves the track, either by reason of its breaking by a displaced or broken rail, an open switch, or turning a sharp curve, the car drops down on these cone-wheels, and they temporarily take the place of the main wheels, and the car rolls on the track as it did before. A shock will be felt by the dropping of the car which will give notice of the accident. The flanges of the cone-wheels will bind on the track and act as brakes to a certain extent."

## SCIENTIFIC PROGRESS.

THE PHŒNIXVILLE BONE CAVE.—The *U. S. Railroad Register* gives an extended notice of the bone cave recently discovered in Chester County, Pennsylvania, near Phœnixville, by Mr. Wheatly. Prof. Cope exhibited a large collection of the smaller bones at a late meeting of the American Philosophical Society. It is said to be one of the most important discoveries yet made upon the continent. The remains found consist of mammals, reptiles, insects, and plants. Among them are three species of gigantic sloth, one as large as the Megatherium of Europe. Five feet of a mastodon tusk, which when entire measured eleven feet, was found in fragments. Bones of the cave bear, two species of horse and several species of tapir, were found. The collection is also rich in the bones of the smaller animals. Further investigation will determine more definitely the age of the deposit. Prof. Cope referred, in the course of his remarks, to certain similar fossil animals of acknowledged past-pliocene age, found in cave earth on the small islands of the Antilles. W. D. Gunning writes to the *Tribune* as follows:—"The bones in this Phœnixville cave are overlaid with glacial drift. I have examined in the Philadelphia Academy a section of the cave drawn by Professor Cope. This section tells its own story. The animals whose remains are entombed in the cave lived before the epoch of the great northern drift. In those remote times America seems to have been the land of the horse, the rhinoceros, the elephant and the camel. If this horse should prove to be new, it will be the 18th species known to have lived in America before the drift period. I do not understand that any human remains or any implements fashioned by human hands have been found in the Phœnixville cave. At this stage of the investigation we cannot say that this discovery throws any light on the question of the antiquity of the human race."

NOTE ON METAPHOSPHORIC ACID.—Prof. E. N. Horsford sends the following to the editors of the *American Chemist*:—"If you precipitate common phosphate of soda with nitrate of silver, adding sufficient ammonia to keep the liquor neutral, and, having washed out the precipitate, mix it mechanically with three times its volume of purified Berkshire sand (granular silica), then dry and ignite the mixture, you will observe a reddening of the mass, indicating a change in the molecular arrangement. If now you pour over the mass diluted hydrochloric acid, less than enough to unite with all the silver, and let its action continue for some hours till all the hydrochloric acid has disappeared as chloride of silver, then, on filtering off the clear liquor, you will have an acid liquor that precipitates solution of *albumen, white*,—you will have one of the phases of *metaphosphoric acid*. This proof of the change produced in an anhydrous trimetallic phosphate by heat, to wit, the conversion of the tribasic phosphoric acid to metaphosporic acid, may be more satisfactory than that of the decomposition of burned bones with nitrate of silver, and the exposure of the product to sunlight, which you have witnessed, and which gives to the solution in ammonia poured over paper, the characteristic red shade, while tribasic acid with similar treatment gives the black or dark brown shade."

THE GLACIERS OF THE PACIFIC SLOPE.—Clarence King describes in *Silliman's Journal* for March, his ascent of Mount Shasta in September last and discovery of several considerable glaciers. The ascent was formerly made on the south side, where there are no glaciers, "and this is why able scientific observers like Prof. Whitney and his party should have scaled the mountain without discovering their existence." The apparent absence of glaciers in a region where such abundant indications of glacial action are found, has been remarked upon. Mr. King says:—"Travel where one will, in the high Sierras or in the more elevated regions of the Rocky Mountains, he seems to be treading the pathway of a glacier of yesterday." The report of Mr. King, containing, as it will, a full description and topographical map of the mountain and the glaciers, and of the traces of the ancient glacier system, and also of Mount Hood and Mount Rainier, will be looked for with great interest.

NATURE OF THE EARTH'S INTERIOR.—David Forbes F. R. S. delivered a lecture on this subject on January 29th. *Nature* prints it in full. We give the conclusion: "If now we suppose that the earth's interior is composed of a series of concentric zones or layers made up of substances which are of more and more dense nature as they are situated nearer the center, and that the external one is rock of a density of 2.5, a calculation will show that the center or nucleus will be about 10, or as heavy as silver. If now we suppose that the zone of molten lava, which we have already concluded must exist at a depth of about 50 miles below the surface, has a density of 3, or say even 4, to give the fullest allowance for the condensing effects of superincumbent pressure, then we should find by calculation that this zone could not extend deeper than about 400 miles, since below this depth the matter would be so heavy that its density can only be explained on the supposition that it is made up of metallic compounds, and as the density of the still lower zones would continue to increase up to the very center of the earth, the inference is that the whole of this great central mass situated at a distance of some 450 miles or less below the surface, is actually formed of metals and their compounds. Whether this great central metallic nucleus is fluid or solid may next be inquired into. According to Bunsen's theory previously alluded to, it ought to be solid, for owing to the enormous pressure to which it would be exposed, the solidification of the molten sphere should first commence at the center. This view would be quite correct if the earth was composed of highly compressible non-metallic materials; but since this is not the case, and since, as before alluded to, the experimental data already obtained indicate that neither the metallic nor the less compressible substances become more refractory in proportion to the increase of pressure, we are more justified in assuming that the central nucleus also must be in a fluid condition, and the more so, not only because we know that metallic compounds are as a rule infinitely more fusible than rock silicates, but also as the well-known high temperature of the earth's interior would, by its expanding action, tend to counteract the effects of the pressure. In summing up this inquiry, the balance of evidence appears to me to be decidedly in favor of the hypothesis that the interior of our earth is a mass of molten matter arranged in concentric layers or zones according to their respective densities, and the whole enclosed within a comparatively thin external crust or shell."

PHOSPHORUS ESSENTIAL FOR FUNGOID GROWTH.—Prof. Frankland read a paper before the London Chemical Society, Feb. 2d, on the "Development of Fungi in Potable Water." He began by alluding to the experiments Dr. Heisch had made some months back with waters contaminated with sewage matter. When to such waters some sugar was added, very soon a kind of fermentation ensued, and a rich fungoid growth made its appearance. Prof. Frankland has now repeated and extended these experiments, and arrived, with one or two exceptions, at the same results. But in the course of his researches he encountered some reactions which revealed to him that the presence of sewage matter in saccharic water is in itself not sufficient to produce fungoid growth, but that the presence of phosphates in some form is indispensable to such production. * * From all his observations Prof. Frankland drew the following conclusions:—1. Potable water, mixed with sewage, urine, albumen, and certain other matters, or brought into contact with animal charcoal, subsequently develops fungoid growth, and other organisms, when small quantities of sugar are dissolved in them and they are exposed to a summer temperature. 2. The germs of these organisms are present in the atmosphere, and every water contains them after momentary contact with the air. 3. The development of these germs cannot take place without the presence of phosphoric acid, or a phosphate or phosphorus in some form of combination. Water, however much contaminated, if free from phosphorus, does not produce them.

THE number of bones broken in lunatic asylums is said to have given rise in England to the more special examination of the bones of the patients, and it is stated, that the ribs of crazy folks are more brittle than those of the sane. Through the action of the diseased brain, it is suggested, there is a wasting away of the phosphates.

# CORRESPONDENCE.

## Notes of Travel in Tuolumne and Calaveras Counties.

[Written for the PRESS.]

### From Garote to Chinese Camp.

Second Garote, Tuolumne county, is situated on the Yosemite turnpike road, forty-one miles from Hutching's hotel, Yosemite valley, and sixty-eight miles from Stockton. Little or no mining is now done here, agriculture having taken precedence. Every little valley has its field of grain, or orchard and vinery. Between this and First Garote, Mr. E. Muller has beautified some twenty acres of land with orchard, vines, etc., and has a fine brewery where he manufactures for the mountain trade, ale, porter, and beer.

First Garote, two miles off, the point at which travelers for the Yosemite valley halt over night, contains two good hotels. The Stage House is kept by B. L. Savory, a gentlemen who fully understands his business.

Two miles farther is Big Oak Flat, now nearly deserted in a mining way, but for twenty miles around the citizens are turning their attentiou to the production of cereals and the grape. On the strength of the preseut crop just put in, Mr. J. D, Murphy is erecting a grist mill within half a mile of the flat, to cost abont $5,000. The motive power will be water, from the Golden Rock ditch. It will have two run of buhrs. Moccasin Creek viueyard, three miles west, is owned by Newhall & Culbertson. They cultivate some 18,000 vines, and manufacture annually 10,000 gallons of wine. Two thousand of the vines are early and used for the table only. They also made seven hundred pounds of raisins last year from the *Fiher Zagos*, a species of grape that, I mentioued in my letter from Stockton and vicinity, would not do well there, on account of rotting. Here they do excellently, producing about twenty-five pounds to the vine, and making a fine cooking grape. The only objection to them here is, that they are rather small.

Chinese Camp, nine miles farther west, is not as flourishing as it was ten years ago, but still contains a number of energetic citizens. Jamestown, eight miles nearly north from here, is almost a wreck as a mining town, but has surrounding it several fine vineyards. That of John Pierano, Esq., contains one hundred and thirty acres, and is all in vines and trees. This gentleman manufactures 15,000 gallons of wine annually, and markets some sixty tons of peaches, apples and other fruits. He has a species of peach called the *White Seedling Cling*, that does not ripen until November and December, the latest peaches in the country.

### Orchards and Vineyards at Sonora.

G. Macomber, Esq., is the possessor of about twenty-five or thirty acres of very fine orchard and garden. He informs me that it contains one thousand apple trees, eighteen years old, from which he marketed last year one huudred aud twenty-five tons of fruit,—a remarkable yield. He has two hundred peach, two hundred and fifty pear and sixty plum trees, besides aprieots and figs. He also informs me that he manufactured and sent below, last year, 8,000 gallons of vinegar, and 8,000 kegs of cider vinegar pickles. Next adjoining Mr. M., is the garden of E. Dane, Esq., containing twelve acres, (he is also grape raising in other portions of the county,) with ten thousand vines, besides five thousand more elsewhere. This gentleman has beeu experimenting in wine making for the past ten years, and, in my opiniou, has accomplished the art the nearest to perfection of any man in the State. He manufactures about two thousand gallons annually. His principal business, however, is market-gardening, supplying Sonora and vicinity.

A. M. Mitchell's vineyard, one mile from Springfield, contains about forty acres, all in vines, fifteen of which are bearing vines. He also has twelve acres of an applo orchard. He manufactured last year nine thousand gallons of wine. A large majority of his product for the last four years is still on hand. This tract is entirely surrounded by a stone wall, four feet high by two and a half feet at the base, and is cultivated without irrigation. C. H. Parsons & Bros., near Columbia, own and cultivate sixteen acres of an orchard and vinery. In 1859, the proprietors of this orchard took the first premium for beauty and completeness at the State Fair. They market about twenty tons of apples annually, and make from two thousand to four thousand gallons of wine.

### Murphy's Camp and Vicinity.

Murphy's Camp, some twelve miles from Columbia, is reached by a fine mountain road *via* Abby's Ferry, kept by Geo. Moorehouse, Esq., this is decidedly the shortest route, and at this season of the year is kept in the best repair. At Douglass Flat, (within two miles of Murphy's), I. P. Hitchcock, Esq., is cultivating some 20 acres of fine mountain land, upon which he has 2,500 fruit trees, consisting of apple, peach, pear, plum, apricot and English walnut trees; Mr. H. markets his fruit principally iu the State of Nevada. He also has 8,000 vines, the product of which he markets for table use only, making but little wine. Murphy's Camp proper contains about 500 inhabitants, and one of the finest mountaiu town hotels in the State, presided over by Messrs. Sperry & Perry, who are also the proprietors of the famous Calaveras Big Tree Grove. This town is situated 55 miles from Stockton and 15 miles from the Big Trees. It contains one of the finest frame school houses in the State, and certainly the very finest play grounds surround it. An average of 100 pupils attend daily; at times 150 are in attendanee. E. L. Knowlton and lady are the teachers. In addition to the usual branches taught in such schools, instruction is given in music and phonography. The site on which the school house is erected, was presented to the trustees of the same by Dr. Jones—now resident of San Francisco. Dr. J. is still a property owner here, and has a fine orchard of some 25 or 30 acres iu the suburbs of the village. The following is a correct table of the precipitation (rain and suow) for six years at Murphy's Camp, from the observations and rain gauge of E. Cutting: 1865-6, 31.-633; 1866-7, 43.963; 1867-8, 61.398; 1868-9, 30.072; 1869-70, 30.396; 1870-71, to February 24th, 13,049. The above is calculated in inches, and thousandths of an inch.

Messrs. Kimball & Cutting, lumber dealers here, employ during summer 25 men, and 5 wagons with 45 animals. They own one steam saw mill, 7½ miles N. E. of Murphys, which is ruu by a 30-horse power steam-engine. They manufacture some 800,000 feet of lumber annually. Dunbar & Son, who are dealers in the same line, get out about the same amount aunually. Last year, however, they only got out 700,000 feet.

### Tarantula Cultivation.—Griddles.

A curious vocation, though perfectly legitimate. S. F. Schaffle, of this (Murphy's) Camp, is actually engaged in cultivating the above named insects, for the Eastern market, and for tourists to the "Big Trees." The construction of the cells is peculiar, and no animal, fowl, or other insect has ever yet been found that builds anything to compare with it. Their cells are from three to eighteeu inches deep, with a water-proof lining, coated over with a substance looking like shammy, but as fine as silk velvet, with a door, or lid which they close after them when they go in; and when they have their young, they latch it, bolt it, and then seal it perfectly water tight. They increase about 150-fold annually. Mr. S. informs me that they increase, after transplanting, some four-fold in size, in from two to five years, after which they build a new cell, to accomodate their additional corpulency.

A new idea of *griddle*, on which to bake hot cakes. During my travels in this section, a gentleman gave me the following particulars of a new griddle (new at least, to me). It consists of a piece of *soap stone*, an inch thick, surfaced on one side and cut round to fit the stove. An iron band, with two ears, surrounds its circumference, and a bail made of wire is attached for a handle. He says he is using one, and asserts that *no grease* is necessary to prevent the cakes sticking to the griddle, and that the taste of the hot cakes is greatly improved.

A place of resort in summer, not generally known, is the South Grove, situated six miles from the Calaveras Big Tree Grove, from which place it is reached by trail on horse-back. It is situated between the North and Middle Fork of the Stanislaus river, and contains some 1,200 trees of the same kind as at the other grove; at least 100 of them are as large as the largest ones in the Big Tree Grove. F. C. Congdon is its proprietor, and has erected a small lunch house there, to accomodate tourists. L. P. MC.

## Right and Left—An Error Corrected.

EDS. PRESS.—In the SCIENTIFIC PRESS of the 18th inst., was printed a paragraph relating to the fact that the result of walking is a tendency of the right side to outwalk the left; and your conclusion is, that a person walking some distance in a forest would find himself involuntarily going to the *right* of his true course. Now, to a person "up a tree" in said forest, a man whose right side was outwalking his left would be seen to go more to the *left*, for the reason that the left foot is the pivot upon which the body must *rest* more than it does upon the right; otherwise, the right foot could not outwalk it. [We are obliged to correct the corrector here. The item alluded to reads as follows:—"A scieutific lecturer on walking says his experimeuts show that *one* side of the body always tends to outwalk the other side." The credit of the whole paragraph belongs not to us but to the lecturer, who states that the almost iuvariable tendency is to wander off to the right, rather than to the left, therein differing from our correspondent. EDS. PRESS.]

A curious illustration of this tendency of the body to revolve toward the left, is the precautionary measure adopted in military training, of always advancing the left foot first, and marking time with the same in marching. It shows plainly enough that this has been ascertained to be the only mode by which a straight line can be maintained for a long march. At what period in man's history this discovery was made, I am not informed; but it is a fact bearing upon the question at issue, which I wish you to "make a note of."

One reason for the fact that, when the left foot is not trained to the contrary, the right will always gain upon it in distance, is, that the left side of the body is the weakest and the soonest fatigued. And this also is the reason why training is necessary, in order to teach the left foot to compete with the right in marching. What is called a "forced march" of an army could never be accomplished otherwise. It has been customary to attribute the ability of soldiers to make long marches, without rest, to the measured step and the exhilaration of the music. But I think the true source of such power of endurance will be found in the gradual strengthening of the motor muscles of the left side, by the training above referred to. The movement throws the duty of resting the body more upon the right foot, and thus preserves an equilibrium of muscular force, very necessary for a long period of exercise.

The same principle applies to the exercise of the body in waltzing; it being necessary to make the right foot the pivot upon which the body revolves during most of the dancing, as otherwise the fatigue would be too great; and, besides, a revolution toward the left when long continued, reverses the circulation of the blood, and promotes dizziness.

But, notwithstanding that man by training may thus apparently reverse the order of nature, it is just as philosophical to suppose that he should walk in curves as to believe that the surface of the earth upon which he walks is curved, and abounds in myriads of minor curves also. Indeed, these facts furnish another reason for the unequal movement of the body from right to left, which has been observed. The natural tendency of two persons, in passing each other, is to go to the left; and it is only by rigid training and long practice that we are enabled to "keep to the right, as the law directs." As it is, the effort sometimes results in very ludicrous "dodging," as every person knows.

There is no such thing as a mathematically straight line, or a perfectly flat surface. It would therefore be impossible to extend two lines to infinity, or to walk upon the surface for a great distance in a straightline. It is certain that two persons starting at opposite points of the compass, and even upon widely separated parallels of latitude, and walking naturally, would meet at some point on the globe, though it might require more than one circuit to accomplish that result. They would thus perform a spiral movement toward each other, each moving to the left. This does not appear very astonishing when we consider that whole nations have thus proceeded, in their migrations from east to west, and from west to east. The Anglo-Saxon race, and the races it has drawn after it, have moved to the left in their passage across the Atlantic Ocean and the North American continent; the Asiatic races have met them half-way in *their* transit across the Pacific, and have moved to the left also.

There are questions of vast significance opened up to the reflecting mind in connection with the simple fact with which we started in this communication, but the limits of a periodical like yours will not permit me to enlarge upon them here. One more fact, therefore, in proof of what has been stated, and I shall close.

It has been noticed that although the heart, the seat of the circulatory system, is situated in the left side of the body, the temperature of the right side is always the highest, especially after exercise. This is an evidence not only that the right side has performed the largest share of the work, but that it is endowed with the power to perform it. The size of the muscles and sinews in the right limbs, and the generally larger development of those limbs, show that they are fitted for such performance.

Exceptions are not wanting to prove the rule. There are a few left-handed people, who do all their work with the left side; but all observing people will agree that these are not so handy in the doing of it as right-handed folks. There have been found such freaks of nature as the placing of the heart in the right side, and the liver and other viscera in the left; but all who desire that their hearts should be in the "right place," will generally find it at the left side. PHILO SOPHOS.

Shermantown, Nev., Feb. 27.

## Curious Telegraph Cable Statistics.

The Atlantic cable, although it is only about an inch in diameter, covers an area of over a million square feet of the earth's surface, that is to say, about 23 acres of ground at the bottom of the Atlantic Ocean, the area, indeed, of a small farm.

The inductivo surface of the conductor of the Atlantic (1865) cable is about 481,-000 square feet, or 11 acres of area. The exterior inductive surface of the gutta-percha is 1,526,845 square feet, or 35 acres.

The conductor of this cable contains 263 tons of copper, drawn into 13,250 nautical miles of No. 18 wire, a length which, laid over the surface, would more than suffice to join the north and south poles of the earth.

The insulation contains 338 tons of gutta-percha and compound.

A No. 16 copper wire, of the same resistance as a mile of the insulator of the (1865) Atlantic cable, would be over 8,000 millions of miles long, that is to say, long enough to be laid ronnd the orbit of the planet Neptuue.—*Engineeing.*

LONDON "TIMES" IN PARIS DURING THE SIEGE.—The *Times* itself explains how this was managed:—"Those pages of the paper which contained communicatious to relatives in Paris were photographed with great care by the London Stereoscopic and Photographic Company on pieces of thiu and almost transparent paper, about an inch and a half in length by an inch in width. Ou these impressions there could be seen by the naked eye only two legible words, "The *Times*," and six narrow brown bands representing the six columns of printed matter forming a page of the newspaper. Under the microscope, however, the brown spaces become legible, and every line of the newspaper was found to have been distinctly copied, and with the greatest clearness. The photographs were sent to Bordeaux for transmission thence by carrier pigeon to Paris. When received there, they were magnified, by the aid of the magic lantern, to a large size, and thrown upon a screen. A staff of clerks immediately transcribed the messages, and sent them off to the places indicated by the advertisers."

THE LARGEST LIBRARY IN THE WORLD is the British Museum, which already contains 1,600,000 volumes, and is increasing more rapidly than any other library in the world.

A GOOD PLACE FOR RAISING POULTRY.—Eggs are said to bo selling for $2 a dozen in Arizona.

MONTANA.—The *Pick and Plow* says the agricultural wealth of Montana Territory has doubled in the last year, and all the valleys adjacent to market are continuing to bo settled very rapidly.

THE sound of the human voice has been heard three miles over a level plain; a railroad whistle, eighteen miles; thunder, sixty miles; and cannonading, eighty miles.

# Home and Farm.

## GOOD ADVICE FROM AN EXPERIENCED FARMER.

Editors Press:—I notice my name in the Press as a contributor to its valuable columns, and having a little time (a rare thing with me at present) I accept the invitation.

I have carefully perused each number of your valuable paper, with profit and much pleasure. It is just the kind of paper needed, on the Pacific coast, to educate the farmer, horticulturist, and stock-raiser up to producing to a profit; up to good cultivation, summer fallowing, subsoiling and irrigation—four essentials actually necessary to assure good yearly crops in California.

A large proportion of our farmers are intelligent men, capable of managing general business with success; yet sadly at fault in tilling the soil. As a rule, our agriculturists and stock-raisers too, have been educated to other callings and professions than farming, and are not yet, to all appearances, sufficiently acquainted with soils and climatic influences.

Many farmers here, as elsewhere, ignore book farming, and rely upon old habits and modes and prejudices. But it is gratifying to notice that within a few years farmers have been gradually changing these old modes for better and more scientific cultivation. And the stock-raisers, too, are swapping off their mustangs for blood. They have discovered that blood will tell in all respects—that the mustang race is unsafe, unsalable and not profitable to keep or raise.

The good farmer will be known by his good house, barn, fencing, and pleasant surroundings; while the poor farmer will be known by the frequent visits of the sheriff, windows stuffed with old hats and rags, fencing repaired by baleropes as a substitute for nails. His pasture, if he has one, and his barnyard, will be stocked with skeletons.

Farmers, if they wish to be successful, must throw away the old idea that their fathers and their grandfathers knowledge is sufficient for these times of progress. A new era has been introduced. Scientific farmers are fast taking the places of the old plodders, fogies, and anti-book-tillers of the soil. These poor farmers and stock-raisers should read newspapers and works upon agriculture, horticulture and stock-raising, instead of spending their long winter evenings and their leisure time in idleness or something worse. Such books are cheap and plenty and full of good prints and useful information.

Agricultural journals and books will teach the nature of soils, the quantities of fertilizers, and all the modes of cultivation in general use, the propagation of fruit trees and the art of budding and grafting. By the practical application of vegetable physiology, the wild, small, tough-skinned woody peach has been transformed into the large, melting, luscious Crawfords, George the Fourth, and scores of other rich varieties. From the small, sour, hard crab-apple, the Mammoth Gloria Mundi of three pounds weight has been produced. And from the hard and almost useless pear in its native state, within a few years, hundreds of varieties have been originated.

So with breeding domestic animals. From the wild bull, the perfect and majestic thoroughbred Durham and other species have been originated; and by skillful and judicious crossings, the thoroughbred English horse, the Black Hawk, Morgan, and other valuable breeds have been produced. From the native coarse-wooled, small-boned Asiatic species—the original type, have been bred the fine fleeced Merino and the large and beautiful Southdown and Cotswold.

I have observed, that farmers should read and study more to keep up with the march of progress, exalt their profession, and better their circumstances. Having plenty of time, particularly in California, there is nothing to prevent the acquirement of such information.

A new light is dawning upon agriculture and horticulture. Within a few years improvements in farming implements and a knowledge of soils and productions have become common and appreciated. From an obscure and humble art, with such machines and implements to aid it up to the 19th century, agriculture has arisen from its low estate, is now associated with the noblest of the sciences, and has the ablest minds in the world to illustrate and uphold its dignity. It has more than caused two blades of grass to grow, where one grew before; it has reclaimed millions of acres from barrenness, and caused them to produce immense crops of fruits and vegetables, grains and grapes. It has explained the structure of plants, the functions of the roots, the stem, the leaves, the bark, the course of the sap, the influence of light and darkness, of heat and cold, and electricity, and rain and mists. It has investigated the natural history of insect life, and taught us how to prevent their depredations; and conferred many other benefits.

In this State, nature has been unusually bountiful. On the face of the whole world there are few places possessed of greater natural attractions. The hundreds of valleys that lie nestling in our mountains, rich in soil, healthy and picturesque, and more particularly, the great San Joaquin valley, three hundred miles in length by sixty in width, embracing over five thousand square miles, or more than 9,000,000 acres of superior land for tillage, fully attests this fact.

The soil being rich and deep, produces grain of all kinds in quality and quantities to the acre not to be surpassed; grasses and grazing in abundance for its hundreds of thousands of stock. Fruits of most kinds, even the semi-tropical, equal and even superior in quality to those raised in their native soils. A climate unequaled in its evenness of temperature and salubrity.

The farmer, in this State, has little else to do, than turn the furrow and plant his seed. How vastly different our State from sterile New England, where the farmer lives one-third of the year among frost and snow-banks, and the rest of it in hard toil, to rid his fields of trees, stumps and stones; or from the Southern States, where once a year you have to flee from pestilential heats.

In short, there is no other country which presents so many inducements to live in as our beautiful California. It is a well ascertained fact that this State is capable of becoming the granary of the world. Although but a small portion of the land has yet been cultivated, we shall probably export this year twenty million bushels of wheat to the East and to Europe—more than heretofore—besides millions of dollars in other products of the State aside from gold.

The farmers of this State must soon turn their attention to other products of the soil than grain, else the average quantity to the acre, will not yield sufficiently to pay expenses. They must follow the example of the farmers of other countries—raise mixed crops and pay more attention to their stock. In all parts of the world breeding and raising superior domestic animals is a safe and profitable business. In no part of the world do they thrive better than here or develop sooner or more perfectly. There is no excuse now for farmers and stock-raisers to continue the production of inferior domestic animals. Nothing but shortsightedness—a penny wise and pound-foolish system will lead to such a course.

We have now of recent importations or importations since 1860, reasonable quantities and varieties of thoroughbred stock of different breeds—horses, cattle, sheep, swine, and poultry—the best that can be found, both from the Eastern States, and Europe. Farmers should keep only good stock. Breed up and with care, and in a few years you will have cows that will make from twelve to sixteen pounds of butter per week instead of from three to four pounds; horses that will become Dexters, and sheep and swine worth quadruple the ill-bred animals, now so frequently seen on our farms. E. S. Holden.

Stockton, Feb. 21, 1870.

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Number of Farms in the United States. Those persons who take pleasure in comparing the condition of different countries may be interested by the following statement of the number of farms thoughout the United States, taken from the returns of the late census. Beginning with the smallest there are 23,642 farms of 3 acres and under 10 acres; 157,810 of 10 acres and under 20 acres; 612,245 of 20 acres and under 50 acres; 609,668 of 50 acres and under 100 acres; 486,249 of 100 acres and under 500 acres; 20,280 of 500 acres and under 1,000 acres; and 5,348 of 1,000 acres and upwards. The total number of farms is 1,942,241.

## Resources and Productions of San Joaquin County.

San Joaquin County, for soil, climate, good stock, and agricultural products, is perhaps unsurpassed by any other section on the Pacific Coast.

### The City of Stockton.

According to the statistical report of the County Assesor, for 1870, contains a population of 10,000; wide streets running at right angels, containing hundreds of fine buildings, many of them costly; 13 churches; large and expensive schoolhouses; accommodating 1,300 scholars; scores of large stores, manufacturing establishments of various kinds, producing leather, harness, boots and shoes, flour, wine, brandy, carriages, wagons, brooms, furniture, agricultural implements of various kinds, etc., to the amount of over $1,000,000 per annum; two large flouring mills, with the capacity of turning out seven hundred barrels per day; two foundries, three fire companies and a hook and ladder company, two Masonic lodges, two Odd Fellows' lodges, Turn Verein, Rural Cemetery, Agricultural and many other societies, State Insane Asylum, (one of the best in the United States,) banks, insurance companies, telegraph and express companies in sufficient numbers.

This city is distant from San Francisco one hundred and twenty miles; eight hours sail by steamer, or four hours by the Western Pacific Railroad; daily line of steamers to San Francisco; several steamers running on the San Joaquin river; tonnage of steamers and sailing vessels arrived and departed since January, 1869, to February, 1870, 146,000 tons; downward freight consists of flour, wheat, barley, corn, hides, wool, poultry, eggs, vegetables, copper ore, minerals, fruits, wine, live stock, etc. Amount of freight up and down the river, about 160,000 tons per annum. Six lines of stages out and in; distance from thirty to eighty miles; number of pasengers carried per annum, 11,232. Teams running to the mountains and agricultural districts; the average amount paid for freight to these teams and the passenger movement per annum since 1862, $520,000; wheat shipped, 482,000 tons in 1869; barley, 200 tons; 3,718,701 pounds of wool, hides and tallow shipped in value, $516,258; poultry and vegetables, in value $142,462; wheat-corn and barley, floured, 16,807 tons; barrels, 100,000; value, $6,000,000; and barley ground, in value, $63,939; total for the years work in the city and country mills, rising $2,000,000 in value of products shipped from this city since January, 1869. Lumber imported, 15,000,000 feet; wood, 80,000 cords per annum exported and used in this city.

The assurance is daily becoming stronger and more evident that Stockaon will be the emporium of trade for this section of the State. It is located in a position second to no inland town or city on the Pacific coast in surrounding advantages.

San Joaquin county contains 1,452 square miles, or 920,280 acres of land. Over 300,000 acres are under fence; assessed valuation for 1870, $8,000,000.

This county is undoubtedly the best grain-producing section in California, and the granary of the State. Average production last year, 1869, to the acre, sixteen and one-quarter bushels. It is estimated that the county contains over 650,000 acres of superior grain-producing land, which with the averaged yield of sixteen and one-quarter bushels per acre, would produce 10,400,000 bushels, nearly equal to either of the famous grain-growing States of Ohio, Illinois, Missouri and Indiana, and more than the New England States, Delaware, Maryland, and New Jersey in 1868.

Following is the statistical report of the County Assessor for 1868.

Land inclosed, 270,000 acres; land cultivated, 163,000 acres; wheat raised, 1,750,000 bushels; barley, 440,000 bushels; oats, rye, corn, buckwheat, peas, beans, 47,230 bushels; potatoes, 22,600 bushels; sweet potatoes, 1,300 bushels; hay, 22,000 tons; hops, 13,000 pounds; butter, 200,000 pounds; cheese. 20,000 pounds; wool, 151,000 pounds; honey, 1,500 pounds; fruit trees, of fourteen species, 109,108; grape vines, 525,000; wine, 25,000 gallons; brandy, 3,250 gallons; horses, 11,800; mules, 1,050; cows, 4,500; total number of cattle, 19,275. Sheep, 34,858; goats, 450; swine, 15,000; chickens, 50,000; turkeys, 8,000; ducks and geese, 5,600; bee-hives, 500; barrels of flour made, 92,000. Lumber imported, 15,000,000 feet; wheat exported, 482,000 tons; barley, 200. This county is well supplied with churches; also with 63 school houses. Number of schoolchildren in the county, 4,304; in Stockton, 1,312.

The system of education pursued is that approved in this most enlightened generation.

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## EXPERIMENTAL FARMING IN TULARE COUNTY.

The following letter is from a correspondent in Orange Grove, Vaudalia, Tulare County; and was prefixed by a paragraph highly complimentary to the Rural. It contains just the kind of information which we wish to obtain—personal experience. We hope to receive many more letters of the same kind from this, and from other correspondents, in different sections of the State. The experience given in deep culture, drilling and rolling, is well worth attention of farmers generally, and we shall look with interest for the report of final results which he promises:—

I have often said it is strange that California, so prolific in its resources; a State where there is so much new to be told on the subject of fruit and grain farming; where nearly every one has to adopt a new system, and try more or less experiments, has no agricultural journal worthy of attention,—so you may judge I was glad on receiving from the post office, last evening, Nos. 5 and 6 of the Pacific Rural Press, and to find. on examination, the prospect is that you are going to do well, a work so much needed. I like the style and general character of the paper, and will gladly send to you, at times, such ideas, experiments and results as come under my observation.

On the plains south of Tule river, about 80 feet higher than the bed of the stream, and in a climate always pure and healthy, with a soil deep and rich, only needing good culture and moisture to produce abundant crops of grain or vegetables, we are situated to try what can be done with these thousands of acres of Government land, so long considered worthless for all purposes except as a range for stock; because it was considered to be almost impossible to bring streams of water here to irrigate it. But experience has given us faith in the virtue of *deep cultivation*, to so prepare the soil that it will retain sufficient of the winter rains to perfect the crops.

Last year our first grain was sown on land which we hired plowed not more than six inches deep. It was harrowed in early in the fall, and the first rain in November, 1.40 inches brought most of it up. No more rain, except a few light showers, coming between that time and the 13th of February, it all died. Between the 13th of February and summer, we had about eight inches of rain, which brought up enough of the barley, left in the ground, to make a small lot of extra hay, sufficient to pay all expenses.

The lot contained sixteen acres—four in barley, four in Sonora wheat, and eight in Australian or white wheat. Only the first two were worth cutting; but the evidence was, that if the whole sixteen acres had been sown to barley, after the rain came, we should have had a fair crop.

This year we coöperated with other farmers, and got a drill at a cost of $33.58 each, and with it put in that sixteen acres without either plowing or harrowing, using only thirty pounds of seed per acre, instead of sixty, as usual, and it came up fair; is quite thick enough, and looks very well. We had another lot plowed in June last, ten to twelve inches deep, employing three horses. We drilled that in also. The rain wet it down enough to sprout the seed, after which some of it died out, so that it has come up rather thin. I think it ought to have been rolled to compact the surface. We put in some since, and in the absence of a roller, run a sled over it, leaving the ground smooth. This is now up finely. Have put in two or three acres with the drills 32 inches apart, about 18 pounds of seed per acre; will report after harvest.

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Fence Laws in Illinois.—The Legislative Farmer's Club, of Illinois, is an Association designed to assist the law makers, by presenting them with the views and wishes of the Agriculturalists. Foremost in the abolition of fence laws, which eat up the farmer who bears the great burden of taxation. It is recommended that stockmen be obliged to fence in or otherwise herd their cattle, or pay whatever damages their estrays inflict by plundering the farmer's crops. The Club advises a tax of one dollar on dogs, male, and two dollars on females, and that dogs uncollared be without the protection of the law.

# Agricultural Notes.

## CALIFORNIA.

Five thousand orange and lime trees are being planted in Decoto, Alameda county.

The State Agricultural Society has ordered a premium of $26 for the best one quarter acre of sugar beets.

Orange Grove.—S. B. Caswell, Esq., of Los Angeles, has a very fine grove of orange and lime trees, now looking finely and so loaded down with fruit, that he has had to prop up the limbs to prevent their breaking down by the weight of fruit upon them.

Grain.—Upwards of 10,000 acres of grain have been sown, this season, in the vicinity of Hamilton, Colusi county. Hon. Marion Briggs has over 1,000 acres. The crops have all been well put in and are said to be very promising at the present time. Hamilton also supports immense flocks and herds.

Stock in Humboldt County.—The stock in some of the hilly portions of Humboldt county suffered severely during the late cold storms. They were first reduced in flesh by the drought and the subsequent killing of the early grass by the frost, so that they had no strength to bear up against continued cold. It is both cruel an wasteful to raise stock in this State without any provision, whatever, for the contingencies of droughts and severe weather.

New Mulberry Plantation.—Mr. C. L. Dimon has purchased Crocker's ranch, on the ridge road between Grass Valley and Nevada, and already planted 10,000 mulberry trees upon it. He proposes to go extensively into the culture ofsilk, and has very appropriately christened his ranch—a beautiful spot—"Silken Grove."

Destroying Squirrels.—Mr. Rogers, of Los Gatos, informs the San Jose Weekly *Mercury* that the farmers in that vicinity have met with great success in destroying squirrels, as follows: Take dry oak balls, which may be found in abundance almost anywhere in this country, dip them in kerosene, ignite and drop into the holes of the squirrels. To make the work sure, the mouth of the hole should be closed up with earth. They are said to be sure fire every time. Where these balls cannot be had, any other dry substance saturated with kerosene would, no doubt, answer the purpose.

The Paw-Paw in California.—The editor of the Auburn *Herald* has lately received some seeds of the paw-paw from a Buckeye friend, who writes him: "Please plant beside your favorite Ohio poke stalk, its old original companion, the paw-paw. Accept these few seeds, a sample of a lot just received by letter from near our old home in Southern Ohio." They are now in the ground, and we will see who has the first ripe paw-paw.

A Suggestion.—An experienced horticulturist says that the wood-louse, that injures so many of the apple trees, can be killed by covering the trunk and larger limbs of the trees with a thick solution of the gum of aloes. The presence of the insect in the wood is manifested by the appearance of a little tuft of wooly fibre. The earth should be removed from the crown of the roots, and the solution should also be applied there. It is said that this not only kills the insects that have already attacked the tree, but preserves the wood from further ravages.

Singular Loss of Sheep.—An unfortunate accident is reported, by the San Luis Obispo *Standard* as having recently occurred near that place and on the ranch of Mr. Horatio Worden. It seems that the herder who had charge of the flock was attempting to drive them out of the corral, which was enclosed on one side, next a deep ravine, by a brush fence. By some means the sheep became frightened and crowded over the brush fence down into the ravine, piling one upon top of another until one hundred and seventy odd were killed—being either smothered or crushed to death. These were all valuable sheep, and it is estimated that Mr. Worden's loss will be something over $500.

Worth Knowing—If True.—Mr. Mendenhall, of San José, according to the San Joaquin *Republican*, thinks there is an unfailing correspondence between the seasons of Central America and Mexico, and those of California. The wet season of those southern latitudes preceeds that of California, and according to Dr. M. whenever the wet season of that region is scanty in its supply of water, or late, or early, so are ours. This fact has been observed, without a failure, for the past fifteen years by Mr. Mendenhall, who has acted upon these observations in his farming operations. Last year he had twelve hundred acres to put in, in Livermore valley, and noting the shortness of rains in Mexico and Central America, he saw there would be a failure in this country. So he disposed of the necessary outfits for doing his work, and made a cash rent of his land. This year he has put in all his land, and feels sure he will reap. He has observed that the rain of the lower countries was about six weeks later than usual, and reasons that there will be abundant late rains here.

We have seen this statement put forth before, and if any one has any positive facts bearing upon it, and calculated to sustain Mr. M.'s supposition, it might be of importance that they should be more publicly known.

Irrigating Ditch.—The Visalia *Delta* understands that a company is now at work constructing a large ditch which is intended to tap Kings river at Husuckers Point and irrigate the whole country on both sides of Muscle slough, between there and the Lake. It is intended to construct the work with a capacity for a steamer fifteen feet wide and two deep. The country is very flat and of course the grade very low; but with a good survey, a fall sufficient for a current of a half-mile per hour can probably be reached. This would give in round numbers eight thousand cubic feet per hour. A quantity quite sufficient for a large settlement.

Every Season in California seems to be or at least is liable to be an *unusual* one. Farmers do not know what to count on. They sometimes sow with hope and fail to reap, and again sow in despondency and reap a harvest. The true rule for the farmer in this country is to plow deep and sow early. With this rule strictly adhered to there are but few localities, where fair crops may not be realized. Summer fallowing every second or third year is an additional and almost perfect guarantee against any serious disaster in this direction.

## OREGON.

Breeding Swine.—The Willamette *Farmer* remarks that the breeding and raising of swine in Oregon has already become a very important branch of farming industry, and throws out the following important and practical hints, which will be interesting to all producers of pork:—It is not a good plan to permit young sows to procreate before they are eight or nine months old. They should be a year old before they bring their first litter—the period of gestation being one hundred and twelve days. Old sows produce the largest, strongest, and best pigs. Sows that are good breeders can be profitable kept for four or five years. Successively breeding from young sows for several generations, lessens the size, and probably the vitality, of the pigs. Sows for breeding should be kept in good order, and not be made fat; and it is not necessary to change the male annually. The destruction of pigs by sows is supposed to be from a desire for animal and other food they cannot obtain, which is stronger with them than the maternal instinct. No imperfect animal in shape, and defective in desirable points, should be kept for breeding purposes. It should be the breeder's constant aim to increase, by a proper course of breeding, the value of his stock.

Going to Oregon.—Numerous letters are being received by residents in Oregon from friends in Wisconsin, Iowa, Missouri and Kentucky, saying that there will be a large emigration from those localities to Oregon, the coming season.

Castor Oil, Soap and Candle Factory.—The *Oregonian* says that Messrs. Cartwright & McCord are erecting a large building at Albany into which they propose to put machinery for the manufacture of linseed oil; together with complete arrangements for turning out soap, candles, and lard, in large quantities. The establishment will be very favorably located for carrying on the business successfully, and every part of it will be conducted on an extensive scale.

Such diversified industries furnish profitable employment, pay stockholders well when properly conducted, and furnish a home market for large quantities of farm produce. We need more of such establishments in this State also. If our people in the interior would feel more inclined to combine their means and efforts in the inauguration of small establishments for the manufacture of articles of general necessity, our towns would increase more rapidly, and the general business and population of the State be greatly benefited. If the towns which awhile since were bidding so high for the Odd Fellows' College and State Normal School, would manifest the same enterprise and willingness to establish manufacturing operations, as above, the benefits would be four-fold to the pecuniary welfare of those towns, over that which could be derived from the institutions named, noble and useful as they are.

Agricultural Machine Manufactory. The Willamette *Farmer* says that Mr. A. Myers proposes to erect at the water-power in the city of Salem, machine shops for the manufacture of agricultural machinery, etc., provided the people of that city will assist in his enterprise, to the extent of ten thousand dollars. The ground and water-power, have already been contracted for the sum of $30,000, five thousand dollars of which will be donated by the Company. The citizens of Salem are subscribing quite liberably toward Mr. Myers' proposition.

Sheep Disease in Linn County.—The Willamette *Farmer* is informed that Mr. J. Hamilton, of Linn county, has been losing sheep from a peculiar disease that causes the neck and sometimes the head to swell, especially under the jaws. Their eyes are also affected, almost to blindness. The seat of the disease appears to be in the liver, which is affected by a peculiar parasite known as the *fluke* or *leach*, which produces destructive inflamation, which gradually pervades the whole system, increasing in intensity until death ensues.

Mr. John Minto, a scientific and practical farmer, resident in that county, says *that* disease is apt to attack sheep, when grazing in low moist lands in warm or sultry weather, and especially when they feed rapidly. The remedy suggested is to move the sheep, as speedily as possible, to a high, dry pasture, give them all the salt they will eat, to which a little sulphur should be added.

Large Emigration for Oregon.—An important arrangement has just been concluded for introducing emigrants into Oregon, in connection with the railroad enterprises in that State, the particulars of which are given as follows:

Ben. Holliday has just perfected a most important arrangement for the transportation of fifty thousand German emigrants from Bremen to Portland, Oregon, direct. A line of steamers is to be put on at once between Bremen and Aspinwall, and the N. P. T. Co. will at the same time establish a through line from Panama to San Francisco and Portland, thus coming in direct opposition to the P. M. S. S. Co. between this city and the Isthmus.

The fifty thousand German emigrants who are to be transported to Oregon, will be taken from Bremen to Portland at $70, coin, per head, undoubtedly the lowest fare ever charged between Europe and the Pacific coast of the United States. They are expected to settle along the line of the California and Oregon Railroad, and will probable, many of them, obtain direct employment from the company.

Although the objective point of the emigration scheme just announced is Oregon; nevertheless, San Francisco has a direct interest in the development of the Pacific Coast, and whereever the emigration goes, she will ultimataly reap much of the advantage from the increased commerce which will spring up.

## ATLANTIC AND FOREIGN.

They have a hen in Montgomery county, Indiana, that during the past season hatched forty chickens at three settings, raised thirty-seven, and after dismissing her last brood, laid fifty-two eggs before going into winter quarters.

A pair of hogs, if left to root by themselves, will multiply and increase to six million swine in fifty years.

The season has been the wettest known in Australia for twelve years, causing severe losses to flock masters.

New Mexico has two million sheep and as many horses and cattle.

Fattening Hogs.—Persons fattening hogs or beef should crowd both. The best food and the most of it that will not injure the health, should be the motto of every feeder, whether one animal or one hundred. Hunger always awakens expectancy, which is another word for unrest, and when a lot of hogs or a heard of beef cattle spend half their time looking through or over the fence for the coming food, there is little gain from what is given them.

A writer in the *Prairie Farmer* says that successful farming requires abundance of teams, a great variety of implements, quick perceptions, cool head, sound judgment, and readiness for all emergences.

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California Grasses.—Prof. Bolander stated before the last meeting of the California Academy of Sciences, that he had collected 140 species of grasses on this coast since 1861. Only 14 had before been observed, owing probably to the rapidity with which observers went over the ground. Amoug the total number he included several species which were cultivated. He had recently found a peculiar grass, distinguished by a remarkably bright green color, the *Testuca gracillima* or Slender Fescue grass, which he believed to be identical with that found by Dr. Hooker in the straits of Magellan. It grows abundantly from Cisco to the summit, is highly prized by stock-raisers, and is to be recommended for lawns. It is also found in Chili. The Professor remarked on the number of grasses common to Chili and this coast. In his remarks, he stated that the structure of "bunch grass" is probably due to the climatic conditions; such grasses being compelled to aggregate so as to concentrate the moisture and guard against dryness.

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Mushrooms.—Great numbers of Mushrooms are finding their wayinto the markets in this city. One firm in the Pacific Market reports an average receipt of 40 boxes per day, aggregating fully 1,500 pounds. The increasing demand for this delicacy, has induced a gentleman of Alameda, to enter largely upon their cultivation.—The most of those now gathered, are collected from the fields, by Chinamen. The cultivated article is much preferable to that which grows spontaneously. Great care should be employed by those who are not intimately acquainted with them, to avoid mistaking them for poisonous toad-stools. As a warning in this direction, we may mention the fact that a little son of Mr. Basset, of Oakland, lately went to gather some mushrooms, and mistaking toadstools for the delicate esculents he was seeking, eating them, was poisoned and died from the effects.

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On the farm of Mrs. J. B. Franz, four miles east of Visalia, Tulare county, six acres of land yielded 558 tons of superior quality, which at the present price, would bring $2,200.

We quote the above, which is going the rounds of the press, merely to pronounce it perfectly ridiculous.

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The Pneumatic Gas Co., are making rapid progress in their work of laying down pipes for supplying Santa Clara with gas, and we may hope soon to enjoy the fruits of their labor.

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A Mechanic for Mayor of Oakland.—Mr. N. W. Spaulding, one of our most successful inventors, and a practical mechanic, was elected mayor of Oakland, on Monday last, by an almost unanimous vote.

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Beautiful Branch.—Los Angeles has furnished another prolific orange branch, containing 61 oranges and weighing 24½ pounds. This branch was taken from a tree in Hearn's orchard, and is to be sent to Chicago.

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Egyptian Cotton Seed.—Major Beck, Secretary of the State Agricultural Society, has on hand a limited quantity of cotton seed from Egypt, of which he will be pleased to give samples to those who wish to make experiments with it.

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California Inventions.—The *Scientific American* mentions it as a note-worthy fact that, the patents granted on wheel plows, in 1869, to residents of California and Oregon, largely exceed in number those granted for like inventions from all other States of the Union.

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Age to Plant Trees.—An extensive fruit grower, who within a few years has set out thirty thousand trees, says he prefers to plant peaches, pears and plums at one year old, and apples at two.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports to Dewey & Co., U. S. and Foreign Patent Agents, and Publishers of the Scientific Press.]

**For the Week Ending February 21st.**

Mandrel for Gauging and Cutting Solder Wire.—Lewis Cutting, San Francisco, Cal., assignor to himself and Francis Cutting.

Privy.—Frank Riedel, San Francisco, Cal.

Mop-Holder.—John Brizee, Alvarado, Cal.

Sewing Machine Feeding Mechanism.—Mary P. Carpenter, San Francisco, Cal.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

Improved Truss.—A Folleau, S. F.—This form of truss seems to be one calculated to effect good service, allowing of greater or less pressure according to need, and not permitting the parts to protrude through any sudden movement of the person. It consists in the use of a secondary pad within the ordinary pad, so constructed that it may be made to give additional pressure towards the center; and in so constructing the spring in parts, that it will readily yield to the motion of the body in different directions, without for a moment losing its efficiency in keeping the pad in place. The pad is so connected with the spring that its angle or position with reference to the spring can be readily adapted to the different forms of rupture.

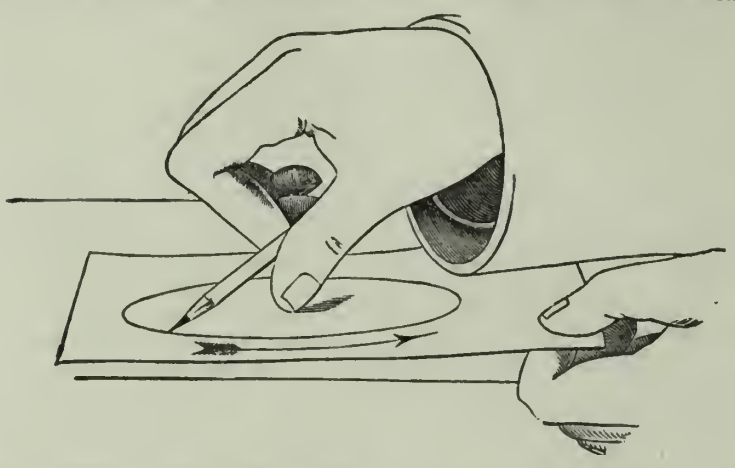
Operating Cutters for Steam Plows. O. Hyde, Oakland, Cal.—These improvements in mounting and operating the cutters of steam plows, refer more particularly to that class of plows in which a number of circular cutters are driven by the same power which propels the machine. The invention consists of a frame of peculiar construction in which are arranged as many sliding blocks as there are cutters. This frame is hinged to the rear end of the machine in such a manner that it can move freely, and it is supported at its rear on rollers or elastic shoes. The cutter shafts pass through the sliding blocks so that the cutters may be operated independently of one another in such a way as to accommodate themselves to the irregularities of the ground.

Elastic Tire for Traction Engines.—O. Hyde, Oakland, Cal.—The ordinary rubber tire used in such machines is very expensive on account of the difficulty experienced in molding and vulcanizing so large a mass of rubber. In order to reduce materially this item of expense, Mr. Hyde proposes to make the tire in sections, and to fasten these sections upon the wheel so as to form a continuous rubber tire. For this purpose he has the metallic tire of the driving wheels cast with T-shaped projections at regular intervals around its entire circumference, these forming ridges which pass entirely across the face of the tire. Blocks or slabs of rubber of any convenient size are used, having a recess, passing across each lower corner from side to side, of a proper form to fit one half of the T-shaped projections, the blocks being slid into place from one end of the tire to the other. The blocks have also passing through them, holes countersunk upon the outer face to accommodate large flat-headed bolts which pass through the metallic tire. The lower ends of these bolts are forked and spread apart so as to form a key which prevents the bolt from coming out, while allowing it to move sufficiently as the rubber blocks are compressed and expanded. In this way a cheap elastic tire may be made, and can be repaired easily when damaged in any portion, without the necessity of throwing away the whole tire, while other advantages over the common tire are obtained.

## Drawing a Circle.

There are many simple little ways of doing things without the need of extensive apparatus, which is often useful to know. We cannot always be sure of having the mechanical appliances on hand when we need them, and we may therefore be put to considerable trouble to effect some simple object, when, if we knew it, we could easily do what we wanted by properly using our hands.

The accompanying illustration shows an easy method of drawing a circle without compasses, and one which allows of considerable accuracy. The cut hardly needs a description. The pencil, with point resting on the paper, is held between the thumb and forefinger in the manner indicated. The thumb presses on the paper which is then revolved, with the left hand, in the direction denoted by the arrow. In the beginning a little difficulty may be experienced in getting the pencil to mark an unbroken circle, but with a little practice, this difficulty will disappear and a curve



accurate enough for many purposes can easily be made. Indeed, we are told that, with experience, as perfect a circle can be thus drawn as is done with the aid of compasses.

## Why Circles Please the Eye.

Prof. Muller, in a course of lectures in Berlin, offered a simple and mechanical explantation of the universal admiration bestowed on these curves. The eye is moved in its socket by six muscles, of which four are respectively employed to raise, depress, turn to the right and to the left. The other two have an action contrary to one another, and roll the eye on its axis, or from the outside downward, and inside upward. On an object being presented for inspection, the first act is that of circumvision, or going round the boundary lines, so as to bring consecutively every individual portion of the circumference upon the most delicate and, sensitive portion of the retina. Now, if figures bounded by straight lines be presented for inspection, it is obvious that but two of these muscles can be called into action, and it is equally evident that in curves of a circle or ellipse all must alternately be brought into action. The effect then is, that if two only be employed, as in rectillinear figures, those two have an undue share of labor; and by repeating the experiment frequently, as we do in childhood, the notion of tedium is instilled, and we form gradually, a distaste for straight lines, and are led to prefer those curves which supply a more general and equable share to work the muscles.

Saving Rather than Earning brings Wealth.—In evidence of this proposition the New Orleans *Picayune* tells the story of a printer who, when his fellow-workmen went out to drink beer, during the working-hours, put in the bank the exact amount which he would have spent if he gone out to drink. He kept to this resolution for five years. He then examined his bank account and found he had on deposit $521 86. In the five years he had not lost a day from ill-health. Three out of five of his fellow-workmen had, in the meantime, become drunkards, were worthless as workmen, and were discharged. The water-drinker then bought out the printing office, went on enlarging the business, and in twenty years from the time he began to put by his money was worth $100,000. The story, whether new or old, teaches a lesson which every young mechanic should lay to heart.

## Greasing Wagons.

Greasing buggies and wagons is of more importance than some people imagine, Many a wheel is ruined by oiling too plentifully. A well made wheel will endure constant wear for ten to twenty years if care is taken to use the right kind and proper amount of oil; but if this matter is not attended to, the wheel will be used up in five or six years, or may be sooner. Lard should never be used on a wagon; for it will penetrate the hub and work its way out around the tenons of the spokes and spoil the wheel. Castor oil is a good material for use on an iron axle; just oil enough should be applied to a spindle to give it a light coating; this is better than more, for the surplus put on will work out at the ends and be forced by the shoulders and nut into the hub around outside of the boxes. To oil an axletree, first wipe the spindle clean with a cloth wet with turpentine, if it won't wipe without it. On a buggy or carriage, wipe and clean off the back and front ends of the hubs and then apply a very small quantity of castor oil, or some especially prepared lubricator near the shoulders and point.

Anaconda Skin Leather.—Last summer, so it is said, a Boston establishment tanned fifty anaconda skins for boot leather. The boots are valued at $50 a pair. The largest of these skins was forty feet in length. The tanning processes were similar to those observed in the manufacture of alligator leather, the product being a very beautiful and highly finished quality of leather, glossy, mottled, pliable, and from the appearance of grain exceedingly durable.

Tomato Figs—How to Prepare Them.—Tomatoes cured nearly in the same manner as figs are said to make as good fruit, and scarcely distinguishable from the regular Smyrna fig. The experiment does not cost much, and is certainly worth trying. The tomatoes are taken ripe, scalded, and the skin taken off to allow them to absorb the saccharine principle, and then covered over with fine sugar and laid out to dry. When nearly dry, they are taken and placed in alternate layers with sugar, and when thus cured are said to be as good as any fig.

Coal near Monterey.—The San Juan *Echo* says Dr. Matthews, of Monterey county, has discovered a valuable deposit of coal 30 miles southeast of the town of San Juan, in the Coast Range. Samples, it is said, have been tried by a blacksmith, and pronounced of superior quality for use in the forge.

Greatest Average Yield.—Kansas leads all the States in the average yield of corn, it being 42.2, and California 41.4. She also stands third in yield of wheat, barley, potatoes and hay, and seventh in buckwheat.

Wild Pigeons.—Since the late severe storms wild pigeons have become very numerous in the lower part of El Dorado county. One day last week a flock of several thousand took refuge in the timber near Latrobe, and sportsmen there had a grand time.

Out of Date.—It is said that there is now but one station in all Greenland, in the vicinity of which there are any heathens to be found. In fact nearly all the inhabitants of that country now profess Christianity. We shall soon have to get a new version of the favorite missionary hymn "From Greenland's Icy Mountains."

The Sacramento Beet Sugar Company has contracted for the plowing and planting of 450 acres with sugar-beets. Every acre is to be plowed 15 inches deep—no shallow tillage there. The ground is being planted at the rate of ten acres per day.

Carbonate of Soda in Washing.—The carbonate of soda, so popular with the washerwoman, is quite injurious to the fiber of linen. A French writer says that a much better way is to soak the clothes in a solution of 2 pounds of soap to 25 quarts of warm water, to which are added one tablespoonful of essence of turpentine and 3 spoonfuls of ammonia. The articles should be soaked several hours and the tub covered. The articles are then to be washed in the ordinary way. The ammonia exerts no corrosive action on the fiber, and the odor of turpentine escapes in drying.

Poisonous Soda.—A matter of some interest in the use of soda has recently been discovered by the well-known scientist, Dr. Fresnius. The Doctor has ascertained that much of the soda that is used for baking, contains arsenic, and he traces its source through a curious history in the manufacture of this drug. Sulphuric acid is largely made use of at alkali works; and this acid in turn is made extensively from pyrites. There are some new works of the kind started in the Highlands on the Hudson where a bed of pyrites has been found. But almost all pyrites contain arsenic which remains as an impurity in the acid; to be passed over into the carbonate of soda, when used for that purpose; and sulphuric acid is used for so many things that are freely consumed by man, the discovery is one of no little importance; and it is to be hoped that manufacturers will take special pains to have the arsenic eliminated.

What Eats Farmers Up.—The fences of the United States are estimated to have cost more than the houses, cities included; more than the ships, vessels and boats of every description which sail on the ocean, lakes and rivers; more than our manufactories, with all their machinery, and more than any one class of property, real estate excepted. These are curious facts, but they are facts nevertheless. The fences of New York are put down at $144,000,000; those of Ohio at $115,000,000, and Pennsylvania at $120,000,000. Divided out at this rate, the money invested in fences alone is more than equal to the national debt. As fences require to be renewed, on an average, once in ten years, the annual cost to the country is not far short of $200,000,000.

A Cheap way of Putting up Ice.—A resident of Taunton, Mass., has obtained his ice for summer use, for several winters past, in the following manner: Procuring about fifty empty flour barrels, at a cost of twenty cents each, he gradually pours in water until each contains a solid mass of ice. The barrels are then put away in his cellar and entirely covered with sawdust. As ice is required, a barrel is opened.

Emigrants.—A party of English emigrants have purchased 5,000 acres of land near Nashville, Tenn., for $2 per acre, with five years in which to pay it. The company numbers 1,300 persons in all—farmers and mechanics. With such propositions coming from the older States, California will have to make higher bids than she has yet offered to secure anything like a large immigration.

A Seven Years' Pumpkin.—The *Register*, published at Blair, Nebraska, says that Mr. J. M. Filson, of Tehamah, in that State, is raising a kind of pumpkin which will keep sound for *seven years*. It looks somewhat like a mottled squash; but it is a genuine pumpkin, firm-grained and spicy, and just suited to the lovers of good pumpkin pies.

Motion Converted into Heat.—When leaden rifle bullets are fired against iron targets, the lead is melted and spattered upon the target in the form of a star. This fact is stated as the result of careful experiments recently made at Basle, in Switzerland.

Cashmere Goats in the Mountains.—Moses Allen, of Miners' Ravine, in the lower end of Placer county, has a flock of Cashmere goats. He says it costs no more to raise a goat than a chicken.

A Narrow Gauge Railroad in Tennessee—A railroad thirty inches wide and eleven miles long, is to be built in Greene county, Tennessee, at the cost of $20,000. The rails are of wood, and to be stripped with iron.

The Northern Pacific.—Jay Cooke expresses the opinion that the Northern Pacific Railroad will be in running order within four years.

# POPULAR LECTURES.

## Chemistry and its Applications.

[Prof. EZRA S. CARR before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

### Water—Extraordinary Properties.

LECT. III. Mar. 4.—I remember hearing many years ago, said the Professor, the composition of a school-boy on Water. "Water," it was said, "is a very useful thing for vessels to sail on, for ducks to swim in; it is very useful to wash with and to cook with; and in some countries it is used to drink." This was many years ago. Now, doubtless, the writer would say, that if it was not used largely to drink, it is found very useful for adulterating drinks.

Water is a very common substance. It covers nearly three-quarters of the surface of the globe. It exists in plants and animals. Three-quarters of our bodies consist of it. It forms much the largest proportion of all organs. It is a most essential material, for many of the elements required to form substances must be brought into the closest contact with one another to combine, and water presents the medium by which this contact can be effected. It exists in the atmosphere, sometimes in very large relative amounts.

Water has some extraordinary properties which we, perhaps, do not always recognize. Thus, it is perfectly tasteless and inodorous. Were it otherwise, it would interfere with the operations carried on in the bodies of all sensitive animals. As it is, it passes all over our bodies, meeting every organ, without producing the slightest irritation. It is a substance which requires more heat than any other known liquid substance to keep it at a certain temperature. Take quicksilver and water, for instance. It takes 30 times as much heat to elevate water through any given number of degrees of temperature, than it does to do this for mercury. About a thousand degrees of heat must enter into water to convert it into steam which has the same temperature as the water. This great capacity of water for heat is the reason why there is nothing so cooling as is this liquid. There are many other properties, of which I have no time to speak now.

### Its Composition.

Water is composed of two elements,—oxygen and hydrogen. Of oxygen I have have spoken in a previous lecture. It is a gas, you will remember, which has never been reduced to a liquid form. Hydrogen is another gas, and this forms one-ninth of all water. We can obtain it more readily from this than from anything else, although it occurs in very many other substances, as in the flesh of all animals, in the woody fibre of all plants, starch, sugar, etc., etc. We get it, however, more readily than in any other way from water by adding a substance which will take up the oxygen of the water, when, of course, the hydrogen is set free.

For instance, I have here a piece of potassium. Potassium has a great affinity for oxygen, with which it unites to form potash. So strong is this affinity that potassium will take away the oxygen from water. Thus, I throw this little piece on this water. You see that it bursts into flames, swimming about on the surface. It has seized the oxygen with such force that light and heat are produced, hence the flames. The hydrogen is set free, but so great heat is produced by the union of the potassium and the oxygen, that the hydrogen immediately unites with the oxygen of the air and forms water again.

To obtain the hydrogen, therefore, I must perform this experiment where there is no air present, as under water. I have here a cylindrical vessel which I filled with water and carefully placed in an inverted position in this pan of water. It is still full. I wrap a piece of potassium in paper (that the water may not get at it immediately) and put it in the water under the vessel. It burns as before, the hydrogen rises up in the vessel, pressing down the water. The white fumes are the vapor of potash and are quickly absorbed in the liquid.

You can see nothing in the upper part of the vessel,—only that the water no longer fills it; for hydrogen is colorless and transparent. But oxygen and nitrogen and carbonic acid, as I showed in former lectures, are also colorless and transparent. I remove the vessel, letting the water fall out, keep it still inverted, and insert a lighted taper. The gas burns with a slight explosion. It differs then from oxygen, for it burns itself, while oxygen makes other bodies burn; and from nitrogen and carbonic acid, for these extinguish a flame. In the explosion, hydrogen took oxygen from the air, forming water.

We can obtain the hydrogen from water easily in other ways. In this bottle I have pieces of metallic zinc. I now pour in sulphuric acid and water, about one measure of acid to four of water. The boiling or effervescence is caused by the evolution of the hydrogen gas. The oxygen of the water has united with the zinc, forming zinc oxide, and the sulphuric acid has united with this, forming sulphate of zinc, and the hydrogen is set free.

### Properties of Hydrogen.

Hydrogen is lighter than any other known form of matter. It is often used to inflate balloons. I close the bottle with a cork which has a glass tube, open at both ends, passing through it. The hydrogen passes out through the tube. I connect a rubber tube with the glass one and with this clay pipe. Now with these soap-suds I can make soap-bubbles, filled with hydrogen. The bubbles rise up in the air. Blowing soap-bubbles with the breath, they fall to the ground.

I invert this glass jar and place it over the glass tube. It fills with the gas. I insert a lighted candle into it. There is an explosion and the hydrogen burns at the mouth of the jar (where it is in contact with the air), but passing the candle up into the gas, the flame is extinguished. There is no oxygen, no air holding oxygen there, consequently it cannot burn; for hydrogen will not support combustion of itself. Taking out the candle, it is lighted again by the flame at the mouth of the jar. When all the hydrogen is burned, there is seen considerable moisture inside. This is the water formed by the union of hydrogen and oxygen.

The heat of burning hydrogen is very intense, hence the vapor of water, or steam, produced is very hot,—2,000° perhaps. I fill this metallic cylinder, closed at the upper end, with hydrogen, mix air with gas in the proper amount (about 9 parts air to one part hydrogen) to form water, and close the tube tightly with a cork. I bring a light to this aperture, near the top of the tube, which I have hitherto closed with my thumb. There is a heavy explosion and the cork is violently ejected; for the steam was formed and expanded instantaneously with great force.

Thus you see we have in water a substance which, when our coal-beds are exhausted, can be made to supply heat for all time. The only trouble is to find an economical method of getting it out. Undoubtedly some one will in time find such a method.

### Impure, Poisonous Water.

Water, as I said, contains oxygen and hydrogen. This is pure water. But all water is not pure, but often has, besides these constituents, more or less foreign substances dissolved in it. Rain, in its fall, takes up many gases which are diffused in the atmosphere. It holds air, and the air we find in water in such circumstances contains about twice as much oxygen as the air we breathe. This is because water dissolves oxygen to a greater extent than it does nitrogen. As every animal needs oxygen in order to live, were this not the case the inhabitants of the water would not be able to exist. If we expel the air from water by boiling, and place a fish in the liquid, it will die. Water also dissolves, out of the atmosphere, carbonic acid and ammonia,—which are required for plants.

Water often contains organic substances which it gets from decaying vegetable matter, which is soluble to some extent. Sometimes it is so impure with them as to be poisonous. When objects decay, a little carbon is gradually taken out and pieced with a little oxygen, and a movement of the particles of the object takes place; and if these are brought into the stomach, or placed in contact in certain cases with the fluids of our bodies through a scratch or wound, this movement, or at least a *something*, is communicated, and our bodies decay,—we are poisoned. [Our readers will find another theory on this subject in the SCIENTIFIC PRESS of Oct. 22 and 29, 1870.—EDS. PRESS.]

Now we can purify such water in various ways. One is, by boiling, for heat causes the coagulation of the albumen and albuminous substance which is taken up by the water and destroys its poisonous character. Tannic acid, which occurs in various substances and is the material used in tanning leather, has a similar effect. Sometimes the presence of leaves or bark (holding tannic acid) prevents such water from exerting poisonous effects. So we can use alcohol, or even corrosive sublimate, only an excess of the last will make the water even more poisonous than before.

### Hard Water.

Mineral substances occur in water, which is, indeed, the universal solvent, if there is any such thing. Water at different temperatures will dissolve almost any substance. When very hot, it will dissolve quartz, for instance. Moreover, the water gets many things from the atmosphere, as carbonic acid, which increase its solvent power.

The ladies especially know what effect "hard water" has on soap. Hard water is often water holding carbonate of lime in solution. The fatty acids of the soap combine with the lime and form a substance which precipitates, and we get this instead of the lather we commonly desire. I have shown you previously how an excess of carbonic acid in water dissolves to a great extent the generally insoluble carbonate of lime. Now we can get rid of this by boiling, for the excess of carbonic acid is thus expelled and the carbonate of lime is thrown down as a solid substance. The incrustation of boilers, which use hard water, is often carbonate of lime in great part. Water is often made hard by sulphate of lime, also by the corresponding compounds of magnesia.

We can often purify hard water by boiling, as just explained; or by adding lime, or soda, or potash, which combine with the excess of carbonic acid, and thus the various carbonates are precipitated.

Water at 32°, Fah., congeals and expands with irresistible force. Hence in the polar regions rocks are ground up and carried off. The mechanical action of running water need only be mentioned here.

Thus you see water is a most powerful and a most important agent. It exists in our bodies where it is necessary, in order that the various operations requisite for existence may be carried on. It purifies the air and brings down food for plants. It dissolves substances and carries them off to feed animals. I have by no means told you all of the properties of water, or of all which it does; but if I have induced any one to pay more attention to the common things of life, my lecture has not wholly failed of its object.

# GOOD HEALTH.

## Neuralgia.

[Written for the PRESS.]

Neuralgia, from the Greek words *neuron*, (nerve) and *algos* (pain), is, as its name indicates, a condition of disease, in which pain of a sharp, darting, lancinating character is felt along the course of a nerve.

Neuralgia is confined entirely to sensory nerve tissue. In pure neuralgia, there is neither tenderness upon pressure, inflammation, discoloration of the skin over the painful spot, nor swelling. But on the contrary, there is a feeling of coldness, and a desire to apply pressure which often affords partial relief. Whenever there is heat, swelling or tenderness upon pressure over the painful nerve, the neuralgia is either associated with gout or rheumatism; or else, the pain has induced a secondary inflammatory action.

Any sensory nerve may be involved; yet, the branches of the fifth pair, which spread over the sides of the head and face, are the ones most commonly affected. Any part of the body which is traversed by sensory nerves may be the seat of neuralgic pain; consequently various names are applied to it, to indicate its local character.

Neuralgia of the head is called *nervous headache;* of the face, *tic doloreux;* of the stomach, *gastrodynia;* of the heart, *angina pectoris;* of the back part of the thigh, *sciatica;* and of the feet *neuralgia pedis*, ect.

Since neuralgia became a fashionable disease, almost every painful affection has been called neuralgia. This is erroneous; for although it is through the nerves that pain is felt; pain from inflammation or lesion, (local injury); is notice to the brain, through the medium of the nerves, of disturbance at their extremities—the nerves simply carry the news—while in neuralgia, the nerves themselves are affected, either directly or reflexively, through the nerve centres.

In inflammation or local injury, pain is felt at the point where the cause exists; while in neuralgia the cause lies either between the painful spot and the brain, or is reflected through the nerve centers to some nerve distant from the real affection. For example:—If a nerve is pressed or irritated, at the point of its exit from, or passage through a bony structure, pain is felt along the whole course of the nerve to its peripheral extremity; but not especially at the point of irritation.

Again:—*Nervous headache* is almost uniformly the offspring of *gastric irritation* or *dyspepsia*, reflected through the nerve centers, while *gastrodynia*, and *angina pectoris* frequently have their origin in irritation of the spinal cord or its surrounding membranes, or is reflected from some distant point. *Tic doloreux* (neuralgia of the face) may be caused by gastric irritation or a decayed tooth; or it may have a rheumatic or miasmatic origin.

*Sciatica* is frequently the offspring of rheumatism, and is sometimes so intimately connected with it, that it has been called "*sciatic rheumatism.*"

*Neuralgia pedis*, too, is often associated with rheumatism and gout, and the pain from each is very frequently so severe, that it is difficult to determine which affection causes the suffering.

*Syphilitic, sycotic, scorbutic*, and numerous other "blood poisons," also, very frequently, either directly or indirectly, produce irritation of the nerves and neuralgic pain. While all neuralgic pains are caused by nervous irritation, either direct between the painful spot and the brain, or are reflected back from the affected nerve through the spinal cord, and again down the painful nerve, there are many other pains, which, although not strictly neuralgic, are reflex in their operation. Consequently pain through the right shoulder attends inflammation of the right lobe of the liver; pain through the left shoulder, inflamation of the spleen or left lobe of the liver; pain in the side, in the back "low down" and through the temples and eyes, diminished or suppressed menstruation; and pain in the knee is always felt in *coxarius morbus* or "hip disease;" while the pain in the hip is either entirely wanting, or is so slight that it is scarcely noticeable.

Reflex nervous action is certainly one of the most interesting subjects for study to the physiologist and pathologist; and if it was better understood, there would certainly be no blistering, leeching and cupping, over the painful nerves, in any purely neuralgic affection.

As neuralgia is not an *idiopathic* or *primary* disease; but simply a secondary or *sympathetic affection*—not a disease: but only a *symptom of disease*—it is evident that the only way to cure it, is to remove the cause; when, as a consequence, the painful symptom ceases.

Every experienced physician knows, that neuralgia often assumes a periodical type, when the paroxysm of pain corresponds to a chil in intermittent fever. In fact, the chill is often changed to a neuralgic paroxysm by the administration of large doses of quinine—the chill is broken, but the disease is not cured—a new set of symptoms is simply developed.

Periodical neuralgia (that which comes on at a certain time of day) seems to depend upon a miasmatic influence, as truly as does the chill, and such a view is confirmed by the fact that both are promptly relieved by the same class of remedies.

Also, where neuralgia has its origin in rheumatism or gout; when they are cured there is no more neuralgia.

When the *tic doloreaux* is caused by a decayed or ulcerated tooth, immediate relief is always afforded by the removal of the tooth. When, also, it is the offspring of uterine disease, it, with the weakness and irregularity, will all pass away, under proper treatment for uterine disease. Such may be said of all diseases upon which neuralgia depends. *Cure the disease, and the painful neuralgic symptom ceases.*

E. J. FRASER, M. D.

San Francisco, Mar. 10, 1871.

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"Bread and butter," and milk, are the only two articles of food which have all the elements of nutrition; hence from childhood to extreme old age, we are never tired of them.

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IMPORTANCE OF REVACCINATION.—There is a case on record of a woman who was vaccinated, we believe, by Jenner himself, who then resisted variolous inoculation, who some years after nursed her own children through the small-pox with impunity, and who, nevertheless, at a very advanced period of life, caught the disease from a grandchild, and died.—*Lancet.*

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DEATH FROM ETHER.—A fatal result from ether inhalation has come to light in Boston, in the person of a man who had received a bullet wound in the knee.

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SAN FRANCISCO:

Saturday, March 11, 1871.

**Gold and Legal Tender Rates.**

San Francisco, Wednesday, Mar. 8, 1871. Legal Tenders buying @90½; selling @91. Gold in New York to-day 111¼.

## OUR WEEKLY CROP.

Having introduced the Martha Grape into our vineyard, we have hung up a specimen bunch as a sign at our front door. In connection therewith is to be found a crop of California Raisins, while close at hand the Alvarado Sugar Factory is grinding away.

Giving body to these sweets, are the Notes on Mechanical and Scientific Progress, solid food, yet made easy of digestion. The Notes on Tuolumne and Calaveras counties are also interesting and curious in part. Philo Sophos indulges in some questions concerning Right and Left—a sort of peripatetic lecture.

From Stockton comes some really Good Advice from an Experienced Farmer, which is well worth heeding. The Resources of the country around Stockton are spoken of, and from still further south, from Tulare county, come reports of experiments in Wheat Culture. Then there follow the Agricultural Notes from the whole coast.

The Inventors' corner is well filled, and circular items and illustrations are given as near to the corner as they can be put, while the remaining space is filled with items of interest and importance. Prof. Carr walks on one side of the circle, telling us in his wonted happy manner of water,—hard water and soft, pure water and impure. Beside the Professor is the doctor, telling how to get and how to avoid Neuralgia.

The subject of the State Agricultural Society gives occasion for a good article and the hints contained in the remarks on In-breeding are important.

There is another new feature on the ranch—a Road Scraper, just imported. The road, where this is shown at work, is lined with a "Live Fence", and concerning such fences we have much to say, that will be found both interesting and instructive.

If we crawl through or jump over the fence, —any way to get into the pleasing company of the ladies,—we find ourselves in the Home Circle, listening to What Aunt Mary Says, moralizing on the effects of Roller Skating, talking concerning A Mother's Responsibilities, chatting on this thing and that, and enjoying the more practical Household Reading.

Armed with a long blade of the New Zealand Flax Plant, we can safely pass through Mr. Perkins' Starving Cattle, stir up the Humorous man to unwonted exertions and carry off the Market Reports for reference until the next crop.

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TO CORRESPONDENTS.—We have No. 2, from our Humboldt correspondent; some sensible advice to men out of employment, from "Nibs;" "On Setting Trees;" "Cattle and Fish Culture in Vermont;" "Vaccination," for our Health Department; a favor from "Claire Masterson" and "X. Y. L." all of which are marked for insertion. A poetic effusion from "Dollie Dimple," is declined as hardly suited to our columns.

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A RAILROAD is proposed from Santa Cruz to Gold Gulch, a distance of eleven miles, to be constructed this summer.

## THE STATE BOARD OF AGRICULTURE.

This Board occupies one of the most important and responsible positions in the State. No central committee of a political organization; no board of underwriters, or directors of any insurance or railroad company; no board of trustees of any savings bank, or commissioners of common schools or other organization in the State occupies a more important and responsible position than the State Board of Agriculture.

It has to deal with the most important and delicate questions, relating to the well-being of that industry which lies at the foundation of all other industries of the State. Upon its action on the Annual Fair of the industrial products of the State, held under the auspices of this Board; upon the reports which go forth to the world from these fairs, through the press and otherwise; and upon the Annual Reports of the Board itself, concerning the industries of the State and her resources and their development, depends the material reputation and consequent material prosperity of the State. A Board occupying such high and responsible position, and holding and exercising such important trusts, should not only be capable of discharging those responsibilities and exercising those trusts for the best interests of the State; but, as a Board, and as individuals, they should be able and willing to give to the matter entrusted to their care a great deal of thought and a great deal of time.

While the annual reports of the Board to the members of the society, and to the Legislature, have for years back been able, and full of important and valuable facts, discussing the advantages and wants of the State, in a clear and candid manner, so as to command the attention and respect of the world, it cannot be denied that the Annual Fairs of the Society have failed, in a remarkable degree, to reflect the real position of the industries of the State. These fairs have, as a general thing, brought together a great concourse of people, who, after the harvests are gathered in, and the hurry of the season is past, seem anxious to spend a week at sight-seeing at the capital of the State; and financially speaking they have brought to the Society a much-needed success. In some of the stock departments these exhibitions have been highly creditable to the State, and have given us a reputation, as a stock-growing country, not excelled by any other State in the Union, or the world. But while we can and do excel in the strictly agricultural and horticultural products, as much as in stock raising, our State exhibitions in these respects have failed most lamentably to develop the fact. The Board, in their last report, published in full in the RURAL PRESS, seems to be fully aware of this truth, and to have resolved upon bringing up the agricultural department of the exhibition for the present year, to a higher standard, and have, to a certain extent, set forth the course they intend to pursue to accomplish this much-desired object.

They propose to revise the premium list; and we would suggest that the old premium list scarcely furnishes a base or ground work upon which to build. Better cast the old list away and begin upon a new principle, taking the present position of the industries of the State and their susceptabilities, as the ground work, and make out a list of premiums that will bring out at the Fair, in active and earnest competition, hundreds of samples of all the industrial products from all parts of the State.

The work of preparing such a list is not that of a day or a week, by a committee already over-driven by the demands of their own private business. It requires, in the person who attempts the task, a thorough knowledge of all the State's industries and resources; a plenty of time to systematize and arrange, and place a fair relative value on the products of those industries and the development of those resources. No premium list of another State is a proper guide for us; our circumstances and our wants are peculiar to ourselves. If the Board do not make radical reforms in the entire plan of offering premiums and getting up the Fair, that of 1871 will be but a repetition of the past disgraceful failures, so far as the exhibition of the real industrial products of the State are concerned.

The people of the State are ready and anxious to take hold and assist the Board, when they are convinced that the members of the Board themselves take a proper interest in the matter, and adopt the proper steps to secure the desired results. But the Board must take the initiative. They must begin and direct the work of reform and the people will fall in and do their part. We all have a pride in the good reputation of our State, and are willing to do what we can to build up and elevate that reputation to the highest standard of excellence; and we call upon the members of the State Board of Agriculture for immediate action, thorough and earnest action in the execution of the plan portrayed in their last report.

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## The Penalty for In-breeding Universal.

The penalty for in-breeding begins to overtake us, in the vegetable kingdom. From the Petaluma papers we learn that some strange insect is eating up the growing wheat crops. We wonder that this penalty has not come sooner, for our imposition on the soil by eternal succession of wheat after wheat. We may look on this as a product of disease. No doubt the vine insect comes from unceasing use of the pruning knife which imposes a heavy yearly drain on the resources of the plant. Potatoes in unbroken succession suffer a similar penalty. The apples of California are showing a general decay in the seed chambers, pittiness and sponge spots are also consequences of in-breeding. Most of our fruit trees are from stock in the Eastern States, already constitutionally weakened, by long succession of grafting from certain favored varieties. Disease is long suffering in our State. In the vegetable kingdom, as in man, the outward demonstration of disease is retarded so long, that when it does break out, it is quick in destruction. It is to be feared that the Petaluma wheat fly will spread over the land and compel a radical change in our system of agriculture. We appeal to fruiterers to busy themselves in raising seedlings for new and healthier selections. We are blessed with many advantages of climate, among which are quickened growth and extraordinary fecundity; both of which tend to early exhaustion; and this again invites insect ravages and rapid decay. We are giving terse expression to an invariable law in vegetable physiology; and we leave every cultivator to give it his own further cogitation.

CRANBERRY PROFITS.—The cultivation of cranberries, still continues a very profitable business at the East, as will be seen by the following report from Mr. Flint, of North Reading, Mass. Mr. F., on a patch of two acres—which was originally bog meadow—the first year after planting, picked seventeen bushels; the second year, 26 bushels; third year, 93 bushels; fourth year, 52 barrels; fifth year 47 barrels; sixth 50 barrels—which were sold for $1,581. Mr. F. says he notices many tracts of land about now of no value, which could be reclaimed and flowed easier than his. There are numberless ravines on almost every portion of the Pacific Coast where cranberry culture could be made a success.

THE MISSION CO-OPERATIVE SILK FACTORY PROJECT.—We learn from a communication in the *Bulletin*, of Monday last, that the Co-operative Silk Project, embracing the purchase of the Mission San Jose, has been abandoned, so far as the purchase of the whole tract is concerned. The plan now is to purchase only a part; the owners of that property offering to donate to the company 125 acres, provided a purchase can be effected of 400 more for $30,000; of which $10,000 will be taken in stock, $10,000 in cash, and the 10,000 balance, at such times as the company may be able to pay.

It is thought that under the amended plan the necessary amount of capital can be obtained to pay down the cash required and purchase the necessary machinery, fixtures, etc. Should this be consummated, silk-growers throughout the State will do well to hatch out all the eggs they can feed, and produce cocoons for the home factory, which will be taken up at a fair price; instead of raising seed (eggs) for the uncertain and, now, not very promising European market.

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CALIFORNIA ENDORSED.—Hon. Marshall P. Wilder, who acts as spokesman for the Pomological Delegation, which visited this State last summer, is bearing favorable testimony to the advantages which the Pacific Coast presents to the pomologist, the agriculturist and to nearly all other industries, in fact. His communications to the leading periodicals have probably served to convey to our Eastern friends a more full and truthful idea of the real status and capabilities of this coast, than have the representations of any other person who has ever visited us. His latest effort was in the form of a lecture delivered before the Boston Mercantile Library Association, in Music Hall. On this occasion the platform was occupied by some 200 of the leading men of Massachusetts, a fact which shows the interest that is felt there to learn the true condition of things here, and the prospect which this coast holds out for emigrants from that section of the country. This address has been extensively published at the East, and cannot fail to exert a most favorable effect in the interest of California.

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THE OREGON SENTINEL remarks that the RURAL PRESS is an excellent journal for California; but that little is seen in its columns relating to Oregon or Washington Territory. In the multitudinous cares of starting a new journal and arranging and preparing such, varied collection of reading matter as is given in each issue of the PRESS, time has been required to perfect our arrangements. In the mean time our neighbors of the north have not been forgotten, though perhaps, for the above reasons, neglected for awhile. If our cotemporary will look over our last and present issues, he will now find us all right in the matter complained of; and we will venture to say that our subscribers in that important portion of the Pacific coast, will hereafter have no reason to find fault with regard to our overlooking their interests. We are soon to be placed in immediate railroad communication with them, to the benefit, we trust, of all. Moreover, brother *Sentinel*, we intend soon to have "a chief among ye, takin notes; an, faith, we'll prent 'em."

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THE last storm threw a sand-bar across the mouth of the Salinas river, so that it is now closed to navigation, and a small steamer, which went in before the storm, is imprisoned. Such things are not uncommon in relation to other California rivers emptying into the ocean; but the obstructions so interposed are always swept away by the next heavy rainy season, if not before.

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PRESIDENTIAL VISIT.—President Grant has definitely stated to Congressman Sargent that he will visit California in the Spring, if Congress adjourns so as to give him the opportunity.

## HEDGE OR LIVE FENCES.

In any country where wood is scarce, (and it seems to be getting scarce the world over,) in these days of railroading, wharf building, etc., it becomes a question of no small moment to the agricultural interests to find some substitute for rail, or post and board fences. In this State the expense of fencing land is getting to be one of serious consideration to the farmers. It is operating as a serious drawback to the agricultural interests, and indirectly to all others.

There are but few of our good agricultural districts furnished with a sufficiency of good fencing timber near at hand. Most of the lumber for boards and fences, has to be transported from high up on the Sierra Nevada mountains, or from the timber districts of Oregon, and the coast still farther north. All or very nearly all the timber for posts, comes from a few of the coast counties.

Thus our agriculturists, in all the great central portions of the State, are not only compelled to buy most of their fencing material, but have to pay high rates for transporting the same, by rail, or otherwise from points hundreds of miles away from where they want to use it. These considerations are used with great force in favor of adopting the European plan of fencing —or rather of *not* fencing.

In the agricultural districts of Europe it is a rare thing to see a fence, even on the division lines between estates, or along the road sides. Very few farmers are able to bear the expense of dividing their farms up into fields, as is the custom in all agricultural countries in America. In many portions of Europe and more especially in England, a system of growing live or hedge fences has been practiced for many years, or generations back. But in most of those localities the land has become so valuable that even these fences are, to a great extent, being dispensed with. The convenience of fences being considered of less moment than the value or use of the land on which they stand.

The American farmers, on the contrary, have a plenty of land, and have become strongly wedded to the system of dividing off their farms into fields of convenient size for different varieties of crops, and for stock. So strongly have they become attached to this system that many of the best and most wealthy farmers, especially in the early history of agriculture in this State, have made themselves bankrupt by an endeavor to keep their lands well fenced. It is certainly a great convenience to the general farmer, who wishes to devote some of his land to grain, some to meadow, some to orchard and vineyard and some to stock; in short, who purposes to follow the only safe and rational system of farming—a diversity of crops and a rotation of these—to have his land fenced off into fields; but we doubt its practicability in this country, unless some substitute can be found for redwood posts and pine boughs.

### The Osage Orange.

Many of the Western Atlantic States have been, and are still, to some extent, laboring under the same difficulty in this respect that we are. Many of those States have of late years adopted the system of live or hedge fences, and have found it to possess many advantages over the old system. In the first place, a good Osage orange hedge fence, the kind most universally adopted, is much cheaper than a rail or board fence, taking into consideration the first cost only. In the next place it costs much less to keep a hedge fence in order and repair than it does either of the other kinds named, and while the latter will last but a few years, the former will last a life time and even much longer. The hedge fence, on the open, treeless plains, may, after once being fairly and properly started, be allowed to grow up to a considerable hight and thus become a good break wind and shelter for growing crops or stock.

To show how popular these fences are becoming in Illinois, for instance, we will state a fact which has been lately brought to our notice. The first osage orange hedge plants were introduced into that State about twenty years since, and for the first three years there were not sold, in the whole State, over 500,000; while in the year 1868 there were sold and set out into hedges, in that State, over 250,000,000 of these plants.

It would be well for farmers to look into this question of growing live fences, in this State, very generally. These fences must be generally adopted, or we must abandon the system of fencing our farms, altogether. Lumber is becoming too scarce and dear for fencing material. Wherever the osage orange has been tried, even on the dryest of our plains, in Solano county, they have given general satisfaction. There are a number of our nurserymen now engaged in cultivating the plants annually for sale; the principal ones in this part of the State being Fraser & Fisher, of Solano county, and Robert Williamson, of Sacramento.

### Cost of Setting and Cultivating the Plants.

We are informed that plenty of one-year old plants can be obtained now for ten dollars per thousand or enough to make a mile of hedge, for ninety dollars. It will cost about twenty dollars per mile to prepare the soil and the plants, and about fifty dollars to keep in order and cultivate them till they are three years old. At this age the hedge will turn stock, if it has been well cared for and cultivated. This is certainly the cheapest fence that can be made, in this country by over fifty per cent.; and when once built, as we remarked before, it will last a life time; while it is well known by every farmer that board fences go to decay here, under the influence of our extremely wet and dry seasons more rapidly than in almost any other county. For the benefit of those who may desire to set out hedge fences we give the following directions.

### Preparation of Ground.

The osage orange is a very hardy and rapid growing shrub or tree. It is classed, scientifically, with the mulberry, and in many respects is very similar to that plant or tree. It will grow well in most any climate and will stand great extremes of drought and wet. The usual age for transplanting the plants from the nursery to the hedge is one year. The ground on which they are to be planted should be well and deeply plowed the season before the plants are to be set in it, to the width of from eight to ten feet. Then plowed again and subsoiled before planting, so as to be completely pulverized.

### Setting the Plants.

The plants should be carefully taken from the nursery, without injuring the roots, and the tops cut off, say three inches above the roots. A deep furrow having been plowed on a line where the plants are to be set, stretch a cord, with knots tied in it every six inches; then sort the plants into classes, so that those of a uniform size may be set together. Set a plant at each knot in the cord, pressing the fine dirt compactly about the roots, and leaving about an inch of the stem above the soil. Then cultivate thoroughly, keeping the soil well stirred and weeds down for two or three summers, allowing the plants to grow naturally without pruning.

### Plashing.

If the hedge is set in a very rich and deep soil, and grows rapidly, it should be "plashed" the second spring from planting; but if it does not grow so rapidly, this operation should be delayed until the third spring, or perhaps a better rule would be not to plash until the hedge will average six feet high.

The old system of cutting back every year, to within a few inches of the previous year's cutting, in order to make a thick growth from the ground up, has been abandoned by the best hedge growers, and the plashing system, to obtain the same object, has been found much better and more effectual, and it is attended with much less labor.

To plash the hedge, begin at one end and cut the first plant half off, on the side towards the next plant and close to the ground, and bind it down to the ground in a line with the hedge, and *from* the next plant. Cut the next in the same way and lay it down in like manner, on the first, and so on, twining the branches together so as to keep each plant laid down as near in a horizontal position as possible. Each stump and each body thus laid down will throw out shoots all along the hedge, making a perfect network of canes and thorns, from the ground up, so thick that no bird, rabbit or large animal can get through.

Having thus laid the foundation, the hedge can be trimmed and kept in such shape, thereafter, as the fancy or interest of the owner may suggest. After cutting and trimming it back, until formed into as strong and good shaped hedge as may be desired, it will do no harm to allow it to grow up pretty high, and thus answer as a wind-breaker, and a fence at the same time.

### Osage Orange Hedges for Overflowed Lands.

The tenacity with which this plant adheres to life, and its ability, like the willow to stand without injury, long continued overflows, leads the writer to believe that it may be used for making fences in the tule lands of the State; of course the land for some distance on each side of such hedges will have to be plowed and kept clear from tules, so as to prevent fires from destroying them, when the tules are dry and liable to burn.

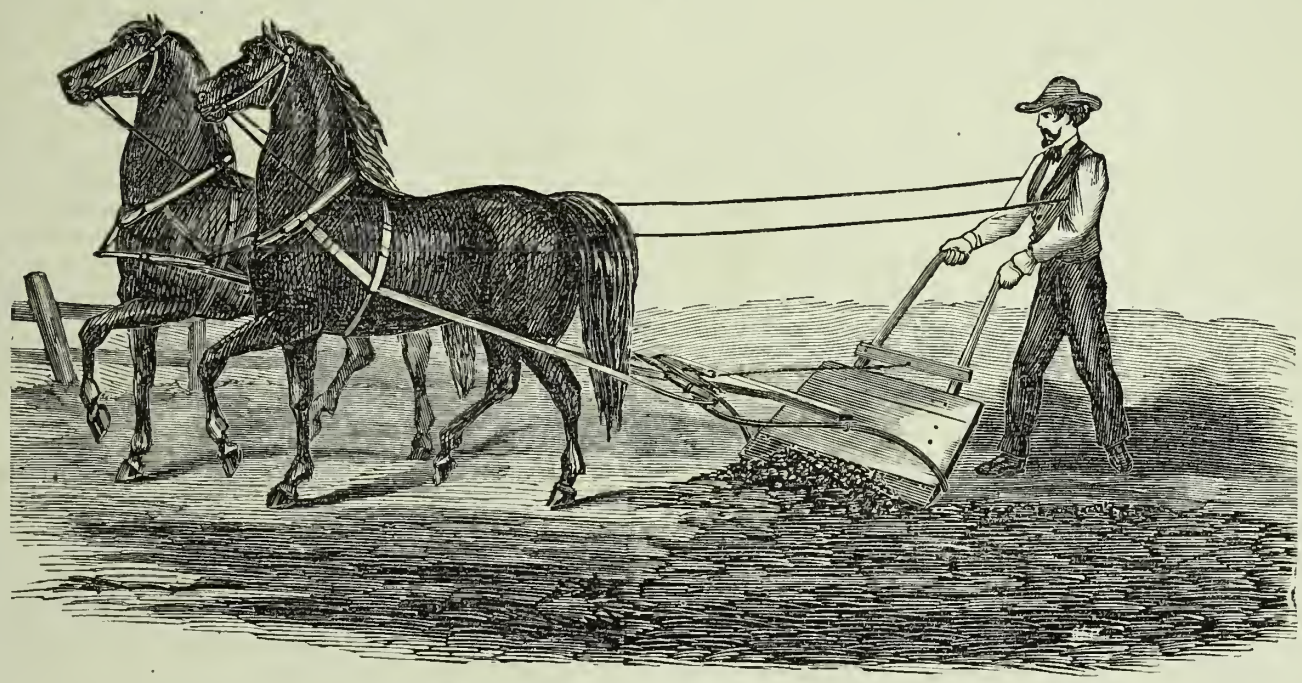
The writer intends to test this question by experiment, this season, and hopes that others may do the same; for if the idea is practical, it is worth a great deal of money to those owning land bordering and extending into the tule.

No other fence can be made in these lands, of a permanent and reliable character, as the water will wash out the posts and float the fence away.

## THE MAYWOOD ROAD-SCRAPER.

A good scraper is a very useful instrument, and one which, by its simplicity and cheapness, is peculiarly adapted to the wants of farmers, road makers, and all others engaged in excavating, grading around buildings, etc. The instrument, as generally made, however, is rather unhandy and bungling, compared to the one, an illustration of which is herewith presented, and which is simply a modification of the various forms long in use; but its variations make it a really more efficient and easily worked instrument. It is claimed that one man can do twice as much with this as with one of the ordinary machines.

By reference to the illustration, it will be seen that the mode of draft is decidedly improved, by which it is more easily operated and not at all liable to become tangled in the traces. The draft being from the extreme ends, and from behind and below the cutting blade, it cuts its way into hard ground without any liability to tilt or turn over. The chain enables the operator to throw the entire draft upon the cutting edge, by simply bearing down on the handles. When loaded, the chain carries it without any labor on the part of the operator, and by tilting it with the handles, the dirt can be so let out as to leave a smooth and even grade. The operation of tilting is effected by a much smaller outlay of strength than is required in the ordinary instrument. When unloaded the handles of the scraper rest on a beam in front, while the scraper board inclines at such an angle as to be of much benefit in leveling the dirt, as above stated.



THE MAYWOOD SCRAPER IN THE ACT OF LOADING.

The machine is the invention of Col. W. T. Nichols, of Maywood, Ill., and is manufactured by a joint-stock company, as we understand, at Maywood, ten miles west of Chicago, with a business office at No. 15 Methodist Block, Chicago. The instrument is highly spoken of by railroad men and contractors, and is rapidly coming into large use in that portion of the country. It ought to be found among the agricultural implements offered for sale in this State.

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Agricultural Society for the Southern Counties.—There was another meeting at Los Angeles, on the 4th inst, of persons interested in forming a District Agricultural Society for the Counties of San Diego, San Bernardino, Santa Barbara, Kern, and Los Angeles. The meeting was addressed upon the benefits to be derived from the formation of an Agricultural Association by the united action and joint interests of the southern counties. The capital stock was fixed at $50,000, of which $8,000 has been taken. A Committee of three was appointed to draw up a certificate of incorporation.

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Pacific States Agent.—M. B. Starr, A. M., will enter upon a corresponding and business tour for the Press next week, through the northern portion of California into Oregon and, probably, Washington Territory and other parts of the Pacific States. Mr. Starr is an old and well-known resident of this coast, well informed, and a gentleman whom we unhesitatingly recommend to our friends and others wherever he may go.

BY OUR LADY EDITORS.

## WHAT AUNT MARY SAYS.

A STORY BY NELL VAN.

[Written for the PRESS.]

"Come Delia, take a doughnut," said my Aunt Mary as I passed through her kitchen when she was frying the most delicious looking cakes you ever saw.

Now if there is anything I *do* like, it is a nice, hot doughnut; so, notwithstanding my scruples against such things, I yielded to her entreaties and helped myself to one of the delicate, crisp beauties, whose plump sides were of that delicious brown so inviting to the dyspeptic.

"Is'nt that good?" said my Aunt "and I don't believe it will hurt you to eat one of my sort of doughnuts once in a while. You know there is neither butter nor hogs' lard in them."

"Indeed" said I "how do you make them, Aunt? and what do you fry them in?"

"Well, Delia, I seldom make such things in these days, as you know, for I do not believe in young folks and children eating cake! Pies are much better for them, in my opinion; that is, the pies I make. These cakes are wet up with cream and eggs, and fried in "drippings" and the grease from the top of the pot, which I boiled corned beef in the other day. That's what I use instead of lard, and I find it much nicer and sweeter.

You see Delia, when I was young, I learned to cook from seeing mother. We lived on a farm, and used lots of salt pork and lard, as the farmer's wives always used to. When I married your Uncle, and we set up housekeeping, I, of course cooked just as my mother did before me, and just as John's mother had always done. Rich pie and cake on the table for every meal. John was exceedingly fond of apple turnovers fried, and he would eat pies broken up in milk. But you should have seen the butter he used to eat. Butter on everything. Even the rich loaf cake I used to make he would put butter on. Poor fellow! No wonder he did'nt live out half his days, and suffered so with dyspepsia. I've learned better than that now; and Delia I hope you'll never know how to cook in the old-fashioned way, but will always have food cooked simply, for your husband."

"Well, Aunt, before I marry, I'll certainly come to you to learn how to make your kind of pies, which you think more wholesome than cake."

"Why, did'nt you taste the pumpkin pie I had on the table, the last time you was here to dinner? That pie crust was made of nothing under the sun but equal parts of graham and fine flour, with a handful of indian meal and a little salt, wet up with thin, sour cream." And did you put soda in to sweeten it;" asked I. "No bless you child, I don't use soda in my cooking, for I believe it is very injurious, as well as yeast, which, with heat, induces fermentation, which is retarded when taken out of the oven, to be resumed again, by being subjected to heat in the living system." "Well, Aunt, I should never have known but what that was the richest pie crust in the world; for it was light and tender. I must learn just how to make it; if you will let me come and see you do it some time." "My dear, I shall only be too happy to have you profit by my experience, and I do brag on my plain cooking, as much or more than ever your Grandmother did on hers.

Only the other day we had a good laugh at Will Foster, who stayed over night with our Ned, and I made some waffles for breakfast. Now Will is a young man of promise, and has good sensible ideas about food, I should judge. He declined eating more than one waffle, because he said they were so rich. 'Why,' said I, "they are very simply made, of nothing but graham flour and milk stirred to the right consistency, and the waffle iron greased with drippings!' Ned thought it a good joke and said, 'take another one Willy, for mother never has anything on the table that will hurt us!'"

"Well, Aunt Mary" said I, "when I come again I want to taste some of those famous waffles, for Will Foster is used to real arthodox living, as you call it; and they must taste pretty good if he thought they were too rich for *his* stomach. People have such an idea that things, to be palatable, must necessarily be injurious! The other day I saw, in the RURAL PRESS—that new paper which is such a favorite with everybody—a letter from Mary Mountain, in which she gave a recipe for making Johnny cake; I asked Mrs. Fletcher to try it, and she did so to please me, and all the family like it so much, that she makes it nearly every morning for breakfast. Did you ever try it, Aunt? Or have not you seen the recipe? It has cold mush in it, and buttermilk, and soda"—"There, Delia," said my Aunt, "it is againt my principles to use soda, but I might use a mixture of sweet and sour milk instead, for I find that in pie-crust, made of sour milk or cream, the heat expels the acid and puffs it up as light as a feather, particularly if graham flour is added; for the particles of bran prevent that sogginess which we too often find in fine flour mixtures.

I wish you could hear Mrs. M.—'s objections to the use of soda, She is a hygienic physician and has given me much valuable information on health subjects. She says that soda, being a strong alkali, acts like an irritant on the stomach, and unites readily with butter or grease, forming what we would call soap, and creating great thirst, which, being gratified by copious draughts of liquid, acts upon the stomach and bowels as so much soap-suds might.

Besides the fermenting process caused by yeast—a species of decomposition, according to Dr. Bellows—her strong objection to the raising of bread is that this *rotting process* destroys the germ, or life principle of the grain, which is just what our systems require for growth.

We are told that fruit and vegetables should be used before they show any signs of decay, for when they begin to rot, they are no longer nourishing to the system. And anything which destroys the germ of grain must start the process of decay, and render it less fitted for the requirements of the body.

In the same manner she urges the unfitness of meat for food. We all know that as soon as death ensues, decomposition commences, and the muscles (which form the lean meat) grow flabby and relaxed, causing the meat to become tender. And if fruit and vegetables, as well as grains, in a state of decomposition are neither nutritious nor suitable for food, she argues that disorganized animal matter must be quite as unwholesome, if not more so. I am not however, quite ready to give up entirely the use of meat, and therefore am not satisfied in my mind in regard to her statement. But it *seems* reasonable, and there *may* be more truth than fiction in it. You should know Mrs. M., Delia. She is so thoroughly in earnest in her profession, and desires above all things, to give others the benefit of her knowledge. Many a mother has commenced making unleavened bread through her influence, and those gems, as the hygienic people call them, are, so really sweet and nice, I wonder that any one can relish raised bread after eating them. You know they always put sweetening in raised graham bread, because the yeast destroys the natural sweetness of the wheat, which is not lost by merely mixing the meal with water or milk and baking in a hot oven without rising. But then one wants a very hot oven for gems and fresh ground graham meal to make them first-rate."

"Well, Aunt, I must go now; but I have enjoyed this little talk *so* much and want to go with you some time to get acquainted with Mrs. M., whom I have heard so many ridicule on account of her eccentric ideas of food and dress. They say she never wears stays or tight shoes, and that her cloths are as loose as a man's. And she tells them she needs as much room for her lungs to breathe in as a man does, and why should her dress be a hindrance."

"Well, any time you'd like to go there with me, Delia, I shall be glad to make you acquainted with each other. Good-bye."

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SOMEBODY truthfully says that plain people have the advantage over the beautiful during a part of life; that is when old age comes. Homeliness wears well, it seems to mend with years, or, at least, it has nothing to spoil. As a general rule, the most worn and time-touched faces are the faces of those once handsome. There are characteristics which defy the ravages of time, but mere personal beauty is evanescent.

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THE most impressive prayer is the silent one; and the most solemn preacher, the one whose lips are cold.

## ROLLER SKATING.

O 'tis jolly fun, this skating,
This whirling round on wheels,
This turning, twisting, falling;
How gay and nice one feels,
To see upon the glassy floor
A score of tender mates;
Dear me! but ain't it jolly fun,
This courting girls on skates.

Oh! the nids and nads together
Scoot round like loving mates;
O, gracious! ain't it jolly fun
This flirting round on skates.

You bump against a maiden form,
She screams, but ain't it fun
To see her look you through,
"Recover arms" and run;
You follow—but she's far too fleet,
Which makes you curse the fates—
But never mind, 'tis jolly fun,
This chasing girls on skates.

You take a timid damsel
To teach her—that's no sin—
But, somehow or other,
Her skates keep turning in.
You stop, and stoop to fix her strap,
(An office no one hates)
When along a burly novice comes
And bumps you off your skates.

And now another miss appears
And sweetly asks your aid:
"Just take me round the hall but once,
I'm not a bit afraid!"
You gather all the strength that's left,
Trot off at modest rates—
But ere you have the time to think
You both are off your skates.

In spite of all the bumps and thumps
And tumbles on the floor;
In spite of ruined trouserloons,
And dresses soiled and tore,
You like this whirling, twirling round
In twos and fours and eights;
O, bless me! ain't it jolly fun,
This courting girls on skates.

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AN ELOQUENT EXTRACT.—They tell us that the influence of the Christian religion is declining; that it will after a while expire from the enlightened world; that it is all of life to live and all of death to die. Ah, reader! You and me know better. We hear the cold, hopeless blasphemy angrilly contradicted by the viewless prophets within the sanctuaries of our own souls. We look upon the white, still face of an infant in its coffin, and cannot believe that its sleep, though dreamless, is eternal. It cannot be that God has created one so beautiful, so innocent, so sinless, to fade and depart like the vapor of the morning, and be lost in the dreadful vortex of annihilation. The fairest flower that is cut down by the frost, the serest leaf that is whirled to the dust in the gales of autumn, is restored at the next uprising of the year; and shall not that little one come back to life; not in speechless pallor; not in the wan similitude of death, but warm and exultant from the sheltering bosom of the Good Shepherd, and all radiant in the beauty and vigor of eternal life?—*McDonald.*

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IMITATION OF HUMAN HAIR.—In a recent article upon the trade in human hair it is stated that a patent has recently been taken out for converting goat's hair into hair for ladies' use; and that the experiment is so successful as to render it almost impossible to distinguish the real article from imitation. This will be good news not only to the dealers in hair, who might apprehend the exhaustion of their source of supply; but also to the ladies who depend upon art to compensate the deficiencies of nature. The same article states that in 1868 over 22,000 pounds of hair were imported into Great Britain, representing the clip of about 45,000 women. Much of this is obtained from the large communities of sisterhoods scattered throughout France and Belgium.

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INFLUENCE OF WOMEN.—From the lips of woman, every infant hears the first accents of affection, and receives the lesson of tenderness and love. For approbation of woman, the grown-up youth will undertake the boldest enterprise, and brave every difficulty of study, and even danger itself. To the happiness of woman, the mature in years will devote the best energies of his mind, and from the affectionate regard of women, the man who has become venerable in years derives chief consolation in life's decline.

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WOMEN.—As the day lies longest and produces most fertility in the shade, so woman, in the shade of domestic retirement, sheds around her path richer and more permanent blessings than man, who is more exposed to the glare and observation of public life.

## A MOTHER'S RESPONSIBILITIES.

BY JEWELL.

[Written for the PRESS.]

Did it ever occur to the mothers of our race, that much of the sickness among children, is owing to their ignorance of the laws of health and life? Or that it might be wholly avoided, or greatly lessened, by a few serious thoughts and hours of study? Look at it, for a moment:—The girl of eighteen marries, without a thought but that she leaves behind her all the cares and troubles of her previous life, and never dreaming of those which come to every wife. She of course steps into the fire, from the frying pan! And when the new-born babe—a bundle of love, embroidery and flannel, is laid in her arms, she feebly accepts it as a gift from God; little dreaming that God expects a big return for such gifts.

The story of that baby-hood, is the story of hundreds. Poor, young mother, and poor baby! Innocence is punished by ignorance, and both suffer.

Its teething is greatly aggravated by its manner of dress; bare arms and neck; fine stockings and thin slippers, muslin dress, and plenty of petticoats, keeping the bowels overheated, while the feet, legs and arms, are cold!

Then comes weaning, and ignorance of proper food, or regularity of feeding, brings its train of evils. A doctor is consulted—a man, who never had the care of a child in his life, not even a father perhaps, so he *experiments*,—saying that what will agree with one child, won't with another, as if all babies didn't thrive on healthy breast milk alike! So with a powder, if the bowels are loose, and a pill if they are not, poor baby worries through two years; and the mother is obliged to turn it off for another, still younger.

My heart yearns toward such over-burdened young mothers, and I long to keep them from growing weary of life and its care, showing them that if they will only consider it a *duty* (and as such, it should be a pleasure) to learn something of the laws of life, and try to obey them in the care of their little ones; that life would grow richer with its added cares, if nobly met and cheerfully studied.

The other day I called on a young mother, who had just lost her eldest, a child of three years, with the croup. The case was touching, her grief intense, stupefying her entire mind. Even her love for her husband and remaining children was benumbed. And yet I could not arouse in her the least desire to read or enlighten herself on the necessity of understanding a mother's duty toward her living children, should they be sick! She felt that the child had been neglected too long; and also that the doctor did not immediately consider the emergency of the case when called.

Still the resigned spirit manifested, showed how unwilling she was to accept the rsponsibility God had imposed on her, through her motherhood.

So she suffers, as hundreds of others do, who might go through the world rejoicing in their healthy, strong, happy children; with life overflowing with love, joy and ease, in place of dread sorrow, and care; a burden bending them by its weight, to a resignation to God's will, instead of a joyful acceptance of it.

Young mothers give your little ones good air, simple and wholesome food, plenty of sleep, warm clothes, regular habits, and abundance of sunshine, and my word for it, they will seldom need a doctor, and *never* his drugs.

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THEY have neck-tie sociables in Montana, Iowa. Every lady upon entering the door is required to give the doorkeeper an envelope containing a neck-tie made of the same material as the dress she wears that evening; to be made in any conceivable shape, and trimmed as she chooses. Every gentleman pays fifteen cents at the door, and receives a check for a neck-tie, and afterwards the neck-ties are distributed to checkholders. After receiving his new article of dress, each gentleman commences a search for the lady who made it, and, after finding her, shows his gratitude by treating her to oysters, cake, peaches, etc.

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THE London *Medical Press* warns ladies against green gloves. It mentions a case in which skin poisoning resulted from their use, an arsenical salt being employed to produce the color.

# HOUSEHOLD READING.

## Domestic Industry.

As the forest furnishes timber, and the quarry stones in the rough, which must be hewed and polished before either is fit for use; so Nature, cultivated, furnishes food, which art must dress and prepare, before it is suitable for the palate or digestion; and so essential to our welfare and happiness is this preparation, that we have ever wondered why such work was so persistently made menial.

It requires no elaborate reasoning to show that every mother, wife and daughter should become a practical worker in the domestic circle. The days for romance have passed, the night for dreamy visions of elegance and luxury, in connection with a life of idleness, is, or should be giving place to the dawn of industry and utility.

It is well that woman should be queen in the parlor; but she should also be able, if need be, to be queen in the kitchen. The more gracefully she is able to perform the duties of *mistress* of an establishment; with so much the lovelier grace will she be able to perform whatever less pleasant duty circumstances may require of her.

The services of a good cook are essential to good health, good temper, and the fullest enjoyment of peace and quiet in any family. The art of cooking, so far as real happiness in this world is concerned, is superior to all other arts; and should be made as much a study, by our daughters, as any other.

Labor should not be held in disrepute by any one. The written word:—"In the sweat of thy brow shalt thou eat bread," should not be considered so much a penalty, as a blessing. The labor which is necessary to produce the "sweat" is the means of invigorating the body; without such labor, in some form, the blessings of health cannot be enjoyed. It is a false sentiment which suggests "exercise" instead of "labor;" the latter is the true and honest term—and it should be considered all the more honorable if connected with utility. We never could hammer a log with the back of an axe, for "exercise." We always preferred to use the cutting edge, with which to make the chips fly, and thus unite utility with our labor. We have ever preferred the buck and saw, interchanged with the hoe and spade and the pump-handle, to dumb bells; and though at the age of almost threescore years, we have not yet seen the folly of our choice, and never expect to.

The word "thy," as quoted above from Holy Writ, is generic, and stands for both sexes. Will not the ladies, whose opinions and actions more especially mould public opinion, endeavor to effect a reform in the industry and economy of social life? They can do it if they will—make idleness and indolence disreputable, and labor and usefulness honorable. The kitchen and the garden present to them the most accessible and useful field in which to work out the problem.

BE CORRECT.—Few persons engaged in domestic matters are aware how much mischief is often done by even very small deviations from the proper rule of cooking. To illustrate—A lady in measuring out the ingredients for a batch of cake, had a small quantity of flour left. She deliberated a moment, then tossed the flour into the cake, saying; "It is too much trouble to go back to the pantry with such a little mess—just *that little* wont do any harm" But it did—destroying the proportions and spoiling her cake. Receipts are often found fault with, and thrown aside as worthless when the blame lies in the unexact manner in which they are followed. If anything is worth doing at all, it is worth doing *well*.

## Make Your Own Soap.

Every farmer and every family, indeed, has a large amount of grease and drippings, more than enough to make all the soap needed for the family. The manufacture of your soap is a great piece of economy, and it is easily done—even to nice toilet, fancy and shaving soap. We append hereto

### How to do It.

Take the best hard wood ashes, which must be kept dry while saving them. When put in the hopper, mix a bushel of unslacked lime with ten bushels of ashes; put in a layer of ashes; then one slight sprinkling of lime; wet each layer with water—rain or river water is best. A layer of straw should be put upon the bottom of the hopper before the ashes are put in. An opening in the side or bottom for the ley to drip through, and a trough or vessel under to receive the ley. When the ley is strong enough to bear up an egg, so as to show the size of a dime above the surface, it is ready for making soap: until it is, pour it back into the hopper, and let it drip through again. Add water to the ashes in such quantities as may be needed to keep them dripping. Have the vessel very clean in which the soap is to be made. Rub the pot over with corn meal after washing it, and if it is at all discolored, rub it over with more until the vessel is perfectly clean. Melt three pounds of clean grease; add to it a gallon of weak ley, a piece of alum the size of a walnut. Let this stew until well mixed. If strong ley is put to the grease, at first, it will not mix well with the grease. In an hour add three gallons of strong ley; boil briskly, and stir frequently; stir one way. After it has boiled several hours, cool a spoonful upon a plate; if it does not jelly, add a little water; if this causes it to jelly, then add the same proportion of water to the kettle. Stir quickly while the water is poured in, until it ropes on the stick. As to the quantity of water required to make it jelly, judgment must be used; the quantity will depend upon circumstances. It will be well to take some in a bowl, and notice what proportion of water is used to produce this effect. You will now have soft soap.

*To Harden it:* Add a quart of salt to this quantity of soap; let it boil quick, ten minutes. Pour it into some suitable vessel, so that when the soap is cooled, (which will be in about 24 hours) it can be turned over, and the vessel be drawn away, leaving the soap in a mass, corresponding to the interior of the vessel. It can now be cut into cakes or bars, with a string, when it will be ready for use.

*To Prepare it for the Toilet:* Scrape off all sediment; shave it very thin; put it in a tin-pan, and hardly cover it with water. Set it on the fire; mash it to a jelly, and perfume with lavender, sassafras, or anything preferred. It will be nicer if it is melted in water and cooled two or three times before shaving it.

Soap will improve by age if kept well boxed in a cool; dry place.

## How to Get Rid of Rats.

Somebody has suggested, what we should think might be a very effective, safe and economical method of getting rid of rats. If it works well with rats, why not equally well with gophers? Will some one try it for both purposes and report success or otherwise to the RURAL, for the benefit of others.

Put potash in their holes and paths. The rats will get it on their feet and over their fur, then lick it, not liking the taste of it, as it burns them somewhat. The more they see of it the less they like it, so they clear out almost as soon as the application is made.

Somewhat similar to the above, and also safe, has been suggested as follows:

To rid your premises of rats, powder the holes well with dry cayenne pepper. It will get into the eyes and nose, and the same rats will never be seen there again. Mice may be treated in the same manner. And why not gophers and squirrels?

TO CLEAN BLACK CLOTH.—Dissolve one ounce of bicarbonate of ammonia in one quart of warm water. With this liquid rub the cloth, using a piece or black cloth for the purpose. After the application, clean the cloth well with clear water; dry and iron it, brushing the cloth from time to time in the direction of the fibre.

OBJECTS seventy-two feet long can be distinctly seen on the surface of the moon by great telescopes of the Earl of Rosse and Lord Oxmanton.

## Domestic Receipts.

AN EXTRA DISH.—Oranges peeled and divided at the natural partings; three whites of eggs, for two oranges, beaten to a stiff froth, and the pieces of orange slipped in. Then thickly dusted with sugar and baked.

GERMAN LOAF CAKE.—Make a sponge the evening before you wish to bake the cake, of a tea-cupful and a half of milk, and as much flour stirred into it as will form a thick batter, with a little salt and one gill of good yeast. In the morning this sponge should be light. Then beat a quarter of a pound of butter with half a pound of sugar, until light. Add to it two tablespoonsful of cinnamon, a pound of dried currants. Put the whole into the sponge, with flour enough to form a soft dough. Butter a pan, and, when it is light, bake in an oven about as hot as for bread.

TO DRESS COLD, UNDERDONE BEEF.—Cut it in thick slices; season well with pepper and salt; dredge with flour, fry in hot lard to a light brown. Then take the slices out of the lard, lay them in a stew-pan, and pour over them half a tumblerful of hot water. Now rub a teaspoonful of flour into a tablespoonful of butter and put the same into the pan. Stew with the cover on, a quarter of an hour. Then season the gravy with catsup, to your liking and pour over the meat. Serve hot and your meat will be as good or better than when first stewed.

TO KEEP FISH FRESH.—After cleaning the fish, and wiping dry, sprinkle it thoroughly with black pepper, fine salt and brown sage.

TO PICKLE ONIONS.—Do not put into vinegar direct; but first, after peeling, boil in milk and water for ten minutes, then drain off the milk and water and pour over the onions cold spiced vinegar.

## Mechanical Hints.

ABSORPTION OF BRICKS.—A dry common brick will absorb at least a pint of water. Pressed brick will not absorb one-half as much, being harder and more compact. From this fact one can form some idea of the amount of moisture retained in a brick after a heavy shower, or more especially during the rainy season. Paint fills the pores of the brick, and forms a covering or metallic coating which effectually prevents absorption.

VARNISH FOR SHOES.—Put a quarter of a pound of gum shellac, broken up in small pieces, in a pint bottle, cover it with alcohol, cork it tight, and put it on a shelf in a warm place; shake it well, several times a day, then add a piece of camphor, half as large as an ordinary sized hen's egg; shake it well and in a few hours shake it again, and add half an ounce of lampblack. If the alcohol is good, it will be dissolved in three days; then shake and use. If it gets too thick, add alcohol, pour out two or three teaspoonsful in a saucer, and apply it with a small paint brush. If the materials are good, it will dry in about five minutes, and will be removed only by wearing it off, giving a gloss equal to patent leather.

The advantage of this preparation over others is, it does not strike into the leather and make it hard, but remains on the surface, and yet excludes the water almost perfectly. The preparation is admirable for harness and does not soil when touched, as lampblack preparations do.

USE OF SULPHATE OF BARYTA IN WHITE WASHING.—Sulphate of baryta, or the so-called "fixed white," is strongly recommended as a substitute for lime in white-washing. For this purpose an ounce of glue is to be softened for some hours in cold water, and afterward heated in a water-bath with a quart of warm water, until completely dissolved. At the same time six or eight pounds of fixed white are to be stirred up with warm water in another vessel to a kind of milk, and the two poured together, and applied warm with a white-wash brush or otherwise.

JORDAN'S WOOD CARVING MACHINE.—Jordan's original carving machinery was invented in 1845, and received the gold medal of the Society of arts in 1847. A number of the machines were put in action in 1846, on the carved decoration of the houses of Parliament, and continued to be used during the progress of that work. The same machines are now employed by a large number of firms in England. The inventor still continues to build them, and has recently introduced a smaller one for amateur carving, which, like the orignal, has the power of carving the entire round figure, or any extent of undercutting, which can be effected by hand carving. This machine is a great labor-saver.

## Life Thoughts.

GOD thinks more of the good than of the world-popular.

HOPE is the dawn of joy, and memory its twilight.

THERE is no shady side to the pathway of duty.

EDUCATION is the chief defense of nations.

THE deepest love shows itself in the eye and touch.

"Little children loved him," is the only epitaph I care about.

"THERE is nothing great on earth but man; there is nothing great in man but mind."

IT is always in our power to make a friend by smiles; what a folly, then, to make an enemy by frowns.

SLOTH makes all things difficult, but industry all easy; and he that rises late must trot all day, and shall scarce overtake his business at night; while laziness travels so slowly, that poverty soon overtakes him.

MAN was never intended to be idle. Inactivity frustrates the very design of his creation; whereas an active life is the best guardian of virtue, and the greatest preservative of health.

SATIRE is a sort of glass, wherein beholders generally discover everybody's face but their own, which is the chief reason for that kind of reception it meets in the world, and that so very few are offended with it.

EXEMPTION from care is not happiness; on the contrary, a certain degree of care is essential to promote enjoyment.

INFINITE toil would not enable you to sweep away a mist, but by ascending a little you may often look over it altogether. So it is with moral improvements; we wrestle with a vicious habit, or with a slanderous report, which would have no hold upon us if we ascended into a higher moral atmosphere.

## Aim at Something.

Multitudes of men *relaize* nothing, because they *devise* nothing—*perfect* nothing, because they *project* nothing. "They simply float on the surface of the occasion and trust to the sublimity of luck." Micawber-like, they are "waiting for something to turn up."

He is a most unreasonable man, who expects to achieve, by accident, that which every successful man achieves, only, of set purpose. He is more unreasonable, who enters a bill of indictment against Fortune, for being so hard with him, when he is so hard with himself He upbraids poor blind Fortune, because she does not come and heap upon his head a lap-full of good things, while, really, he does not a single good thing for himself.

A marksman will tell you, that if you would hit the target you must aim at it. No random shots are expected to "drive the cross"—it will not happen once in a million of chances, especially if there be no idea of the direction in which it lies. Yet there are thousands of good, easy people—credulous, sanguine souls—who expect to hit the mark, not only without taking aim, but without shooting at all.

We should say, that with this class of persons there is an overgrowth of hope. They have been indulging high hopes all their lifetime and have not realized one of them. Is it not strange that they do not grow weary of their vain hopes and try some other expedient? The truth is, we suspect, they have reached the conclusion that it is easier to hope than to work. In their present aimless, do-nothing calling, the outlay is but little or nothing, and although the income be nothing, it is pretty good considering that there is no investment, and no risk at all, except the risk of a slight disappointment.

GOLDEN OPPORTUNITIES.—As wealth is for the most part accumulated by the constant saving of small sums, so knowledge is acquired by constant, though it may be almost imperceptible acquisitions. "Line upon line" is the one sure way of conquering the difficulties that lie in the path. The saving of time, even its moments, is an important element. Some wait for great opportunities, suffering the days, months, and even years, to pass away in mere resolves to become learned. The choice of a profession, a calling, or an object of attainment in the pursuit of knowledge, and not a resolution to work, merely, but a working on, in season and out of season; saving moments is the surest way to reach the goal.

## NEW ZEALAND FLAX.

[Written for the PRESS.]

[Concluded from page 140.]

Little or nothing is really known, as I have already stated, as to the amount of the *Phormium Tenax* which can be grown on an acre of ground; and, indeed, it must be some time before that fact can be fully ascertained, for like all other plants it is sure to vary according to the richness of the soil, the care taken of the ground, and the species planted; but many have arrived at the conclusion that ten tons per acre, of the green material is no unreasonable amount to expect, and I concur with them. I have heard of 30 tons being cut from one measured acre in the Waikato District, and believe it; but it must have been both very rank and close grown. Such a crop could not be grown where the plant was cut regularly, every year. I believe that it would be a better plan to cut a field once every second year, that is to have two portions, cutting one this year and another the next. If planted in a field, the rows ought to be at least, 8 feet apart. Each plant will soon spread out all round, and when the bushes have attained the greatest desirable size, say a diameter of 4 feet, a space of at least 4 feet should be constantly kept between the rows, for the purpose of grubbing and clearing the soil of weeds. The bushes can be roughly trimmed in a circular figure, during the winter season, by a strong sharp spade for the purpose of keeping them within the proper limit, and any roots cuts off, can be immediately replanted in another location.

The present manufactured article is almost wholly from material of natural growth, and I have not the slightest doubt but that cultivation will vastly improve both the strength and texture of the fibre. In cutting this flax the three center leaves should always be left, and I certainly think it would be better on that account, to cut it only once in two or three years, as a larger portion could be obtained from one field in such a case, than if cut yearly; but this would be a matter of opinion.

### Cost of Machinery for Preparing the Fibre.

One twelve-horse power engine can work 5 scrapers (or mills) and the necessary scutcher; and these, by careful management, can pass through 5 tons of green material per diem, equivalent to 1,800 or 2,000 lbs. of the dressed fibre. These mills require, together with all necessary field hands for bleaching the material, about 16 men and 10 boys, including an engineer and the manager, *and* exclusive of those who cut it. I am supposing, of course, as is usual, that the men who are employed in cutting it, are doing so by contract. It will require from 5 to 8 men to cut the necessary amount for a mill, with five machines—the number varying according to the growth of the plant and distance it has to be carried.

It requires to be put through the machines at once; the sooner the better, and never left out longer than 48 hours after being cut. The machinery, though very effective, is open to much improvement in the shape of labor saving.

The cost of one of Price's machines, (about the best in use) in full running order, is $150, consequently 5 machines would cost $750; a 12-horse power engine, $1,600; a screw press $250; a scutching machine $50; a weather-board building, 60 feet long, 20 feet broad and 15 feet high, about $500; store room, 30 feet long, 18 feet broad, and 20 feet high; $300; and extras, say $200, making the sum total about $3,650. The monthly working expenses and cost of flax for a mill, such as described above, would amount to about $2,876, including wages of employés, cost of raw material, incidental expenses, freight to market, interest on sinking fund, and wear and tear of machinery. I am fully aware that figures on paper are in many cases, not to be relied on; nor would I expect my statement to be received alone; what I have stated can be ascertained from the testimony of numbers, and if the figures are exaggerated it is on the right side; that is, I have allowed too much.

### Profit on the Manufacture.

Such a mill as I have alluded to can produce about 25 tons of good fibre, and three tons, at least, of good tow, per month of 26 days. Taking the first at the low value of $150 per ton, and the second at the equally low one of $30, it gives a total of $3,870; and, deducting the monthly expenditure, a profit of $994 per month is left.

Those who get the first start in this business will do best by it. Could chlorine be used cheaply it would save the expense of five field hands, at least, and the loss of 14 days in time in the bleaching process. This in wages, alone, would effect a reduction of $195 per month, which would probably more than pay for the chlorine process, leaving the time gained as an extra profit.

### Summing Up.

In concluding for the present, let me here sum up what I have said in a few words:—Here is a fine fibre, very strong, and some kinds of which are as soft as they are strong; easily grown and possessed of extraordinary vitality, and perfectly suitable to the climate of California, as proved by disinterested experiment; the growth after a few years being very rapid; the necessary machinery cheap; a perennial crop, capable of being cut *at any time of the year;* realizing a quick return when cut; not subject to disease; its chief or perhaps only real disadvantage being the lapse of three or four years before any large crop is realized—a period of time not greater, however, than is required in the planting of a vineyard. Anything that continues to increase largely in value, year by year, with a small amount of attention, must be expected to grow slowly at first.

The farmer who raises the flax for the mill can realize from $50 to $100 per acre at an expense of $5 per acre annually for running over the ground with a cultivator. When the time arrives for thinning out he is amply repaid for all expense, by the amount he is enabled to plant out afresh, with a much more rapid production than when first started from seed.

To the small farmer who desires to operate by himself on a limited scale, one scraping machine only need be provided, or perhaps two, which can be run most of the time during the summer season, in this country, by a windmill. This will greatly reduce the outlay for machinery and for buildings in proportion.

Another advantage with this crop, is the fact that it can be gathered and cleaned at any time of the year—winter or summer; and of course may be made to fill in the farmer's leisure time to good advantage.

If desired, two or three farmers can unite in a single establishment for preparing the fibre. I think there can be scarcely any question about a sure and good market. The finer varieties would probably pay better in this locality, from the fact that they might be more readily worked up into grain and wool bags, etc., for which there is a great demand here; while the coarser portions could be employed in the manufacture of rope. E. W.

## STARVING STOCK.

EDS. PRESS.—When *will* our people learn wisdom? It seems as if they have no care for the morrow. Do they ever take into consideration the amount of responsibility that rests upon them, in taking care of stock? Stock is property; then take care of it. The man who neglects to provide for his stock is not worthy of raising it. Nothing looks more unpleasant to a passer by, than the appearance of a herd of half-starved cattle. Such a sight is no credit to the owner, particularly, in a State, like this, where it can be so easily remedied. The cause of the loss of stock by starvation or cold lies in the careless manner in which stock growers conduct their business. They take no thought of the future. They provide nothing; but depend upon nature alone. That will not answer. Our seasons, at certain times, every year, require shelter and special food for stock; and it becomes all humane men to make some provision therefor. A little stock, well taken care of, is far better than a large amount, half fed; and it pays better.

Thousand of tons of straw are burned every winter. I have seen the torch applied on a great many ranches where, before the season was over, the cattle suffered for the same. The reason offered for this is that the owners or renters cannot afford to loose the ground upon which the straw lies. What nonsense! Take a span of horses, and a wagon, and in two or three days, sufficient straw can be drawn together and so stacked up, that it will occupy but little ground, and answer all contingences. Then put a fence around it, and a light roof over it, and you will save your stock, and a large quantity of manure, a matter that most people forget, but one which is nevertheless of the utmost importance, upon a well regulated farm.

It will be well for California, when owners of large tracts of land, will subdivide them, and put them in a shape so that we shall have more real farmers, and a less number of renters; more families and less bachelors. The time *will* come when such a condition of things will exist; and then our State will be built up, with a healthy population, and neat cottages; will be covered with well-tilled farms, ornamented with neat flower gardens and flourishing orchards; and last, though not least, with more families of smiling children.

D. L. PERKINS.

March 2d, 1871.

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MANGEL WURTZEL is a beet that is much used for cattle feed in England. At the Berkshire Fair, the competitors proved the following yield per acre, viz: 50, 60, 62 and 72½ tons. The largest crop was from Sutton's yellow globe mangel, manured with town sewage. In Rhenish Prussia, mangel is prefered to other beets for sugar and alcohol, and free public lectures are given, with practical instruction, at Bonn: the object being to multiply sugaries, which are set down as the most profitable institutions of mixed agriculture and manufacture.

Cotton seed is becoming so valuable for oil, that the plant is being cultivated over a large area of country formerly ruled out, because the cotton was too inferior for profit. It is but a few years since cotton oil was unsaleable. Now 750,000 tons of cotton seed are yearly disposed of in New Orleans, and converted into oil. This yields 30,000,000 of gallons, worth $15,000,000, and 300,000 tons of cake used for fattening stock, and 250,000 tons of refuse, which is converted into several millions of dollars worth of fine paper. It is estimated by the *Picayune* that if the whole crop of cotton seed from Mississippi Valley were turned into refined oil cake, sugar, and paper it would be valued at $40,000,000 a year. There is an effort to raise cotton as a staple in California. Persons going into it will be interested in studying the foregoing reliable statistics.

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TO COVER A STEEP BANK WITH GRASS.—The following method is recommended by a German horticultural association;—For each square rod to be planted, take half a pound of lawn grass, and mix it intimately and thoroughly with about six cubic feet of good dry garden earth and loam. This is placed in a tub, and to it liquid manure, diluted with about two-thirds of water, is added and well stirred in, so as to bring the the whole to the consistency of mortar.

The slope is to be cleaned off and made perfectly smooth and then well watered, after which the paste just mentioned is to be applied with a trowel and made as even and thin as possible. Should it crack by exposure to the air, it is to be again watered and smoothed up, day by day, until the grass makes its appearance, which will be in from eight to fourteen days, and the whole declivity will soon be covered by a close carpet of green.

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OREGON COAL.—The *Statesman* of Feb. 3d, says Frank Cooper is down from his coal bank at the head of Butte creek, and we learn from him that he is now running into a ledge of excellent coal ten feet thick, which improves as he goes in. Mr. Burrows has tried 1,500 pounds of this coal, and certifies that it produces gas well, but doesn't yield coke as well as could be desired. Cooper says that this coal bed is 280 feet above the creek, and slopes upward in the hill, which makes drainage without cost. He has been making lime and cement in a lime quarry near by, as a source of revenue, and with the proceeds has been prospecting the coal beds near by. There is also iron of the best quality near by, the ore being very rich and in immense supply.

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CALIFORNIA INDUSTRY.—The Marysville *Standard* says a knitting factory has been established in that city. The "Crane knitter" is the machine used, which manufactures a pair of ordinary woolen stockings in thirty-five minutes. This knitter knits any article of domestic wear, such as tidies, comforters, etc.

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THE San Francisco *Bulletin* says that tests made of Oregon fir at the Mare Island Navy Yard, prove that it is a stronger wood than white oak. The durability of our fir when used in ship-building is also commented on as somthing remarkable. Our timber, the *Bulletin* thinks, will be a source of vast wealth to us and to the whole coast.

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THE loss of life in the present European war is estimated to amount to half a million. Nearly four hundred thousand prisoners have been taken by the Germans.

## HUMOROUS.

"MADAM," said a pompous husband whose wife had stole up behind him and given him a kiss—"Madam, I consider such an act indecorous!" Excuse me," retorted the wife, "I didn't know it was you!"

WHY is a grain of sand in the eye like a schoolmaster's cane? Because it hurts the pupil.

"WOMEN," remarked the contemplative man, "are as deep as the blue waters of yon bay." "Ay sir," rejoined the disappointed man, "and as full of craft."

OLD MAIDS are descibed as "embers from which the sparks have fled."

SOME say that the quickest way to destroy weeds is to marry a widow. It is, no doubt, a most agreeable species of husbandry.

"I have the most effective eye water here that you ever saw," said a peddler to an old farmer. "No you haint," responded the farmer; "taint half so effective as a woman's tears, and I've seen lots of them. They beat all the eye water you've got in your pack."

RISE early, work hard and late, live on what you kan't sell, give nothing away, and if you don't die rich and go to the devil, you may sue me for damages.—*Josh Billings.*

A MAN, having spite of a sausage maker, rushed into his shop when crowded with customers, threw a large dead cat upon the counter and said, "That makes nineteen! We'll settle when you're not so busy!"

R. MCKAY, of San Jose, has made a whistle of a pig's tail, which artistic production he presented to a friend.

The following lines were found on a lawyer's table in a court-house, after the adjournment of the court, the other day: "Fair woman was made to bewitch: a companion, a nurse, a blessing, a curse, fair woman was made to be—which?

CONUNDRUM.—The following impromptu conundrum was propounded a few days ago to an old bachelor:

"Why's D like marriage?" asked the maid,
Whose troth to me is plighted,
I blushed in sooth and hung my head,
While she seemed quite delighted.

"Come, answer me," continued she,
"And don't be long about it!
You stupid fellow, can't you see,
*We* can't be *wed* without it?"

A man who had a scolding wife, being asked what he did for a living, replied that he "kept a hot house."

WHAT sort of fruit is most sought after by editors?—The latest dates.

CATTLE are dumb beasts, but by getting together in large numbers; they make themselves herd.

A MILKMAN accounted for the weakness of his milk by saying that the cows got caught in the rain.

A HEN is not immortal, and yet her sun never sets.

One of the most successful planters in Wisconsin is a widow who has just buried her sixth husband.

POOR pigs, they are doctored the wrong way round—killed first and cured afterward.

AN UNFINISHED EGG.—A little boy having been sent by his grandmother to the chicken coop for some eggs, soon returned with one in his hand, saying, "Grandma, here is one egg. There is another in the coop, but it ain't finished. It's got a soft shell on it, and I know the hen wasn't through with it yet."

UNLIMITED CREDIT.—An enterprising fair-dealing business man in Augusta, Maine, was lately met at the door of his grocery by an honest-looking Frenchman, an entire stranger to him, who asked credit for a barrel of flour. "I can pay half ze cash down and ze balance next Saturday, sure." The merchant, without hesitation turned to one of his clerks and, with a kindly smile upon the would-be owner of the barrel of flour, said: "This good man wants to get trusted for a barrel of flour; he'll pay half down and the rest next Saturday. I'll *risk* him: he's *good as gold*: open a *fresh* barrel, weigh out half, deliver it in good shape at his house, put the barrel away safely, and take it down *next* Saturday when he pays the balance; *never* refuse to trust an honest-looking man for *bread.*" It was done; the money paid and the French gentleman departed rejoicing in an abundance of flour unlimited credit.—*Harpers' Drawer*, in *Harpers' Magazine for February.*

# City Market Report.

## DOMESTIC PRODUCE AT WHOLESALE.

San Francisco, Thurs., a. m., March 9th.

FLOUR—Has been in better demand especially low grades for export, at rates, however, mostly private; hence quotations still continue more or less nominal, and without change.

We quote city mills, $5.75@6.00; extra, $6.87½@7 00. Oregon brands, superfine, $5.50 @$5.75. Extra, $6.50@7.00.

Transactions include 3,000 bbls. Cal. extra, 2,000 bbls. Oregon extra, and 3,500 do. California and Oregon superfine, at current rates.

WHEAT—The export movement for the past six weeks has been quite light. Only two cargoes were dispatched during the month of February. At present there is a little more euquiry for shipping grades. The demand for milling is also fair. The steady and improved character of the Liverpool and New York markets *is* reflected here, although as yet without any advance over our last weeks quotations of $2.20@ $2.35 of all kinds from ordinary to choice.

Liverpool quotations are telegraphed at 12s., an advance of 1d. New York telegraph rates still continue at $1.70@1.75 per bushel.

Notwithstanding the continued sameness of the regular New York telegraph report, other dispatches report an advance of two cents in that city on the 3d instant. The advance, however, was for home use and not for export. Sales of 900 bushels of California wheat are reported at $1.80—five cents in advance of the regular telegraph quotations.

BARLEY.—Is still in limited demand, at about last weeks quotations. We quote, feed, $1,32@$1,37½; brewing $1.40@$1.42½. Sales embrace 5,000 sacks. Latest sale of chevalier reported at $1.60; but would hardly command that figure now.

OATS—We note still a limited demand for oats. Extremes may be quoted at $1.50@ 1.75. Sales about 3,000 sacks.

CORN—Quotable at $1.40@1.55. The receipts are about 2,000 sks. per week.

BUCKWHEAT—Nominal at $3.25@3.50.

RYE—In limited demand at $2.40@2.50

FEED—Remains with but little change. We quote: Straw, $8@9; Bran, $27.50@30.00; Middlings, $35 for feed; Oil Cake Meal $33.

HAY—Is in steady demand. We quote ordinary wild oat to choice wheat at $13.00@ 16.00 ₱ ton,—an advance.

HONEY—In good demand at the following rates: Los Angeles, 5-gall cans, $12@16, and Potter's, 2 ℔ do, at $4 ₱ dozen.

POTATOES.—The receipts for the past few weeks have been irregular, the weekly deliveries since Jan. 30th being 6,000 sks, 25,000 sks, 12,000 sks, 6,800 sks, and 9,400 sks, the weekly average for the period being 12,000 sks. The range for Humboldt is $1.85 to $2.00, and for other kinds, $1.70 to $1.85 ₱ 100 lbs.

HOPS.—Since the recent sale of 160 bales for the Boston market, the market for Califoruia has ruled dull at 8@12½c ₱ ℔.

HIDES—We quote Dry, slaughterer's stock, 16@17½ c; Salted, 8@8½c. Sales during the week 1,950 Cal. dry. The New York market still continues active at the late advance.

WOOL.—Receipts of small lots of spring clip still coming in and selling on private terms. Until larger receipts come in prices will be more or less nominal. The yield will be large and great activity is expected. Prices will undoubtedly rule high.

We quote good shipping, at 15@17½c; very choice, 18½c; burry, 10@12½c; slightly do, 13@14c.

The New York market is active at previous prices. The season for producing Spring goods is so far advanced that manufacturers are not laying in stocks, while the relative prices of woolen fabrics continue against the manufacturer. Holders are confident, as they are carrying very light stock, which cannot be replaced before a new clip comes to hand. California Wools are in good demand, but buyers have a difficulty in finding stock to suit their purposes, Pulled Wools are in moderate request. Californian has been taken with freedom. Sales of 75,000 ℔s. Fall at 21@33½; 25,000 ℔s. Spring, 27½@35; 2,000 ℔s. Black, 31½; 2,000 ℔s. scoured, at private sale.

TALLOW—Quotable at 7@7½c, from ordinary to choice.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

BEANS—Prices but little changed. Bayo at $2.00@2.25; butter, at $1.90 for small and $2.37 for large; small white, $2.00@2.25; pink, 1.50; red, $1.75; pea, $2@$2.25 per 100 pounds.

FRESH MEAT—In good supply and quotations not changed. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 9@10c ₱ ℔.
Do 2d do 8@ 9c ₱ ℔.
Do 3d do 7@ 8c ₱ ℔.

VEAL—Scarce and firm, has advanced to 12½@14c.

MUTTON—Steady at 9@10c. ₱ ℔.

LAMB—Supply light, as yet, and quotable at 11@12c.

PORK—Undressed is quotable at 6¼@ 7½c.; dressed, 10@11½.

POULTRY, ETC.—In good supply, and prices remain unchanged. Young Chickens $7@ 8; Hens $7@8.50; Roosters $7.00@7.50; Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame, $2.50@$3 ₱ pair; live turkeys, 20c ₱ ℔; Hare, $1.50@2.50 per doz; Doves, 50c do; Quail, $1.25@1.50.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 32@35c; Packed rolls, 25@ 30c. Eastern firkin 20@30c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California, new, 10@14c., Eastern, 16@17c.

EGGS—California fresh, 28@30c; California Lard, 11-℔ tins, 14@15c; Oregon, 14½ @15½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $1.50@$2.50; Oregon, $1.25@$2.75; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $25@$45; Tahiti oranges $30 per M.; Lemons, per box, $16; Cal. Lemons, $3@4 per 100; Pears and choice Apples scarce.

CASE GOODS—In 2 ℔ cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

## GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—There is at the present time a good demand for Mowers, and if the crop prospects continue favorable, Harvesters, Threshers, Reapers and other seasonable implements will be in active demand within the next 30 days. Stocks are said to be liberal, and prices rule low for all kinds of goods in this department of trade.

BAGS AND BAGGING—The market rules quiet for all kinds. Wool Sacks have all gone into second hands. The demaud for Flour Sacks continues fair. Prices for most decriptions are more or less nominal. We quote wool bags at 55@65c. Oat Sacks 23x40, 12½c; 28x 35, 18c; Potato Sacks, 17½c.; imitation Dundees, 18@19 c. Standard burlaps, 22x36, 12½c.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 5½c; Oregou do, 6½c; Languedoc Almouds; 25c; Figs, Smyrna, 15@20c; Prunes, Hungarian, 16@17c, for old and new respectively, ₱ ℔; Raisins, layer, $4.25@5.00; Currauts, Zaute, 11½@12½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13@13½c; Oregon do, 16½@17c; Bacon, California, 15@ 15½c; Oregon do, 16@16½c; Lard, California, 12½@13¼c; Oregon do, in kegs, 13@14½c ₱ ℔.

## San Francisco Market Rates.

### Wholesale Prices.

Friday, March 10, 1871.

| | | | |
|---|---|---|---|
| Sugar, crushed, ₱ ℔ | 14½ | @ | |
| Do. Hawaiian | 9 | @ | 12 |
| Coffee, Costa Rica, ₱ ℔ | 17½ | @ | 18½ |
| Do. Rio | 18 | @ | |
| Tea, Japan, ₱ ℔ | 55 | @ | 90 |
| Do. Greeo | 50 | @ | 1 00 |
| Hawaiian Rice, ₱ ℔ | 8½ | @ | 9 |
| China Rice, ₱ ℔ | 6½ | @ | 7½ |
| Coal Oil, ₱ gallon | 50 | @ | 60 |
| Candles, ₱ ℔ | 14 | @ | 18 |
| Overland Butter | 30 | @ | 35 |
| Ranch Butter, ₱ ℔ | 35 | @ | 40 |
| Isthmus Butter, ₱ ℔ | 25 | @ | 30 |
| Cheese, Calltornia, ₱ ℔ | 7 | @ | 15 |
| Eggs, ₱ dozen | 27½ | @ | 30 |
| Lard, ₱ ℔ | 14 | @ | 15 |
| Ham and Bacon, ₱ ℔ | 14 | @ | 16 |
| Shoulders, ₱ ℔ | 9 | @ | 10 |

### Retail Prices.

| | | | |
|---|---|---|---|
| Butter, Calltornia, fresh, ₱ ℔ | 45 | @ | 50 |
| do. pickled, ₱ ℔ | 35 | @ | 40 |
| do. Oregon, ₱ ℔ | 15 | @ | 20 |
| Cheese, ₱ ℔ | 20 | @ | 25 |
| Honey, ₱ ℔ | 25 | @ | 30 |
| Eggs, ₱ dozen | 40 | @ | |
| Lard, ₱ ℔ | 18 | @ | 20 |
| Hams and Bacon, ₱ ℔ | 20 | @ | 25 |
| Cranberries, ₱ gallon | 75 | @ | 1 00 |
| Potatoes, ₱ ℔ | 2 | @ | 3 |
| Potatoes, Sweet, ₱ ℔ | — | @ | 2 |
| Tomatoes, ₱ ℔ | | | |
| Onions, ₱ ℔ | 2 | @ | 3 |
| Apples, No. 1, ₱ ℔ | 4 | @ | 5 |
| Pears, Table, ₱ ℔ | 5 | @ | |
| Plums, dried, ₱ ℔ | 15 | @ | 20 |
| Peaches, dried, ₱ ℔ | 15 | @ | 0 |
| Oranges, ₱ dozen | 50 | @ | 75 |
| Lemons, ₱ dozen | 50 | @ | 75 |
| Chickens, aplece | 75 | @ | 1 00 |
| Turkeys, ₱ ℔ | — | @ | 25 |
| Soap, Pale and C. O | 10 | @ | 15 |
| Soap, Castile, ₱ ℔ | 18 | @ | 20 |

### Produce, Etc.

| | | | |
|---|---|---|---|
| Flour, Extra, ₱ bbl | 6 50 | @ | $7 00 |
| Do. Superfine | 5 50 | @ | 6 00 |
| Corn Meal, ₱ 100 ℔s | 2 15 | @ | 2 35 |
| Wheat, ₱ 100 ℔s | 2 25 | @ | 2 40 |
| Oats, ₱ 100 ℔s | 1 60 | @ | 1 75 |
| Barley, ₱ 100 ℔s | 1 30 | @ | 1 35 |
| Beans, ₱ 100 ℔s | 1 87½ | @ | 2 50 |
| Potatoes, ₱ 100 ℔s | 1 00 | @ | 1 75 |
| Hay, ₱ ton | 10 00 | @ | 15 00 |
| Live Oak Wood, ₱ cord | 10 00 | @ | 12 00 |
| Beef, extra, dressed, ₱ ℔ | 8 | @ | 12 |
| Sheep, on foot | 2 00 | @ | 2 50 |
| Hogs, on foot, ₱ ℔ | 6 | @ | 6½ |
| Hogs, dressed, ₱ ℔ | 7½ | @ | 8 |

Success in Business.—Success in the business world usually depend upon being thoroughly prepared for its duties. Youug men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to Heald's Business College, locat d in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Busiuess College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty collegcs, located in all the leading commercial cities of the United States and Cauada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, scud for circuluar, and Heald's College Journal, which will be sent free upon application. Address, E. P Heald, President, business College, San Francisco, Cal. 1v1-3msnr

**Our Printed Mail List** notifies subscribers when their term expires, the last figures on the label signifying the year. We wish to be notified at once if any errors occur in names or dates.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

Friday, March 10, 1871

| | | | |
|---|---|---|---|
| Iron.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 ℔s; Bar, 1@1½c ₱ ℔; Sheet, polished, 3c ₱ ℔; common, 1½@1¾c ₱ ℔; Plate, 1½c ₱ ℔; Pipe, 1½c ₱ ℔; Galvanized, 2½c ₱ ℔. | | | |
| Scotch and English Pig Iron, ₱ ton | $34 00 | @ | $3 00 |
| White Pig, ₱ ton | — 32 | @ | 33 00 |
| Refined Bar, bad assortment, ₱ ℔ | — 03 | @ | — — |
| Refined Bar, good assortment, ₱ ℔ | — 04 | @ | — — |
| Boiler, No. 1 to 4 | — 04¾ | @ | — — |
| Plate, No. 5 to 9 | — — | @ | — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ | — 05 |
| Sheet, No. 14 to 20 | — 05 | @ | — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ | — 06½ |
| Copper.—Duty: Sheathing, 3½c ₱ ℔; Pig and Bar, 2½c ₱ ℔. | | | |
| Sheathing, ₱ ℔ | — — | @ | — 26 |
| Sheathing, Yellow | — 20 | @ | — 21 |
| Sheathing, Old Yellow | — 10 | @ | — 11 |
| Composition Nails | — 21 | | — 22 |
| Composition Bolts | — 21 | | — 22 |
| Tin Plates.—Duty: 25 ₱ cent. ad valorem. | | | |
| Plates, Charcoal, IX ₱ box | 12 00 | | — — |
| Plates, I C Charcoal | 10 00 | | 10 50 |
| Roofing Plates | 10 00 | | 10 50 |
| Banca Tin, Slabs, ₱ ℔ | — — | | — 42 |
| Steel.—English Cast Steel, ₱ ℔ | — — | | — 15 |
| Quicksilver.—₱ ℔ | — — | | — 90 |
| Lead.—Pig, ₱ ℔ | — 06 | | — 07 |
| Sheet | — 09 | | — |
| Pipe | — 10 | | — 11 |
| Bar | — 08 | | — 09 |
| Zinc.—Sheets, ₱ ℔ | — 10½ | | — 11 |
| Borax.— | — 25 | | — 35 |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

San Francisco, Thursday, March 9.

Sole Leather.—The demand is still equal to the supply, and prices firm.

| | | | |
|---|---|---|---|
| City Tanned | 26 | @ | 30 |
| Santa Cruz | 26 | @ | 30 |
| Country | 25 | @ | 28 |

Calf and Kip Skins.—The close of the war has made no difference in the price of French stock as yet, aud probably will not. Domestic skins rule the same as heretofore.

| | | | |
|---|---|---|---|
| Best French Calf Skins, ₱ doz | 75 00 | @ | 100 57 |
| Common French Calf Skins, ₱ doz | 35 00 | @ | 75 00 |
| French Kips, ₱ ℔ | 1 00 | @ | 1 00 |
| California Kip, ₱ doz | 60 00 | @ | 75 30 |
| California Calf, ₱ ℔ | 1 00 | @ | 1 00 |
| Eastern Wheel Stuffed Calf, ₱ ℔ | 80 | @ | 1 25 |
| Eastern Bench Stuffed Calf, ₱ ℔ | 1 10 | @ | 1 50 |
| Eastern Calf for Backs, per ℔ | 1 15 | @ | 1 26 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50 | @ | 13 02 |
| Sheep Roans for linings, ₱ doz | 5 50 | @ | 10 07 |
| California Russet Sheep Linings | 1 75 | @ | 5 35 |
| HARNESS LEATHER, ₱ ℔ | 30 | @ | 02 |
| Fair Bridle, ₱ ℔ | 33 | @ | 00 |
| Skirting, ₱ side | 4 50 | @ | 4 50 |
| Welt Leather, ₱ doz | 30 00 | @ | 50 40 |
| Buff Leather, ₱ foot | 22 | @ | 50 |

## Beauty.

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Late Newspaper Change.—E. M. Dewey, Esq., who was for several years connected with the *Messenger*, as editor and publisher, has recently purchased the Visalia *Delta* newspaper and job priuting establishment, as we see by the figure head of that journal. The *Delta* is oue of the keenest and sauciest little papers in the State. It has a well appointed job office, and under the able business management of its new proprietor, is bouud to flourish. We are pleased to notice that our old friend has again assumed the editorial tripod, and gladly extend to him the right ☞ of fellowship iu our craft. If he succeeds in the *Delta* half as well as he did in the *Messenger*, the people of Tulare county will have no cause to regret the change.—*Mt. Messenger, Downieville.*

## List of Societies and Officers.

**State Agricultural Society.**—Officers; President, Chas. F. Reed, Grafton, Yolo County. Directors: H. M. Larue, Sacramento; H. R. Covey, San Francisco; R. S. Carey, Yolo; C. T. Wheeler, Sacramento; Edgar Mills, Sacramento; Robert Hamilton, Sacramento William Blanding, San Francisco, E. J. Lewis, Tehama; William P. Coleman, Sacramento. Officers of the Board. Secretary, Robert Beck, Sacramento; Treasurer R. T. Brown, Sacramento.

**San Joaquin Valley Ag'l. Society.**—Officers; President, J. K. Doak; Vice Presidents, Geo. S. Ladd, John Tuohy; Secretary; H. T. Compton; Directors, James C. Gage, George West.

**Upper Sacramento Agricultural Society.**—Officers—President, Harmau Bay; Secretary, E. Hallet.

**Bay District Horticultural Society, of Cal.**, S. F.—Officers: H. N. Bolander, Prest.; E. L. Reimer, V. P.; F. A. Miller, Sec.; R. Turnbull, C. Schuman and F. A. Hering, Trustees.

**Contra Costa Co. Agricultural Society.**—Officers: Geo. P. Loucks, Prest., Pacheco; Heury Shuey, V. P., Lafayette; R. R Brock, Sec., Martinez; S. W Johnson, Treasurer, Pacheco; G. W. Bryant, R. G. Davis, Directors, Pacheco.

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|---|---|---|---|---|
| 4.00 P M | 8.00 A M | San Francisco | 5.45 P M | 12.30 P M |
| 4.42 P M | 8.40 A M | Oakland | 5.12 P M | 11.58 P M |
| | 7.30 A M | San Jose | 5.40 P M | |
| 7.58 P M | 12.10 P M | Stockton | 1.46 P M | 8.35 P M |
| 9.35 P M | 2.10 P M | Sacramento | 11.1 A M | 7.00 A M |
| | 4.10 P M | Marysville | 9.10 A M | |
| | 9.00 P M | Sesma | 4.20 A M | |
| | 2.20 P M | Sacramento | 11.45 A M | |
| | 5.25 P M | Colfax | 8.45 A M | |
| | 1.15 A M | Reno | 1.00 A M | |
| | 9.10 A M | Winnemucca | 4.05 A M | |
| | 12.00 M | Battle Mountain | 1.25 P M | |
| | 4.40 P M | Elko | 8.45 A M | |
| | 6.10 P M | Ogden | 5.15 P M | |

EASTWARD. WESTWARD.

Oakland Branch.—Leave San Francisco, B 6 50 8 00, 9 00, D 10 20 and D 11 10, a. m. 12 00, 1 50, D 3 00, 4 00, 5 15 6 45 and B 11 30 p. m.

Leave Brooklyn, B 5 15, B 6 30, 7 40, 8 50 and 10 00 a. m., 1 30, 2 40 4 55 and 6 25 p. m.

Leave Oakland, B 5 25, B 6 40, 7 50, 9 00, 10 10, 11 00 and 11 50 a. m., 1 40, 2 50, 3 50, 5 05 and 6 35 p. m.

Alameda Branch.—Leave San Francisco, B 7 20, E 9 00, BC 9 30 and EC 11 30 a. m., 1 30, 4 00 and 5 30 p. m.

Leave Haywards, B 4 15, B 7 00, E 8 30, B 9 00 and E 11 00 a. m. and 3 25 p. m.

Leave Alameda, B 5 15, B 7 36, E 9 06, B 9 36 and E 11 36 a. m., 1 35 and 4 05 p. m.

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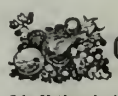

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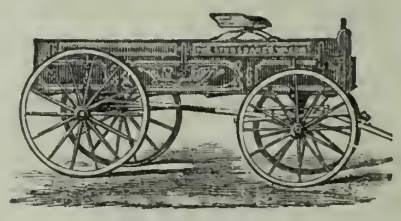

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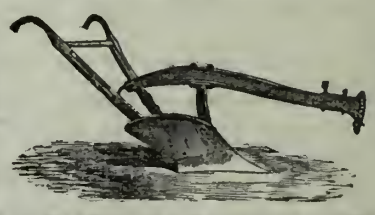

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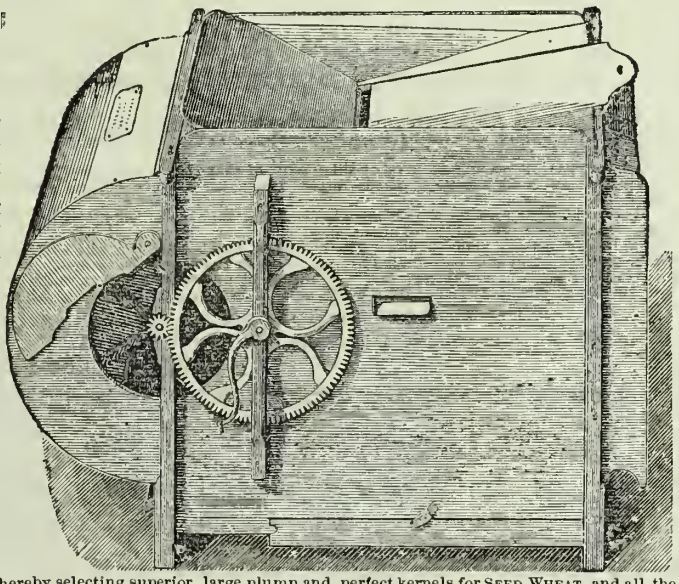

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The following resolution was unanimously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

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At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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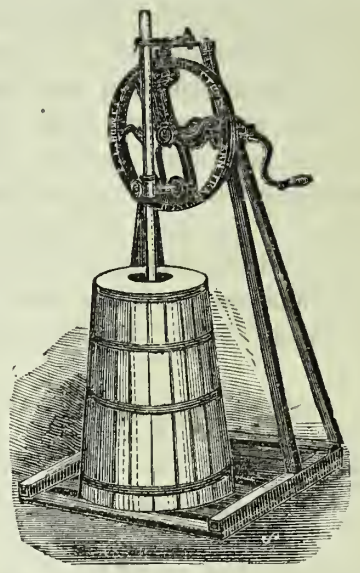

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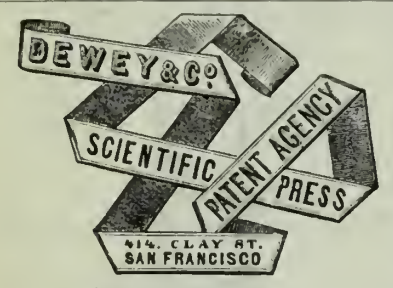


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PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, MARCH 18, 1871. [Number 11.

## THE PERCHERON HORSE.

### Its Introduction into Oregon.

The Willamette *Farmer*, notes the fact that Mr. W. C. Myer, of Rogue River Valley, Oregon, has recently brought out, for breeding purposes, several head of the Norman or Percheron horse, a representative illustration of which is herewith given. Somewhat coarse in its execution; but nevertheless sufficiently distinctive to give an idea of the principal characteristics of this valuable animal. If we are not mistaken this is the first instance of the importation of this valuable farm horse to the Pacific coast. Whether this is so or not, Mr. Myer has done a sensible thing; for there is need that more attention should be paid, upon this coast, to the rearing of work-horses. Cattle, in the yoke, are almost ignored here—they are too slow for California and for Oregon too.

The importance of securing a superior breed of horses for work on the farm, and for draught, is recognized everywhere. We are in more need of a superior business horse, than of one for pleasure and fancy; although the latter should not be neglected, and indeed has not been, in this State, so much as the former.

The horse is eminently qualified to meet various and quite diverse wants of man, when properly bred for his various needs, and the breeding of horses for special purposes has long engaged the attention of enterprising agriculturists in various parts of this country, and Europe. The turf, the field, the army, the road, the horse railtrack, the dray and the farm have each their special requirements, and each of them may be better met by some one breed of this noble and useful animal, than any other.

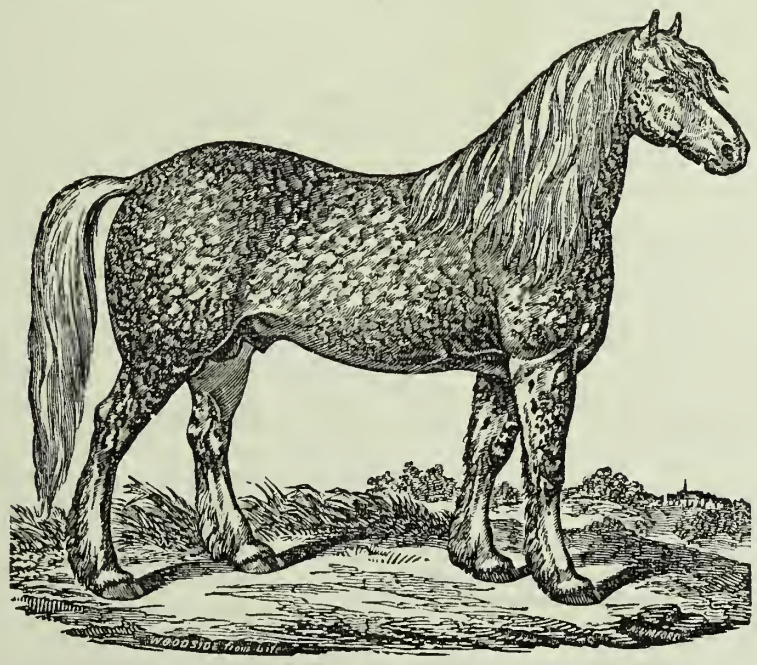
The efforts to breed in accordance with these various wants are attended by numerous difficulties, not the least among which is the effect which climate and soil seems to exert upon the physical organization of this animal, often almost entirely changing the character of any given type. For instance, when the sharp, active and medium sized horse of Vermont, is transferred from the hardy grass of its native granite hills to the herbage grown upon the rich limestone regions of Kentucky, he becomes in a few generations, lymphatic, being increased in size and somewhat sluggish, and *vice versa*.

### Origin of the Percheron.

While this circumstance has, too often, a tendency to degenerate, it may also, by proper selections and removals be made to improve any given breed. It is to this law that the world is probably indebted for the valuable Percheron horse, which, has come within a few years to claim a large share of attention, among those who are raising horses for all work. The best authority seems to assign Arabia as the place of origin of this horse; but when bred in its native country it lacked the important characteristics which it now possesses, and which it seems to have accidentally acquired by its change of location. This transfer took place after the defeat of the Saracens by Charles Martel—that famous conqueror bringing home a large number of the choice war horses of his defeated enemies. From this importation it is supposed the more famous Percheron has been finally derived.

This animal originally possessed the most essential qualities of a war horse—which combine fleetness with endurance, strength and nobleness of carriage. The change of climate, soil and interbreeding has still further brought out the qualities of endurance and strength, until we now have the remarkably strong and muscular development represented in the accompanying engraving.

French writers claim that there are three kinds of Percherons—The first suited more especially for a post-horse and horse for private use; the second, seems to be peculiarly adapted for omnibus use, and for which, previous to the late disastrous war, he was largely employed in the city of Paris; the third seems to be more particularly fitted for heavy farm work, and is largely used in Paris and other large French cities by contractors, builders, etc., and for drayage.



THE PERCHERON OR NORMAN HORSE.

The general characteristics of the Percheron race, a few generations back, are given as follows: "It has style, though the head is rather large and long; nostril well open and well dilated; eye large and expressive; forehead broad; ear fine; neck rather short, but well filled out; withers high; shoulders pretty long and sloping; breast rather flat; but high and deep; a well rounded body; back rather long; the croup horizontal and muscular; tail attached high; short and strong joints; and the tendons generally weak; a foot always excellent, though rather flat in the low countries; a gray coat; fine skin; silky and abundant mane.

This animal as now developed, possesses a sharp, clean head, a graceful, muscular neck, a strong shoulder, a short back, a long rump, low and strong quarter, a well developed leg, a good, but somewhat flattened foot, muscles low on the shoulder.

The changes noticed seem to be just those needed to fill the new wants which have latterly sprung up in human industry—involving heavy work on the farm with the dray, on the road, etc. The enthusiastic Frenchman, Charles Du Huys, in refering to this unexpected and timely development of an animal so much needed, calls it "a munificent gift of Providence to this favored region."

M. Dillon, of Normal, Ill., we believe, was the first to introduce the Percheron into the United States, as long ago as 1851, and has used them largely in that State. He feels confident that they are profitable, and that they will improve the horses of the West. The Trustees of the Massachusetts Society for promoting agriculture, have more recently introduced the horse into New England and are earnestly engaged in encouraging their propagation.

We trust the efforts of Mr. Myer will prove not only profitable to himself, but beneficial to the entire Pacific Coast. A correspondent of the Willamette *Farmer* would like to see the Percheron crossed with the blooded horse, with the expectation of giving size to the foal, and increasing the style, action and symmetry of his progeny. Such a system of breeding he thinks would develop a good horse for all work. We cannot forbear to express the opinion that a general introduction of the pure Percheron on this coast, would be productive of most excellent results; although we have yet to learn what effect may come from the change of climate and soil.

---

GRAIN SHIPMENTS FROM VALLEJO.—According to the Vallejo *Chronicle*, 37 ships have loaded, this season, in whole or in part, with grain, from that port. The quantity shipped from there has aggregated 1,143,021 centals, valued at $2,274,340. The supply has now become about exhausted, and no further shipments will probably be made from there until the next crop comes in.

---

QUININE.—There is, in the United States of Columbia, a region called San Martin, of which but little is generally known, but which is said to contain vast numbers of the Peruvian bark trees, whence is extracted the highly valuable quinine. Such an extent of Quina forests as San Martin is said to possess,—a territory 40 leagues long and 5 or 6 leagues wide,—is worth many an old mine.

---

RAISINS FROM SUTTER.—Frank Walton, who lives opposite Marysville, in Sutter county, made 300 pounds of raisins last season, which, though small, are said to be equal to the best imported even for table fruit. He also raised seven bushels of almonds.

## PREMIUMS FOR FRUIT—SEEDLINGS.

Since the completion of the Pacific Railroad and the successful shipment of California fruits to the East, where they find a ready and remunerative market, fruit culture is assuming a more important position among our agricultural or horticultural industries. The State Board of Agriculture has recognized this fact by offering the very liberal premium of $100, for the best general display of fruits, embracing the best and greatest varieties, to be made at the State Fair of 1871. The aggregate of cash premiums offered for apples, pears, peaches and plums, is $280. The premiums for grapes aggregate $110.

The premiums for other fruits are equally liberal. Among other premiums is one of $10 for the best collection of seedling fruits. Though this is a small sum, it will do for a beginning. The proper way to secure its increase, in the future, is for those who have succeeded in cultivating good seedling fruit of any kind, to bring them forward, and exhibit samples.

The subject of cultivating seedling fruits is one of great importance to California. We have heretofore been cultivating mostly from trees and stock from the Eastern States, and have so far been very successful; but we should now begin to pay more attention to the production of new varieties of our own;—such as will be more especially adapted to this climate.

That our fruit *can* in this way be improved is evidenced by the superior quality of some of the seedling peaches that have already been produced. There are already a number of kinds of seedling peaches of California origin, far superior to any of the old Eastern varieties. Some of our best apples have also been originated here. Some of the best grapes have also been produced from seeds planted here—especially in our foothills.

Let our people pay more attention to the production of new varieties of fruit, as we suggested last week, and they will thereby keep off disease which, as a general thing, is the result of continued cultivation of the same varieties. The effects of in-breeding in the animal kingdom are well understood. Why are not the effects of in-breeding in the vegetable kingdom equally deleterious? There is no doubt that such is the fact. It has long been acknowledged, by the most intelligent cultivators, that a change of seed from one locality to another, of wheat or other cerials, was beneficial. Hence nations have adopted a system of international exchanges. Does the benefit in such cases arise from the mere change of locality, or from the crossing of different kinds or varieties, one with another, and the consequent production of new varieties?

---

THAT DEEP HOLE.—The artesian well, to which we referred last week as the deepest hole in the world, is located in Potsdam, Prussia, instead of Pennsylvania.

---

WILD PIGEONS are making their appearance in large numbers in Sacramento and El Dorado counties.

## MECHANICAL PROGRESS.

STEAM DREDGING MACHINERY.—The following is a description, from an exchange, of the dredges now building in Chicago, for use in the cutting of a ship canal six miles long and 160 feet wide, from New Orleans to Lake Borgne, thence communicating with the Gulf of Mexico: "On a strong frame of oak and iron are secured two 52 horse-power engines. These handle a dipper weighing two tons, with a beam or handle long enough and strong enough to operate in water 25 feet deep. There are four of these frames, each with its two engines, and its dipper. Each with its appliances, weighs 40 tons. These require the use of two strong boats, sufficiently capacious to sustain two of these machines, with the fuel, etc., requisite to keep the machinery in operation. The machinery of these boats is the same, with a single exception, that is, in the construction of the dippers. Those of the pioneer boat are armed with cutters, teeth and hooks of steel. The ponderous dipper is thrust against the bottom by means of one part of the machinery, and then raised by another. The cutters, teeth, and hooks cut and tear up roots and timber, and deposit them beyond the banks of the canal. Both dippers are operated at the same time, and thus they excavate, as they advance, the full width of the canal, depositing trees, roots, rocks, and earth beyond its banks. The second boat has plain dippers of the best construction for the removal of earth and mud. It is presumed that the first or pioneer machinery has cleared the canal of all formidable obstacles. The work of the second is to deepen and finish the channel ready for the passage of steamers of every size and kind, or even of national ships of the largest class. The dredges will operate in water from two feet deep to any depth necessary to float a ship. They will cut through and remove everything—roots, earth, and boulders weighing tons. Nothing but a solid ledge of rock can stop them. The cost of the dredges is $44,000."

JOLIET ROLLING MILLS.—The Chicago *Railway Review* says of the new works in Joliet, Illinois,—at the center of the entire railway system of the East, West, and South: "The mills began running about four months ago; and it speaks well for the character of the enterprise that, during a very dull manufacturing season, in which many mills have been compelled to temporarily cease running, the orders upon it have necessitated the working of the force of 350 men one turn a day. The capacity of the mill is 250,000 tons of rails per year. Rails of any size or pattern are made. The Chicago Iron Co's furnace, from which the pig is obtained, have a capacity of 400 tons per week. The company have nearly perfected plans for Bessemer steel works on their grounds at Joliet. It is expected to begin building in the spring, and to have the work in operation in the fall, at a cost of from $200,000 to $300,000."

BALANCED SLIDE VALVE FOR LOCOMOTIVES.—A paper was read before the London Institution of Mechanical Engineers, by Mr. Wm. Beattie, at a recent meeting, giving a description of a new valve as follows: "This slide-valve is similar in shape to the old D valve, being made cylindrical at the back, and working inside a jacket of corresponding form fixed in the steam-chest; the steam pressure is excluded from the back of the valve by two steam-tight packing rings, one at each end, which are fitted into grooves in the body of the valve, and are pressed outwards against the jacket by means of spiral springs. The valve is thus relieved of the heavy pressure of steam, which in ordinary slide valves forces the valve against the cylinder face with a pressure that amounts in large engines to as much as nine or ten tons. The result has been found by experiment to be that the balanced slide-valves, which are made of cast iron, require only about one-third of the power to move them that is necessary with the ordinary unbalanced valves made of brass. The excessive wear and tear, to which the ordinary valves and the link-motion working them are subjected, is thus avoided; there is also an important advantage in the facility with which the engine can be reversed with steam on. The economy of fuel, consequent upon the saving in the power required, has been found by experience to amount to 2½ pounds of coal per mile run."

THE NEW RANSOME STONE.—Of this *Engineering* says: "Mr. Ransome makes a mixture of sand, Portland cement, ground carbonate of lime, and some silica readily soluble in caustic soda at ordinary temperatures, and these materials he makes into a plastic mass by the addition of silicate of soda. The mass thus formed remains plastic a sufficient length of time to allow of its being rammed readily into moulds of any desired form; but it gradually hardens, and ultimately becomes thoroughly indurated and converted, without any further treatment, into a hard stone capable of resisting heat and cold, perfectly impermeable to moisture, and which, as far as can be judged from the experience hitherto obtained, goes on increasing in hardness, and bids fair to be thoroughly durable. * * * By his new process Mr. Ransome is enabled to produce admirable artificial marbles, while by introducing amongst the materials fragments of quartz and a small proportion of oxide of iron, he obtains a stone of rich color, hardly distinguishable from Peterhead granite. Like the natural granites and marbles, the artificial substitutes are capable of taking an excellent polish, while they possess the great advantage over the natural products of being capable of being molded in the course of manufacture into any form at a trifling cost. It would be idle for us to attempt here to enumerate the uses to which the new stone can be applied, for they are practically numberless. For decorative purposes it will be invaluable, and Mr. Ransome deserves the best thanks of architects, and we may add of engineers."

FIBROUS VS. GRANULAR IRON.—The following is an extract from a paper recently read before the American Society of Civil Engineers, by J. Dutton Steele: "Some years since, an experiment was made under my observation bearing upon this point: Rails made of fibrous and granular iron were laid alternately upon a heavy freight-bearing road; at the end of six months, the fibrous heads showed the most marks of wear; at the end of twelve months, the granular heads began to break up: and the result was that the soft, fibrous rail wore out two of the granular. In the early railroad experience, a patent was taken out in England for making the heads of rails of granular iron, and at least two patents have since been taken out in this country for the same object, but all with the same result—all have passed into oblivion under the test of practice. There are several problems in the wear of rails which may be worthy of note. We all remember what a run the double-headed rail had in England, and how signal has been its failure; the first head subjected to the action of the wheels became granulated, and its tensile strength destroyed, so that when the rails were inverted they broke. True to the same principle, we find that any cause which changes the position of rails in the tracks, so as to alter the bearing of the wheels upon them, causes their destruction. If they are reversed side for side to the flanges, they wear out quickly, and even if they are taken up from one point in the road and laid down in another, by which means the bearing of the wheels upon them is, of necessity, more or less changed, the granulated surface is broken up, and their durability is decreased."

TRANSFER OF CARS FROM ONE GAUGE TO ANOTHER.—A correspondent writes thus to *Van Nostrand's Engineering Magazine:* "All, or nearly all freight cars have a stout timber or plank crossing under the body of the car, over the center of each truck, and projecting an inch or two beyond each side of the car, thus forming four points upon which a loaded car may rest without injury, independent of the trucks. Upon these same planks are placed three castings, namely the pivot and two side bearings. What I propose is, to have a lifting apparatus, with most of its working parts in a pit under the track, to lift a loaded car bodily off the trucks by the four points above mentioned, run out the trucks of one gauge, and run in trucks of another gauge, and let the car down upon them. The pivots, side bearings, and brake chains would have to be of uniform pattern; but in other respects all the existing variety of cars and trucks could be used, and every road would keep its *running gear upon its own road.* A 10-horse engine would furnish power to transfer several hundred cars in a day, with switch engines to move them."

A HAND SEWING MACHINE.—We see described a little lock-stitch sewing machine, to be held in one hand, and worked like a pair of scissors, making a stitch for each stroke.

## SCIENTIFIC PROGRESS.

INFLUENCE OF THE SOLAR HEAT ON THE EARTH'S ROTATION.—Capt. John Ericsson has an article on this subject in *Engineering* for Feb. 10th, in which he disputes the heretofore accepted theory of Laplace, that the axial rotation of the earth is not affected by atmospheric currents and similar motions caused by solar heat, since their final result is the balancing and counteracting of each other. We have not space for his demonstration, but we quotea paragraph to show what he proposes to demonstrate:—"There are two classes of force produced by solar heat, capable of retarding the axial rotation, differing, however, entirely as regards ultimate results. The *first class* includes animate exertion, mechanical force produced by heat developed by the combustion of organic substances, and the resistance of abraded solid matter transferred from its original position by the waters of rivers flowing towards the equator. The forces thus enumerated, it will be shown, retard the rotary velocity of the globe in all cases when they remove weight to a greater distance from the axis of rotation, i. e., expand the circle of gyration, thereby diminishing the number of revolutions performed in a given time. Obviously the vis viva of the rotating mass will remain undiminished, as the center of gyration is merely removed to a greater distance from the axis of rotation. Accordingly, the axial rotation, though checked can never be stopped by the class of retarding influences thus pointed out. The *second class*, however, which comprises the retardation produced by the atmospheric air during its course from the polar to the equatorial regions; and the retardation caused by the waters which flow towards the equator to restore the quantity lost by the powerful evaporation within the tropics, not only diminishes the rotary velocity but, at the same time, deprives the earth of so great an amount of vis viva, that the axial rotation must ultimately cease, unless some *exterior* compensating force exists, a supposition at variance with the principles of mechanics."

PETROGRAPHY.—Arch. Geikie, in reviewing a new contribution to German petrographical literature, by Dr. F. Senft, remarks that the study of rock-species has in England been allowed to fall into disuse, although the most important step in modern petrography there originated, viz., the application of the microscope to it by Mr. Sorby. In Germany, however, it is cultivated with assiduity. We quote: "The great paper of Mr. Sorby, published here thirteen years ago, has done much to quicken this research by showing that the older methods were in many respects untrustworthy. These methods were based primarily upon chemical analysis. But such analysis, while it reveals the ultimate chemical constitution of the rock, may not explain its mineralogical composition. The various stages of the metamorphism of the component minerals are thereby often lost sight of. Hence two rocks, having by analysis approximately the same chemical composition, may differ materially from each other in mineralogical composition. It is here that, as Sorby showed, the microscope comes in to our aid, and shows what the different mineral ingredients of the rock are, how far they have respectively undergone alteration, how they are built into each other so as to form the rock mass, and under what conditions they may originally have been formed. This important addition to the methods of research has so powerfully affected petrography, that this branch of science must be regarded as at present in a transition state. Many of the groups of rocks in the nomenclature now in vogue in Germany will require reconsideration. More especially is revisal needed in those based upon subdivisions of the triclinic felspars. Petrographers are now coming to see that, in a vast number of cases, it is not possible to discriminate the particular species of felspar in a rock, further than as belonging to the othoclase or plagioclase division. In this separation the microscope becomes of essential importance."

NEW METHOD OF FINDING THE RESISTANCE OF A GALVANOMETER COIL.—Sir W. Thomson recently read before the Royal Society a paper entitled "A modification of Wheatstone's bridge to find the resistance of a galvanometer coil from a single deflection of its own needle." We quote from it as reported in *Nature*, Feb 2d: "In any useful arrangement in which a galvanometer and a galvanic element or battery are connected through whatever trains or network of conductors, let the galvanometer and battery be interchanged. Another arrangement is obtained which will probably be useful for a very different, although reciprocally related, object. Hence, as soon as I learned from Mr. Mance his admirable method of measuring the internal resistance of a galvanic element (that described in the first of his two preceding papers,) it occurred to me that the reciprocal arrangement would afford a means of finding the resistance of a galvanometer coil, from a single deflection of its own needle by a galvanic element of unknown resistance. The resulting method proves to be of such extreme simplicity that it would be incredible that it had not occurred to anyone before, were it not that I fail to find any trace of it published in books or papers, and that personal inquiries of the best informed electricians of this country have shown that in this country at least it is a novelty. It consists simply in making the galvanometer coil one of the four conductors of a Wheatstone's bridge, and adjusting, as usual, to get the zero of current when the bridge contact is made; with only this change of plans, that the test of zero is not by a galvanometer in the bridge itself showing no deflection; but by the galvanometer, the resistance of whose coil is to be measured, showing an unchanged deflection."

REPORT ON THE WASHOE REGION.—In a notice of the 3rd volume of the Report of the Fortieth Parallel Geological Exploration, *Silliman's Journal* for March says:—"It is not too much to say that the descriptions of the Washoe region, and the illustrative maps showing the geology and topography of the Comstock lode by Messrs. King and Gardner, with the maps, sections and elevations of the different parts of the mines and workings, surpass in completeness and perfection of execution, any similar work ever published. The chapters by Mr. James D. Hague on the methods of exploitation and treatment of the ores of the different districts give, in a masterly manner, the facts and details on these points, and also contain a large amount of carefully collated statistics, never before published, regarding the cost of production, and the yield of the mines up to 1870. Mr. Hague's practical experience in mining, and his thorough knowledge of the scientific principles involved, together with his candid and discriminating treatment of the facts under consideration, give great weight to his conclusions, and render this volume the most valuable contribution yet made to the literature of the Mining Industry of the United States."

WYOMING FOSSILS.—Prof. O. C. Marsh gives in *Silliman's Journal* for March an outline of one of the expeditions made by the Yale Scientific party during the past season. Of the region about the "Grizzly Buttes," on the route from Fort Bridger to the Green River, a region resembling the "Mauvaises Terres," of Nebraska and Dakota, he says:—"A careful examination of this 'Bad Land' district soon indicated that a fossil, vertebrate fauna of peculiar interest was here entombed; one apparently older and quite distinct from that preserved in the great Miocene lake-basin east of the Rocky Mountains, which we had recently explored. In the latter deposit, the remains of ruminating mammals were especially numerous, while the entire absence of fishes, and of reptiles, with the exception of a single species of tortoise, was a well marked feature. Here, however, reptilian life had evidently been abundant, and was represented by all its principal forms. Crocodilians, tortoises, lizards, serpents and fishes had swarmed in the waters of this tropical lake; while Tapiroid mammals, with many smaller quadrupeds, had lived near its borders. Their remains had long been weathering out of the "Grizzly Buttes," which offered so inviting a field, that we devoted a fortnight to their exploration, and were rewarded by the discovery of a large number of extinct vertebrates new to science, which will be described by the writer at an early day."

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports to Dewey & Co., U. S. and Foreign Patent Agents, and Publishers of the Scientific Press.]

**For the Week Ending February 28th.**

Apparatus for Carbureting Air.—Alexander Dalrymble Bell, San Francisco.

Treadle for Sewing Machines.—Francis E. Mills, San Francisco.

Baling Press.—Thomas J. Corning, San José, Cal.

Anchor.—William M. Hughes, San Francisco.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

Plow.—J. P Pritchard, Conn Valley, Napa county, Cal. This invention relates to that class of side-hill plows, in which two plows are attached to a shaft upon which they can be revolved so as to convert it into a right or left-hand plow as desired. The construction is such, that when it is at work, one of the plows is held and carried in a position approximating to a right angle with the other; when it is desired to reverse them, the plow is allowed to turn until both landsides rest upon the ground, when, by means of a lever releasing a catch, the bram and handles can be turned to the opposite side and the position of the plows changed without stopping the team and without effort on the part of the plowman. This device can be used also for cultivating level land, using either the right or left-hand plow for this purpose.

Electro-Magnetic Sewing Machine.—G. Stevens and J. Hendy, S. F. The sewing machine is undoubtedly one of the most useful inventions of the age, and its effect in ameliorating the condition of the poor sewing woman of the large cities, to say nothing of other benefits, is stated to be most important. Yet objections have been made by medical men on account of injurious physical effects arising from the common method of operating the machines by means of the treadle. As an obviation of this trouble, Messrs. S. and H. have invented an improved method of driving the apparatus by means of electricity. Their invention consists in a novel arrangement of the electro-motor by which greater power is obtained from the coils; in a device for regulating the power and speed; in the simplicity of the feed movement; and in driving the needle-bar directly from the armatures or coils, without the intervention of cranks or wheels of any sort, which occasion much loss of power.

Trade Mark.—Dr. G. C. Furber, Yreka, Siskiyou county, Cal. This trade mark is designed to protect a medicine patented by the doctor and known as Furber's Cordial of Mountain Balm and Oregon Grape. The plants from which the main constituents of the compound are derived, have been used for long periods of time and are known to have a beneficial effect in many classes of disease, as many of our readers can doubtless testify from their own experience; hence it can be readily believed that, as stated, its virtues are not merely visionary. We have been informed of several cases where the effect of the compound is given as most beneficial.

Boot Jack.—E. Coleman, S. F. This is an improvement on a small but important article of "every gentleman's furniture,"—and consists principally in an addition to the ordinary boot jack by which the toe of the boot is held while it is being drawn from the foot. The arrangement is such that the boot jack will be rendered much more convenient, and useful for the purpose for which it is intended. We have tried it and found it very conventient, and the fat man who occasionally pervades our office and who, by the way, has not been able to see his pedal extremities for the last ten years, declares that it is the "best thing ever invented."

## Using the Microscope.

A correspondent, P. H. H., of Oakland, writes us that he has a microscope, the use of which he does not understand, and requests information on the subject. We handed the letter to Mr. Henry G. Hanks, a leading member of the Microscopical Society. Mr. Hanks may be found at 649 Clay street (the last sentence of his letter requires, perhaps, this statement), where he has a most interesting collection of minerals, fossils, etc., which he kindly allows any one to examine.

Eds. Press.—The information your correspondent wishes to obtain cannot be given in a few words. Books with details of microscopic manipulation consist of hundreds of pages. The best works on the subject are: Beale's "How to work with the Microscope; "The Microscope and its Revelations," by Carpenter; a work by Hogg, with 500 illustrations; also Queckett's "Practical Treatise on the use of the Microscope." These works and many others upon the same subject may be bought at the principal book stores, or examined at the libraries.

A few general directions may be of assistance to him. There are two classes of objects for microscopic observation, one transparent and the other opaque. Each requires a different mode of treatment. It is essential that the former shall be naturally transparent, or that it be made so by being rendered extremely thin so that transmitted light can pass through it. Granite, limestone, fossil wood and even gold may be so examined, if in sufficiently thin sections.

It is sometimes necessary to float the sections in a fluid, to assist in rendering them transparent, such as water, oil, glycerine, or spirits of turpentine, as the case may require.

An illustration of each method of treatment will be the clearest explanation. Suppose the object to be examined to be the wing of a common house fly. It is only necessary to lay it flat on a slip of glass and place it on the stage of the microscope, and so arrange the reflecting mirror beneath that the light is thrown up through the object, causing the field of the instrument to appear sharply illuminated, when seen by looking down through the instrument from above. The focus is then adjusted, and the object will be seen in greater or less perfection according to the perfection of the glasses used. It is customary to use the lowest object glasses first, and then to increase the magnifying power to the extent required.

To examine opaque objects, the reflecting mirror is turned aside, or the diaphragm plate so arranged as to intercept any light that could pass up from below. The light from a good lamp, or from an aperture cut in the window blind, is concentrated upon the object so as to illuminate it strongly. It is then examined as in the first case, always using the lowest powers first. The use of the more refined and improved appliances for illumination would require too long a description for the limited space that you could afford to give in your valuable paper. If your correspondent would call upon me, I could show him in a few minutes what would require pages of your paper to describe; and I would take pleasure in so doing.

A Remarkable Spring.—A correspondent sends to the *Journal of Chemistry* the following account of a remarkable spring in Texas:—

"About sixty miles north of Galena, near the town of Liberty, there is a spring, the water of which is quite acid, simulating lemonade, and those who taste it like it so much that they drink it almost immoderately. When you feel hot it is quite delicious; and under any circumstances, whether hot or cold, the drinking of it produces perspiration, with no unpleasant effects afterward. The spring has no apparent outlet or inlet. It is probably sixty feet across it, and it is covered with a white froth or foam, which on close examination appears like cream tartar on a wine-cask. It kills insects, worms, and other small animals that come near and use it. No fish or other evidence of life is seen within its waters."

Dog Power.—In Philadelphia there is a small blacksmith's shop, the bellows of which is operated by dogs. The bellows are connected with a wooden wheel box, which is kept revolving by the motion of the dog, something after the manner of a treadmill.—*Iron Age.*

Northern Pacific Railroad to be the Shortest Rout to Russia.—The N. Y. *Tribune* says: It is an interesting fact that the war between Germany and France has casually demonstrated the truth that the shortest line of communication between the mouth of the Amoor and St. Petersburg is by way of Puget Sound and New York city. On the 13th of November the North German bark Galatea arrived at Port Townsend, on the Sound, bringing dispatches for the RussianGoverment, commercial letters and drafts from Nicolaivski, to be forwarded to St. Petersburg. The vessel also brought letters to be forwarded to Bremen. These all were mailed at our post-office in Port Townsend. Duplicates had been previously sent overland from Nicolaivski by way of Moscow. The bark was 28 days from the mouth of the Amoor. Allowing 12 days for the mail to go from Port Townsend to New York, and 20 days from here to St. Petersburg, the Galatea's mail would reach the Russian capital in 60 days from the Amoor by way of Puget Sound. The duplicate mail by way of Moscow, the Galatea's captain said, would take 90 days for delivery, unless carried on snow, when it would take 65 days. The shortest time across the United States, it will be noted, was made by using a sailing vessel. It seems apparent that when the Northern Pacific Railroad is complete and a line of steamers runs between the Amoor and Puget Sound, not only will the East Russian mails come through New York, but an immense trade, which is now dormant or non-existent, will pass over that road to take shipping in our harbor.

Quicksilver.—The San José *Independent* says that the Almaden Mine is turning out a larger quantity of ore than it did last summer, some new pockets having been struck which pay from 25 to 35 per cent. The production has increased from 800 flasks to which it had at one time sunk, to twelve or fifteen hundred flasks per month. * * * The Vallejo *Chronicle* of March 7th, says:—Work continues to be prosecuted on the cinnabar lode four miles from Vallejo, and Mr. Dennis, the superintendent of operations, is authority for the statement that a vein of paying rock rich in cinnabar has been struck in a new tunnel at a distance of 145 feet in the hill. There are favorable indications of a quicksilver development of great richness, and the probabilities are that the stockholders will be amply remunerated for all their labor and expense in the work of exploration. * * * The Santa Cruz Quicksilver Company is developing a promising ledge. * * * The Bella Union quicksilver mine, situated on the west side of Napa Valley, has been sold to a San Francisco company, for the sum of $75,000.

Geology in Oregon.—The Salem, Oregon, correspondent of the *Union* says:—Rev. Thos. Condon, at the Dalles, possesses a cabinet of specimens acquired during various summer excursions, which is one of the few scientific wonders, and lately he lectured upon his favorite art at Portland, his text being, "Three Stone Heads," which three were veritable specimens he had dug from the sandstone chronicles, and presented to his audience as representing three different periods. These were skulls of a family anterior to the mammoth and the elephant, and of a race as huge as they, dug from the strata, disclosed by a ravine, on John Day river, where a wall 1,500 feet deep, whose face was cut by the waters of many centuries, reveals to the philosopher the secrets of an era before man existed, and even before the Cascade mountains had risen to form a barrier to the ocean.

Peat in California.—At a late meeting of the Academy of Sciences in this city, Professor Bolander said that he had seen in a newspaper a statement that parties were making arrangments to cut peat in the San Joaquin valley, and inquired if any real peat was known to exist in California. He expressed the opinion that the geological and climatic conditions of the State were not favorable to the formation of peat. This substance is formed by the decay of vegetable matter constantly under water. Where the vegetable matter was subject to overflows, as was the case along the San Joaquin river, earthy matter must be deposited, which would prevent the formation of real peat.

Rain.—In the Eastern States the rain begins in the quarter from which the cloud comes, while upon this coast the rain begins to fall first in the quarter toward which the cloud is being blown.

A Rocky Mountain Canal.—We find a communication in the New York *Tribune*, suggesting that a canal be built to connect the waters of the Missouri with the waters of the Columbia. The project throws in the shade our proposed canal from the Jefferson river to Helena. Who knows but what, in the course of time, the suggestion offered by the *Tribune* correspondent may be carried into practical execution? We quote as follows: "As this is the era of ship canals, perhaps one that would make a communication by water from the Atlantic to the Pacific may be worth consideration. A ship canal from the Missouri River to the Salmon and Columbia Rivers, will require about eighty-five miles of canal and about four locks. The Rocky Mountain ascent in that neighborhood is very gradual. When travelers are on the summit they do not realize that they are on an elevation until told that it is the highest land in the pass. The canal would require locks around the Great Falls of the Missouri. The most direct route for a canal is from Horse Prairie Creek to the Salmon River, which is deep and broad, and down the Columbia to Rockland Falls, where a lock would be needed. Then there would be one unobstructed water-course from St. Louis to the Pacific Coast. This would open our northern territories to civilization through Dakota, Montana, Idaho and Oregon.—*Helena Herald.*

Coal Formation.—C. Widemann writes to the *Jour. of Applied Chemistry* that, in France, in taking down a saw mill where a vertical saw had worked between two solid oak boards for fifteen years, the wood was found changed into coal, possessing brilliant scales and sharp edges. The appearance of the oak grain was only visible by the aid of a powerful microscope, assuming the appearance of very thin layers. It had been noticed that, when the attendant had neglected to oil the saw, the sheet iron became so warm as to come to the blue color (about 300° C.), the heat of the wood at the same time being about half as much. This occurred not oftener than once a month. It was expected to find charred wood, but not coal.

Salt in Kern County.—The *Courier* of March 4th, says:—On the east side of Kern Lake is a tract of country about two and a half miles in width, from north to south, and five miles in length to the eastward, which in every part throughout its whole extent affords brine in limitless quantities at a depth of from eight to ten feet. This brine is of greater strength than is usually furnished by brine springs, being equal to that used for the preservation of meats, and in fact, has often been used for that purpose without concentration. It is found in a tough clayey stratum, beneath which pure fresh water is found. The salt rises to the surface, and in many places, in dry weather, might be gathered in a somewhat impure state in great quantities. At different times salt has been made here by boiling and solar evaporation of a quality for purity and strength surpassing any we have ever seen, but its production has never been entered on to any extent, or as a regular business.

Reclaiming Tule Land.—The reclamation project in Yolo and Colusa counties, described and illustrated in the Press of Jan. 7, was brought to a successful termination on the 11th inst. The contract for the work has been successfully carried through, under the management of Charles F. Reed, Engineer and Superintendent. The labor of six hundred men has been required since October last, in the prosecution of this important undertaking, whereby 72,000 acres of land, heretofore useless, are now cultivatable.

Turtles.—A new business has opened for San Diego, says the *Union* of that city. Gordon, Stewart & Co. shipped to San Francisco by the last steamer sixty large soft shell turtles from Lower California. Several men are engaged in the business on the lower coast, and regular shipments will be made hereafter.

Steam Wagon.—Breed and Crosby, of Virginia City, Nevada, have ordered a steam wagon for freighting from Reno to Virginia.

# Poultry Notes.

## HOW MANY EGGS?

We have been frequently asked how many eggs ought any given number of hens to average in the course of a year? We would say, in reply, that with good care, they ought to average from 120 to 150 each, and increase three-fold each year, doubling the number of layers, and furnishing an equal number of roosters for the market. The pullets of any given year ought to average fully five months of laying time, during which they ought to lay thirty eggs each.

Each hen will eat about one bushel of wheat, or its equivalent, during the year, and the progeny of the year will consume for each one, say half as much more. From these data, and taking the average price of eggs at 35 cents per dozen, and wheat at $1.50 per bushel, we may reasonably make the following calculation with regard to the

### Annual Profit on 100 Hens

In the vicinity of San Francisco:

| | | |
|---|---|---|
| 100 hens, say 130 eggs each | | $371 05 |
| 100 pullets, say 25 eggs each | | 72 80 |
| 100 pullets (good breed), cash value | | 100 00 |
| 100 roosters for market, 75 cents each | | 75 00 |
| Total Receipts | | $618 85 |
| Feeding 106 hens and roosters | $159 00 | |
| Feeding 100 chickens as above | 75 00 | |
| Losses by disease, etc | 10 00 | —244 00 |
| Profit | | $374 85 |

In the above estimate, we have allowed 10 per cent. for loss by disease, but nothing for depreciation from age, as such loss would be but trifling. The secret of success in keeping hens free from disease, is plenty of food, and that which is good; a plenty of clean water, comfortable and clean roosting and laying quarters, and not over thirty-five in one enclosure. They had better be kept in separate families, although the families may be separated only by a lath fence. Two roosters only should be allowed in one family.

The secret of success in securing a large stock of eggs is this: Have your chicks in this climate, hatched in February or March, so that they will begin to lay in August. As they do not moult until the second autumn after they are hatched, the advantage of early hatched chichens for obtaining eggs is apparent—they will commence laying in August, and continue without interruption from moulting for fourteen or fifteen months—through the best laying season of two years.

A hen should never be allowed to moult but once. On the approach of the second moulting period, see that all of that stock is in good order for the market, and off with their heads.

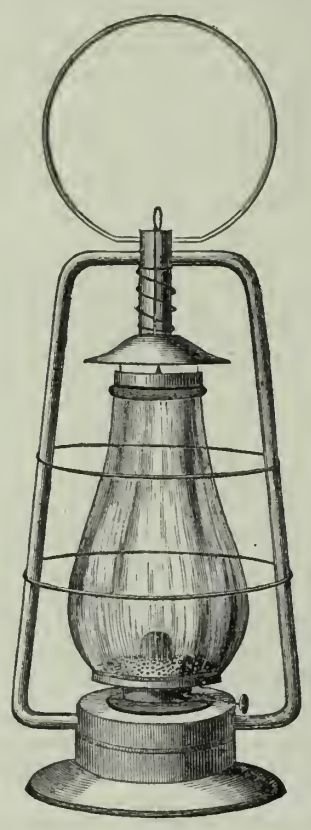
If a man devotes his time exclusively to raising hens, reasonably convenient to his market, with the assistance of a boy, he ought to be able to take care of 1,000 layers, and find time beside, to raise nearly all the food they will require, with a little assistance in plowing and harvesting. From twenty to twenty-five acres of land ought to be sufficient to raise all the provisions needed for both the keeper and his charge, and to house both comfortably.

## PACKING EGGS.

A correspondent of the *Country Gentleman* says:—"At Cardington, ninety-six miles south of Cleveland, and a place of about 1,000 inhabitants, more eggs are probably packed for the New York market than any other one town in the West. I visited one cellar where they had 33,000 dozen eggs in pickle, and another establishment in the village had 38,000 dozen in pickle. About 1,500 barrels were shipped in November from that town to New York. One of the egg men there, a man by the name of Marvin, packs eggs in barrels in September and October, using cut straw in the packing, and keeps them till the holidays before shipping to New York. He "candles" the eggs carefully before packing, and heads up the barrels, and turns them the other end up every day. The eggs bought during the months of June, July, and August, are put in vats made of bricks, laid up in water-lime in the cellar; the vats when full being covered with muslin sheets, over which is spread a paste of lime, like thick whitewash. The composition of the pickle used is kept a secret, but has stood the test of several yeras' trial. Most of the pickled eggs are shipped in November."

## The Tubular Lantern.

A most excellent lantern, and one most highly to be recommended, would be that one which, while being convenient to handle, will give a pure, powerful light, emit no offensive or hurtful gas, will not smoke the globe, cannot be made to heat, take fire, or explode, can be easily trimmed and lighted, has no delicate or complicated parts to get out of order, burns the cheapest, most readily obtained and most effective oil, and burns it most economically, and is equally good



indoors and out, at rest and in motion, in calm and in wind.

The manufacturers of the lantern here illustrated claim that their device comes the nearest of any made to satisfying the above demands. They use it for kerosene, because this article is cheaper and much more convenient than oil. The objections to kerosene lanterns are that they are liable to heat, often take fire, sometimes explode, and do not perfectly consume the oil, thus not only wasting that material but also smoking and emitting noxious gases, and giving a poor light. They claim, however, to have obviated these objections by a simple method,—by admitting a regular current of air in and around the burner, producing perfect combustion and a steady and brillant light, and at the same time keeping the parts cool.

The illustration will give a fair idea of the lantern. At a short distance above the globe is a sort of bell with a pipe above it connecting by two sides pipes with an air chamber, which is placed below and leads into the burner. There is a constant current of air through these pipes and thus the necessary oxygen is supplied through the burner into the flame. The globe rests on a plate, perforated to admit the air, and can be readily placed or removed. By means of the currents through the pipes and the perforated plate, not only is perfect combustion secured but, as we are told, the top of the lantern, globe, burner and oil below are all kept cool, thus obviating the damage of explosion. Moreover, the currents cause the flame to be steady in the wind.

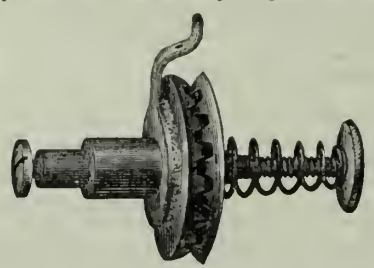
If the wick be turned up very high, in order to get the largest blaze possible, instead of heating and overburning, it will (beyond a certain limit) go out. The same effect will result on overturning the lantern. The only precaution to be observed is to keep the air chamber clear, that the current may not be impeded or stopped.

The lantern is light but strong and durable, having but few parts liable to get out of order. The simplest way for each person to satisfy himself whether the manufacturer's claims are good, is to go into a store and subject the lantern to a series of experiments; see how bright and clear the flame is, try to blow out the flame, turn the lantern over on its side, place the finger on the cone of the burner to see how hot it may be. Such tests as these will be the most satisfactory of any to the purchaser, as to the illuminating power, freedom from smoke, use in the wind, and safety of the lantern.

The Tubular Lantern can be seen at various places in this city, and is made by the Chicago Manufacturing Company, 43 and 45, Franklin street, Chicago, Ill. They are meeting with a ready sale, wherever introduced, and we are assured that they give the best of satisfaction.

## Tension Wheel for Sewing Machines.

For the purpose of keeping the thread tightened sufficiently in operating a sewing machine, Mr. John H. Mooney, of this city, has invented a very ingenious con-



trivance, patented under date of May, 31st 1870, which is illustrated below. The following shows how it is operated:

The thread, passing from the spool through the guide over the wheel, is placed one and a half times around the wheel, between the two corrugated disks, and from thence is carried to the eye of the needle. The required tension is obtained by turning the thumb nut on the end of the stud, which presses the spring against the wheel, making it turn more or less easily as may be necessary. The friction on the thread is produced by its bending itself against the half circles made by the teeth or corrugations in the two flanges of the wheel; the teeth on one side being distant from those opposite a greater space than the diameter of the thread, it cannot bind or fasten itself, but will draw freely and evenly from the wheel.

The device operates, we are told, exceedingly well, and is now in use on the Florence machine. It can be applied to any sewing machine. It may be obtained of Mr. Samuel Hill (under the Grand Hotel, S. F.) or of any of his agents for the Florence on this coast.

We could probably give no illustration of greater importance to our lady readers than one relating to the sewing machine, an article which is most highly prized by those who possess one, and which is greatly longed for by those who are not the present owners of the very useful mechanism. Therefore the present illustration will be particularly interesting to the gentler sex.

Darien Canal.—Commodore Selfridge is quite sanguine that he has found a practical route for the canal. From Atrato to the Cacarica, where ships can go, the distance is less than fifty miles. The water shed is over 300 feet and its base, at a height of 170 feet (?) not over a mile and a half wide. The rock is soft and easily worked.

## PRINCIPLES OF GOOD CULTIVATION.

We have before us a very interesting lecture recently delivered by Prof. Buckland, at Blandford, England, which is well deserving of a careful study by every agriculturist. The lecture opens with a few practical remarks on the "Origin of Farm Plants," in which the lecturer shows how all the useful plants of the farm were derived, by experimental processes, from wild plants, that were originally of little use as food for man.

He believed that by continuous care all our plants, cereals, roots, etc., might be still further and vastly improved by a judicious selection of seed and careful cultivation.

Examine any given seed pod, the seed of any fruit, or any head or ear of cereals, and you will find a great difference in the character of the seed in said pod, fruit, or ear. By a careful selection of only a small portion, and those the choice seed of such pod, etc., and careful after cultivation a most marked improvement will be observed in the product of such seed. In wheat, etc., a few seeds, so selected should be sown for seed alone, and that product also carefully separated, for its choice portion of seed for the regular crop. Roots should also be carefully selected.

### Change of Seed and Soil

Is also a matter of much importance. Without such occasional changes, no product can be kept up to its original standard—much less improved. It has been by such change, in connection with careful cultivation and selection that our farm products have been brought up to their present standard of excellence. The greater the amount of changes the more success was likely to attend the labors of the cultivator.

### The Importance of Good Seed

Had been thoroughly tested by the lecturer, especially with wheat and barley. He had seen samples of seed of which 72 per cent. failed to germinate. He had seen barley of which 24 and 30 per cent. failed. Now, before sowing, the farmer should test the germinating qualities of his seed. He never put wheat or barley into the ground until he had ascertained, if possible, what percentage would germinate. The plan he adopted was to take a small flower-pot and sow and cover evenly, say, 100 seeds. If then placed in a hot-house, the seed would come up very soon, and the amount of germinating power might thus be very accurately determined.

### Effect of Sowing Poor Seed.

There is one serious detriment arising from sowing that which contain any considerable percentage of non-germinating seed, which, though hinted at above, and which the lecturer probably thought sufficient, we deem of sufficient importance to be farther considered, in this connection also—and that is that the development of a large percentage of non-germinating seed in any given quantity should be considered a good reason for condemning the entire lot; for when a large proprotion will not germinate at all, a still larger amount *will* germinate; but in such a feeble, sickly manner as to invite disease, which will be fatal to it, or utterly fail to mature any perfect seeds whatever.

There are some other points in this interesting lecture to which we shall probably refer next week.

Every Saturday, for March 11th, contains the opening chapters of Charles Reade's new novel, "A Terrible Temptation," which promises to be as sensational as any of that dramatic author's stories. It contains also a large number of excellent engravings, a portrait of Mosley, representations of American life and scenery, as well as of foreign scenes, ten pages of fine pictures. The editorial matter is excellent, and the miscellany varied and good. *Every Saturday* is always in good taste, lively and interesting,—a most pleasant companion.

# AGRICULTURAL NOTES.

## CALIFORNIA.

DAIRYING ON THE TRUCKEE.—A correspondent of the Sacramento *Union* says that within a scope ranging, say thirty miles north of Truckee, there was produced not less than 150 tons of butter last year. This brought, on an average of, say 33 cents per pound, aggregating in the main $90,000. * * * It would, perhaps, not be exaggerating to say that no part of the great American continent affords better facilities —naturally—for dairying, than the ranges of the Sierra Nevada mountains, where, in many places, embracing a large area, the most nutritious and milk-producing wild grasses grow in spontaneous abundance—such, for instance, as bunch grass, wild oats, California clover, white sage, and many other kinds best adapted for milk and butter-producing purposes. Hundreds of little valleys are being taken up and converted into dairies, where, from six to seven months in the spring and summer and autumn seasons, the pasture is excellent.

A LAWYER AGRICULTURIST, but not a very successful one, resident of Santa Cruz, is said to have recently planted a lot of trees with the roots thereof enveloped in sacks, just as they were received, carefully packed, from a distant nursery. He had the satisfaction, a short time afterwards, to find them all drooping or lifeless.

ORANGES IN OROVILLE.—The success of the experimental culture of the orange in Oroville has led to the planting there, this season, of some 10,000 orange, lemon and citron trees.

WHO CAN "BEET" IT?—A. W. Russel, of Santa Barbara, lately took a mangel-wurzel beet to the *Times* office that weighed 122 pounds.

ESTRAYS IN SANTA CLARA.—The Board of Trustees of Santa Clara have authorized the Marshall to take up every animal found at large on the public streets, and every one "staked out" to graze.

FREAK OF NATURE.—The following is related by the Los Angeles *News* of March 4th:—An ewe recently gave birth to a monstrosity in the shape of a double lamb. It has eight legs, two tails and but one head, with three eyes, one of them in the back of the head. Up to the neck the form is that of a sheep, but the head is more like the head of an ape. Another lamb of the same birth, born prior to the monster, was perfect in form. Both the ewe and the phenomenon died. The carcass of the latter will be preserved as a curiosity. It is now in possession of Dr. Du Py, on Los Angeles street.

LOSS OF SHEEP.—It is estimated that not less than twenty thousand sheep died in Los Angeles county, in consequence of the effects of the late cold, driving storm which visited this section.

AT Los Nietos, Los Angeles county, on the 10th, hail stones of unusual size are said to have fallen. They are even stated to have reached the largeness of quails' eggs.

FRENCH CHESTNUT TREES.—Leme, of Los Augeles, has a number of chestnut trees in his garden, one year old and grown from nuts imported by him from France. The trees are now from 18 to 24 inches in height and doing well.

LOSS OF CASHMERES.—Messrs. Bouchard and Mann, af Los Neitos township, are the proprietors of a large number of valuable Cashmere goats, which they sheared just before last week's storm. During the night, from exposure, change of temperatnre or other effect of the storm, they lost over three thonsand dollars worth of their choice animals.

FRUITFUL.—According to the Los Angeles *News*, six hundred ewes, belonging to one of the leading sheep raisers in that county, in one day, yielded nine hundred lambs.

MORE FRUIT TREES.—The people of Los Angeles are still increasing their orchards. According to the *News* of March 4th, fruit trees and vines are being planted this season in great numbers in the Riverside settlement, on the Santa Anna river, and upon the Jurupa Rancho. On the 3d inst., several wagons loaded with orange, lime and other fruit trees, also 14,000 foreign grape cuttings of a fine variety, left Los Angeles for that settlement.

DEATH IN A WINE CASK.—A man was suffocated, a few days since at San José by poisonous gases in an immense wine tank, at Gen. Naglee's vineyard. There were three inches of wine in the tank, and the man fell with his face downward and expired. A companion descended and at once became unconscious, but was rescued in time to save his life.

THE Silk Association at Davisville has carefully arranged and packed 1,000 ounces of silkworm eggs for exportation to France.

FRUIT TREES IN VISALIA.—Many thousand fruit trees are being set out, in the neighborhood of Visalia, in anticipation of the completion of the railroad to that locality, by which a market for such products will be opened.

THE WILD MUSTARD PEST.—The luxuriance of the wild mustard in the grain fields of Salinas Valley, suggests the following remarks by a correspondent of the Monterey *Democrat:*—What a nuisance that plant is! The custom is to run a mower over the fields before the wheat begins to joint, by which the plague is abated in a measure; but, we fancy, the farmers will never get rid of it entirely, until, by uniting stock growing with farming, they are able to pasture sheep upon the ground so infested. The English have a proverb that the "sheep's foot is of gold," that animal, with its browsing proclivities, stripping off foliage and so killing all weeds which have to attain a certain height before seeding.

[The above is a Spanish and not an English proverb, and, when corrected, reads as follows:—"Wherever the foot of the sheep treads the land is turned into gold."

SHEEP IN THE SACRAMENTO VALLEY.—The Chico *Enterprise* says: This season has been, of all others, the most prolific in sheep breeding ever known in the Sacramento Valley, and in fact all over the State. We are informed by a gentleman from Tehama county that the plains between Red Bluff and Tehama are literally swarming with lambs, in many instances three lambs to the ewe, quite common two, and one lamb to the ewe being the exception. The feed is plenty, and the general health of the flocks good. The Rawson Brothers have a good harvest in the sheep business this year.

NEW VINEYARD.—Mr. L. Marsh, of Nevada, says the *Gazette*, is preparing ground this spring for planting seven thousand grape vines. They are to be in rows eight feet apart each way. The holes for the vines are being dug two feet deep and two feet in diameter. The vineyard is on Prospect Hill, and within the city corporation limits, and will occupy a trifle over ten acres of ground. Mr. Marsh will set out several varieties of the grape, and intends to add several acres more to his vineyard next spring.

## OREGON.

THE PERCHENON HORSE IN OREGON.—Mr. W. C. Myer, of Rogue River Valley, has recently introduced upon his ranch several head of this valuable farm or draft horse, the first, we believe which have been seen in that State.

FLORICULTURE IN OREGON.—The Oregon State Horticultural Society are to hold an Exhibition and Fair in June next—at the season when flowers and small fruits are found in their greatest profusion. Such exhibitions are productive of much good. They increase the desire and taste for horticulture, and exert a most beneficial effect in extending the cultivation of choice fruits.

BLOODED HORSES FOR OREGON.—The Board of Managers of Oregon State Agricultural Society, are calling upon the people of that State, and particularly the citizens of Salem, to aid the society in the encouragement of the introduction of superior breeds of horses into that State.

BEST APPLES FOR CULTIVATION.—An interesting discussion is in progress in Oregon between the State Horticultural Society and certain fruit growers, with regard to the best 12 varieties of apples, to be cultivated for the market. The society has named the varieties which it prefers, (which list however, is not before us), and some of the growers differ with regard to certain ones. Mr. M. P. Owen, in speaking of *his* preferences, says that he can sell either for the California or home market, 1,000 bushels of the red Astrachan and Early Harvest, (neither of which are included in the society's list) for 75 cents to $1 per bushel, to 10 bushels of red June and golden sweet (both of which are included in the society's list) at 37½ cents per bushel. We shall watch with interest the progress of this discussion, and transfer the substance of the same to the columns of the RURAL PRESS. In the meantime we should be pleased to see this same matter discussed in this State. The columns of the RURAL are open for any suggestions or communications in this direction.

THE prospects of the wheat crop in Oregon are still reported as highly favorable for a bounteous harvest.

The water in the Willamette river was so high during the first week in March, as to seriously interfere with stage communication.

SPECIAL PREMIUMS FOR THE STATE FAIR.—The Willamette *Farmer* calls upon merchants and others to place in the hands of the officers of the Oregon State Agricultural Society, money for premiums for particular objects.

FARMER'S CLUB.—A Farmer's Club has been orgauized near Sublimity, Marion county, with G. W. Hunt, President; J. Downing, Vice-President; G. S. Downing, Secretary, and P. Darst, Treasurer. The first regular meeting was to have been held on Saturday last. Question for discussion:—"What are the best kinds of wheat and oats to sow; and when is the best time to sow them?"

OREGON AT THE AMERICAN INSTITUTE.—At a late meeting of the Farmer's Club of the American Institute in New York, Rev. Mr. Driver of Oregon, was present, and among other things said: "A farmer can grow rich faster by raising wheat in Oregon than in the Genesee Valley, making New York the market in both instances. Among interesting facts he mentioned that this grain is so clean that a man need not soil a white shirt in binding it into bundles. Again, it costs less to send a ton of wheat to New York from the head of the Columbia river than from Northern Illinois. Cultivated farms can be purchased in Oregon for less than the improvements would cost in the Eastern country. The State has fine manufacturing facilities. Apples, pears, plums and cherries are found nowhere else in such perfection; but for peaches the evenings prove rather too cold. Fruits mature very early; for instance, apples four years from the seed. In conclusion the speaker expressed the opinion that Oregon is par excellence the place for the poor man."

### SHEEP RAISING IN OREGON.

Mr. John Minto, of Salem, Oregon, occasionally furnishes the Willamette *Farmer* with valuable suggestions—the results of his long experience in agricultural pursuits on this coast. In the last issue of that paper he gives something of his experience in sheep raising, from which we condense as follows:—

The Merino is the most profitable breed to keep for wool growing, especially where the flock is large, and the design is to get the greatest possible advantage from the grazing capacity of the ground.

When the design is to keep a small flock, upon high-priced land, near a good mutton market, he prefers the long-wooled sheep, and of that class of sheep he would select the Leicestershire.

Great benefit is observable in sheep in occasionally changing their pasture ground —as from valley to mountain, and from grassy plains to rough bushy districts.

Oregon presents a vast range of country extremely favorable for sheep raising for wool.

Those in that State who succeed the best in wool-raising, feed and shelter their sheep to some extent, in winter. They are fed more or less, when grass is scarce, with straw and coarse hay, and they are also used to reduce their straw piles to manure.

He has never kept so close an account with his own sheep as to determine, with any degree of accuracy the profits over and above the cost of sheep-raising; but a neighbor of his, who has done so, says *his* sheep do not cost him over 50 cents per head, while their yield of wool averaged, last summer, over $1.25 per head.

The average rate of increase depends much upon the breed, and the care and skill of the shepherd. Good common ewes, will, under good care give 100 per cent. of increase; merinos, 80 to 90 per cent.; common stock, with an infusion of South Down blood, 120 per cent. The long-wool breeds will give an increase equal to the common stock, the lambs being stronger and superior, in every respect.

While the percentage of increase is in favor of all other breeds over the merino, the percentage of wool to live weight, and consequently to food consumed, is in favor of the latter.

Under Mr. Minto's own experience, a flock of good common sheep, shearing an average of 4¾ pounds, fell to an average of 3¾ pounds by one cross with the South Down; while the latter crossed with the Merino rapidly advanced to an average of 5¾ pounds. His present flock of Merinos, and their grades, average 7¾ pounds, and a small flock of Leicestershire and high grade Cotswold average 6 pounds.

A sheep that yields 5 pounds is worth two dollars more than one that will yield only 4 pounds. For raising early lambs for the market the South Down stands foremost; for raising early mutton, the Leicestershire pays best. For raising the value of the South Down or their grades, a cross with the Merino is recommended. For improving common sheep, the Leicestershire or Cotswold is best, wherever the pasturage is good and the flock not too large.

The above facts, drawn from actual experience in Oregon, are no doubt equally applicable to California, and will be found very interesting and useful to parties who contemplate entering upon sheep and wool-raising as a business.

## ATLANTIC.

TOBACCO GROWING IN NEBRASKA.—Many experiments have been made in tobacco-growing in Nebraska during the past year. The success which has attended it indicates that Nebraska tobacco is destined to become as much a staple in the world's markets as that of Connecticut, Virginia or Missouri.

The Platte Valley is capable of producing millions of dollars worth annually of this article, and of the finest quality. What is needed now to give practical development to this great interest is a first-class manufactory in Omaha. The question is, shall we have it?

RABBIT BREEDING.—The profits of breeding rabbits may interest our small farmers. In London, Canada, a Frenchman has five acres devoted entirely to this species of husbandry. The place is enclosed by a board fence, ten feet high. Two thousand rabbits are kept; each one costs only 25 cents a year. Each pair averages 25 young ones every year, and the sales yield a net profit of $5,000 a year. Here is a hint that may be taken by the thousands of young men now complaining of nothing to do.

THE CHAMPION PUMPKIN RAISER hails from Keene, in New Hampshire, in the person of Deacon Isaac Rand. From one seed the good deacon coaxed up 18 lusty pumpkins, whose aggregate weight mounted up to 429 pounds.

STEAM FEEDING A PREVENTIVE OF HOG CHOLERA.—Several extensive hog growers of Henry county, (Ill.) say that feeding steamed feed is a perfect preventive of the hog cholera, and that no one there this season, who fed steamed feed, has lost a hog by the cholera.

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MAN AND WOMAN, Considered in their Relations to each other and the World. By Henry C. Pedder. New York, Samuel R. Wells, Publisher, 1870. 8vo. pp. 116. For sale by A. L. Bancroft & Co., S. F.

This is one of those books which are now coming in numbers before the public, as the question of the social relations are pressing themselves on the attention of the people. Gibbons (we believe) said that civilization appears favorable to all virtues except chastity, a statement that has many plausible grounds, although perhaps not to be taken as a necessary, or even an actual, truth. Mr. Pedder, in this book, seeks to induce a careful survey of human nature as the only correct basis on which to rest our social hypotheses. We give one short extract which seems to us worthy of attention.

"As immortal beings, it is disgraceful for us to suppose, as many apparently do, that we are placed in this world merely for the gratification of our appetites and the propagation of the human race. True, there are certain conditions with which this view of the matter may be surrounded, which are calculated to suggest to us much that is beautiful and true concerning the ends for which we were created; but to confine our ideas to this purely carnal view is low and groveling in the extreme. The more comprehensive the mind of the student, and the more perfect his knowledge both of nature and revelation, the more evident it must be to him that the main purpose of the Almighty in the creation of the universe was and is the formation of a heaven out of the human race."

# HOME AND FARM.

## SHORT PAPERS ON AGRICULTURE.

NO. 5.

[For the PRESS, by Dr. J. R. THOMAS.]

### Scientific Farming, of Recent Origin.

Agriculture, as a science, is of very recent date. Notwithstanding, whole libraries had been written on the practical side of the subject, during the later periods of the world's history, immediately preceeding the middle ages, yet, during these periods, nothing was produced that we know of, which rises to the dignity of true science. Indeed, after the dawn of returning civilization, although, there were many examples of voluminous authorship on husbandry and its kindred topics, we find, almost nothing, for two centuries, that is based upon accurate knowledge of vegetable chemistry, and of the composition of soils in their relations to this field of human industry.

### What Constitutes Science—Its Relations to Arts.

Science is knowledge of Nature's laws; and the application of this knowledge to the practical industries of life constitutes what is called "art-useful" or ornamental. All true science, according to Bacon, is inductive. Mere theory, unsupported by facts, never can aspire to the honor of being science. True science is the result of careful and repeated experiments, reduced to system, and explained by intelligent reference to the well ascertained laws of nature. Any book, professing to be a scientific treatise on any one of the useful industries of life, and yet not fulfilling the above conditions, is certainly an imposture, and deserves no share of public confidence.

In the same way that true criticism is a system of rules and maxims, that have been deduced from those models or examples of art, which mankind have always approved and admired; so is it true, that every reliable theory upon any of the practical economies of life, must be deduced, from those methods of proceedure, in actual experience, which, have always been most successful—always productive of the largest results. To complete these results, to anlayse them and to explain how they have been brought about in harmony with the well-known laws of nature, constitute the functions of him who would produce a valuable scientific treatise on any of the useful arts or any of the staple industries, which invite human labor.

As late, as two hundred years ago, nothing had been produced, which reached this standard. Although much had been written; yet most of it was a bundle of maxims deduced from a comparatively rude culture—and as a matter of course, the theory which was derived from a bad practice, must have been a bad theory.

In the attempts to explain that which was relatively good, many ludicrous mistakes were made. Through ignorance of physical laws, men put themselves upon a process of guessing, and some of their guesses are not only wild but really amusing.

### Virgil no Scientist.

In Virgil's immortal Georgics, which work is a poetic treatise on farming, and which deserves all praise, on account of its elegant pictures, photographed as it were, from scenes in nature, and its faithful reflections of rural life, in all its artless freedom, and its happy, busy activities; while we find much that was instructive, and even useful in husbandry, for the age in which it was written; yet, it contains very little that gives it the appearance of a scientific treatise.

He rarely ever attempts to explain the chemistry of vegetable phenomena, or to point out the properties of the best soils, excepting only, that he proposes to the senses, certain tests which are purely mechanical.

For example, in his Second Georgic, beginning about the 230th line, he instructs the farmer to determine the physical character of the soil, and somewhat of its properties, by digging a well, and then replacing the dirt that was taken out, in the digging process. The issue of its being adapted to one or an other particular kind of vegetable, was to be determined by the fact of being able, or not, to get all of the original contents back into the well again.

This may be an interesting experiment, as a mechanical operation; but it could not put forward any high claims as a scientific experiment. True it is, that he tells us, we may make some inference from the result of this test, as to the "saltiness or bitterness" of the soil; but there is nothing about this that can be called chemistry.

This comes about as near to science as Virgil ever approaches it, in this memorable agricultural treatise. His method of generating bees, by killing an animal,—closing up all the orifices—and after beating the carcass with clubs, into a jelly, exposing it to the action of the sun's heat for a number of days, is significant of the crude ideas of physical laws, that were current in that age of the world.

### Crude Ideas of Agricultural Science, in Britain 200 Years Ago.

What has been said of the agricultural books and theories, that were current among the ancients will apply also to much that was written after the middle-age-period had passed away.

In England, especially, during the 16th, 17th and 18th centuries, there was a mania for book-making, on subjects connected with practical husbandry; notwithstanding that field culture, practically, was in a very crude and imperfect state. For this very reason, viz.: that agriculture on the practical side of it was at a low ebb, the few men who were a little in advance of the age were alive to the importance of stimulating the masses to make improvements in their methods of culture; and under this impulse many books and treatises were written for the purpose stated. And, yet, simply because farming was rudely and imperfectly carried on, any theory that was deduced from experience, was necessarily a crude theory, although it might make a step or two in the direction of improvements on the old methods.

Owing to the prevailing ignorance of that age on the subject of physical science, the application of its laws to practical farming, in order to explain the philosophy of the best methods, were, in many instances, not only false, but very amusing.

### Early Agricultural Literature in England.

The first work on agriculture in England, was that of Anthony Fitzherbert, written in 1534, and entitled a "Boke of Husbandrie." He wrote a second book, a few years afterwards. In one of these books he says:—"A housebande cannot thryve by his corne without cattell, nor by his cattell without corne." A very good maxim this, and he gives many like it. Maxims mostly make up the two works.

Next comes Thomas Tusser, with his "Five Hundred Points of Good Husbandry," written in rhyme. This was also a book of maxims, with little pretension to science. History tells us that its popularity was marvelous, and that the very friction of constant handling wore out nearly every copy of the last edition of the work, so that it was utterly used up; and yet, strange to say, another edition of it was not called for, not at least with effective urgency. This historical fact is very significant of its defects and false teachings, unless we may suppose that its quaintness made it popular—a fact founded in man's native love of novelty, which, in the very nature of the case, grows ugly as it grows old; as the poet says:

"Courted while blooming,
But when she fades, forgot."

After Tusser, we find on the record Barnaby Googe, Sir Hughe Platte, Blythe, Hartliff and Weston; all of whom wrote extensively, but nothing that bore the imprint of genuine science, although dating as late as the middle of the 17th century.

### Modern Agricultural Literature.

Finally, in the beginning of the 18th century, arose Jethro Tull, who, as a man of genius, a patient experimenter, and a close observer, certainly made valuable contributions to agricultural knowledge. Yet this man's utter ignorance of the laws of nature, and of the underlying principles of vegetable physiology, and of the fertilizing elements of the soil, exposed him to ridicule and brought his theories, which were in some respects valuable, into discredit, even during the century in which he lived.

This Jethro had a mania on the subject of thorough pulverization, and if he had gone mad on that subject he had died martyr to a good cause. Like Demosthenes, who answered "Action! *Action!* ACTION!" when he was asked to state the 1st, 2d and 3d points of a good orator.

So, likewise, the best and most successful farmer if asked for the 1st, 2d and 3d good points of skillful farming, would answer, "thorough pulverization, firstly, secondly and lastly."

Thus far, then, Jethro Tull was wise, and inculcated one of the wisest of maxims in practical farm economy; because his keen eye had marked it as a fact in actual experience, that the most thoroughly pulverized soils, other things being equal, had always produced the most abundant crops.

But this same Jethro Tull, although a wise man, would have been a much wiser one if he had only kept his tongue still, and restrained his pen from writing about a matter that was beyond experiment, and therefore outside the sphere of his knowledge. Being so elated at the results produced by finely pulverized soils, he concluded that he must turn philosopher and explain this interesting phenomenon. The following paragraphs give a condensed abstract of Jethro's philosophy; without pretending to give his account literally.

His fundamental idea was, that all plants actually live on solid particles of the soil. He taught

2d. That plants eat, in a manner analogous to the same habit in animals.

3d. That the mouths of the plants are located in the tap and lateral roots, which are sent out as so many hucksters or purveyors in search of plant food.

4th. These mouths, however, are exceedingly small, and therefore capable of taking in and of swallowing only infinitessimal particles of solid dirt.

5th. Therefore, unless the soil be very finely comminuted or divided, the particles will be beyond the capacity of the plant to take them in, and, of course, the vegetable will languish for lack of sufficient nourishment.

These points make up the outline of Tull's theory on the philosophy of pulverization.

The practice was good but the reasoning was false; and while the practical results of his method made it popular, yet a more correct understanding of vegetable chemistry and of the nutrition of plants, which supervened upon the revival of letters, brought Tull's book into discredit, as it did many other books that were written during the same century.

Vacaville, March 7th, 1871.

## SANTA CRUZ FARMER'S CLUB.

[Reported for the PRESS by ROGER CONANT.]

The club met at the Court House in Santa Cruz, on Saturday afternoon, March 4th. The proposition to amend article 2d. of the constitution, by striking out the words, "any farmer," and inserting the words "any person" came up for discussion, and created quite an exciting debate. Mr. Locke wished that something could be done that would induce the members to vote for the proposed amendment. If it was lost, he feared that the club would be the loser. In his opinion, any person interested in the subject of agriculture ought to be allowed to become a member. It was admitted, even by those who opposed the amendment, that anyone who owned a piece of ground, however small, and cultivated a few trees, could become a member. If such a person can join, why not admit all and say so in the constitution. The principal objection seemed to be against the lawyers. Some of the best treatises on farming are from the pens of lawyers. A vote was here taken on the amendment, seven in favor and four against. It requiring a two thirds vote, the President declared the amendment lost.

The President here stated that Mr. Adams, (a *lawyer* who wished to join the club, but is barred by article 2d—REPORTER), had received the trees the club had sent for, and they were now ready for distribution.

The following question then came up for discussion:

### "How Best to feed Stock."

Mr. Loche: I have written down a number of maxims, which might be of benefit to farmers. In many of our school rooms you will find maxims posted up in different places for the instruction of the scholars. Farmers should also have maxims posted up all round their premises for their own improvement. The first maxim I shall offer is,

### "Rear Rapidly."

Take a colt: A little extra care of his mother while he is following, and of him at weaning and during severe winter weather, will make him as fit for service on the farm at three, as he would otherwise be at four. Now we should raise no colts which, at three would not command $150. I believe they cost that at the cheapest, and if we have to keep one another year before he is fit for work, the interest on this amount, and his keeping, will not fall much short of $50. How much less than this amount would have made him just as good at three. I think the chances are much better at three. The same holds good as to all other stock. The second maxim is,

### Fatten Fast and Few.

As to fattening, don't you see if you can make your animal take on as much fat in one month as you are doing in two, you are saving one month's board? or the expense of keeping him alive one month? Besides, there is the interest on his value one month, and the extra time in attending him another month. Many fatten with the idea that the larger number of animals they had, the more they would make. This is a mistake. One animal well fed and properly cared for, would take on more fat, and bring a higher price than two fed in the ordinary way.

### Milk Measured at the Mouth

is as good here as there. A cow gives milk according to the amount of food she consumes. Therefore when the amount of butter made is limited, a few cows are better than a great many, and make every cow eat as much as she possibly can. Farmers should take pains to keep their stock in good milking condition during the winter. Many seem to think that if they could keep their stock alive till spring it was all that was needed, not bearing in mind that butter brings a higher price in winter than at any other time.

### Manure is Money.

The speaker here read extracts from the *American Agriculturist*, one entitled "Value of a Yardful of Manure," from the February number 1870; and one entitled "How much Manure to a Cow," and went on to show that a cow, kept on the principles which he had stated, would make $96 worth of manure a year.

Mr. Mathison—You would not get $96 worth of manure from a cow if she was fed on straw.

Mr. Locke—Every farmer should have as large a compost heap as he can make, and he will find that nothing pays better than the labor applied to it.

The subject was continued to the next meeting.

Mr. Locke renewed the proposition to amend Article 2d of the Constitution, by striking out the words "Any Farmer," and inserting the words "Any Person."

Adjourned for two weeks.

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SOAPSUDS, says the Ohio *Ruralist*, though generally deemed only fit for being run off into the common sewer in the easiest manner possibly, are nevertheless highly beneficial vegetable feeders, as well as useful insect preventives. They should never be wasted, especially by parties having gardens, as their application to the ground, whether in winter or summer, will show beneficially, not only on ordinary vegetable crops, but also on berry bushes, shrubs, border flowers, and even window pot-plants; while if poured or syringed over roses, cabbages, etc., they will prevent, or at least mitigate, the mischievous doings of the green fly and caterpillars.

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COMPOSITION OF FOOD.—The organic portion of food is composed of four elements: Oxygen, hydrogen, nitrogen and carbon. When food is eaten, the greater part of the carbon, oxygen and hydrogen is burnt in the lungs and converted into carbonic acid gas and water, and expelled from the body in breath and perspiration. But the nitrogen is saved in the excrements, and this is the only element of great value in the manure. One pound of nitrogen in the food will give about one pound of ammonia in the urine and feces.

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SAWDUST FOR MANURE. — The Maine *Farmer* discusses the value of sawdust for bedding as follows: There is a great difference in the value of the different kinds of sawdust. For example, while hard pine sawdust from the shipyard is pure and sweet, even fragrant, and readily takes up the urine, it is not so valuable or good for the soil as hard wood dust from spruce, hemlock, etc. The reason is, because the pine is full of resin, which is almost water and rot-proof. It will last quite a time and not decay, whereas the hard wood readily and rapidly decays, and thus furnishes a small amount of manure to the soil.

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GOING TO WORK.—Our farmers are now making preparations for sowing their grain, etc. Some have already put in their wheat. The heavy body of snow on our mountains will give them sufficient water next summer, if they are required to irrigate. We predict our farmers will have next fall a better home market for their produce than they have had for many years past.—*Alpine Chronicle.*

# POPULAR LECTURES.

## Chemistry and its Applications.

[Prof. EZRA S. CARR before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

### Chlorine—Common Salt.

LECT. IV. March 11.—Chlorine was first discovered by a Swedish chemist, in 1774, who, however, thought that it was a compound and called it muriatic acid. In 1809, a French chemist found reason to consider it an element, and in 1810, an Englishman, Sir Humphrey Davy, showed conclusively that it was a compound, and named it chlorine, (from the Greek word *Chloros*, green) from its color.

Chlorine is a yellowish greenish gas. It is found quite widely distributed in nature, but always combined with another substance. It occurs very commonly with sodium as chloride of sodium, or common salt, of which it constitutes 60 per cent. It also occurs quite commonly with magnesium. Chloride of sodium and chloride of magnesium constitute between 2½ and 3 per cent. of the sea water.

Salt is found almost everywhere in the soil to some extent. Sometimes it occurs in large amounts in beds, as near Cracow, Austrian Silesia, and in Spain. It dissolves readily in water, and as this leaches through the soil, it takes up the salt, conveying it to springs, to lakes, rivers and the ocean. The ocean is indeed a great salt pan. The water brings salt into it, is evaporated (leaving the salt) and falls on the land to furnish a fresh supply. Thus salt has accumulated to a large extent, and in some inland seas, which have no outlet, the water holds up to 20 or 25 per cent., as in Salt Lake and the Dead Sea.

We can obtain chlorine either directly or indirectly from salt. It is more convenient to obtain it indirectly, from chlorohydric acid, a compound of chlorine and hydrogen, which we get from salt. If we subject chlorohydric acid to the action of oxide of manganese, which occurs as an ore, part of the oxygen of this substance seizes on the hydrogen of the acid, forming water, and chlorine is set free. It is perhaps more economical for this purpose to heat salt, oxide of manganese and sulphuric acid together.

### Chlorine—Its Properties.

Chlorine, as I said before, is a yellowish greenish gas. It is two and a half times as heavy as air. It cannot be breathed with safety unless greatly diluted with air, irritating the mucous membranes of the air passages, and producing very serious results if taken in large amounts. It is found, however, to be sometimes beneficial for certain throat troubles, if very dilute.

If I introduce a lighted taper into this jar of chlorine gas, it burns feebly at the mouth of the jar, producing considerable smoke, and is then extinguished.

This piece of phosphorus, which I put into chlorine gas, burns, giving off a white smoke, which is a compound of chlorine and phosphorus. The affinity of the two is so strong that we can get them to combine even under water. In this vessel, which is partly full of water, I have chlorate of potash and some pieces of phosphorus. Now I carefully add a little sulphuric acid, which decomposes the chlorate of potash, and the chlorine then attacks the phosphorus with such energy that there is a lively combustion in the water.

Chlorine unites with many metals with greater energy than does oxygen. Pouring metallic arsenic, in fine powder, into the gas, we have a shower of fire. This would be the case with gold, antimony, silver and copper. Here we have combustion without oxygen; it is merely the effect of chemical energy. If we had used oxygen in our experiment, we should have been obliged to raise the temperature of the metal to get combustion or chemical union.

### Making Salt—Affinity for Hydrogen.

By heating a piece of sodium until it commences to burn and then introducing it into the jar, I get common salt. This shows the wonderful change in the nature of substances when they unite to form a chemical compound. We could not partake of either chlorine or sodium before they were combined, but afterwards they afford a most important article of diet.

Chlorine depends for its uses in the arts on its affinity of hydrogen. I can demonstrate this affinity by a simple experiment. Oil of turpentine holds a large relative amount of hydrogen in connection with carbon. I wet this paper with the turpentine (thus getting it in a fine state of subdivision) and introduce it into the gas. It burns readily with a dense, black smoke, which is nothing but carbon. Carbon has been set free and chlorohydric (or hydrochloric) acid formed. [The lecturer performed several similar experiments.]

In these experiments we have had the hydrogen in compounds. But I can make hydrogen gas combine directly with chlorine by burning it and introducing the flame into chlorine gas.

We can make chlorohydric acid by treating salt with sulphuric acid. Chlorine is readily absorbed in water, one measure of water dissolving two measures of chlorine.

### Bleaching—Purifying Agent.

If we introduce a piece of colored muslin into chlorine water (water in which chlorine has been absorbed), it will be quickly bleached. If we hang a piece of wet-colored muslin in chlorine gas, the same effect is produced. If we pour chlorine water upon ink, the ink loses its color. Chlorine bleaches and destroys colors derived from the animal and vegetable kingdom. It does this by taking out the hydrogen which they all contain, thus decomposing them. Hence it is largely used as a bleaching agent, and by it many materials can be rendered perfectly white in a few hours; while by the old method of laying them out in the sun, weeks and even months were required. In practice, the cloth, or paper, or other material, is cleansed from any grease and then subjected to the action of the chloridizing agent, which is generally chloride of lime, a substance which gives up its chlorine very easily. This is made by passing chlorine into a chamber on the floor of which is spread freshly slaked lime. This takes up the chlorine, but gives it up again on mere exposure to the air.

An old method of bleaching was by using sulphur fumes. Pliny speaks of this method. In this, the sulphurous acid unites with the coloring matter to a colorless compound, but as it is gradually oxidized to a sulphate and then frees itself from the coloring matter, such bleaching is not permanent. But chlorine destroys the coloring matter by decomposing it.

Chlorine is a powerful disinfecting agent and is used to destroy many offensive gaseous compounds. It does this just as it bleaches, by decomposing the gases, depriving them of their hydrogen. We often see chloride of lime used in a sick apartment or elsewhere. The carbonic acid in the air seizes the lime, forming carbonate of lime, and the chlorine is set free. It is hardly necessary to say that one must be careful not to use too much of this agent.

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SINGULAR COLOR.—A pond between this city and Anaheim has, during the last few weeks, excited the attention of the neighboring inhabitants by gradually changing its color, finally assuming a blood-red tinge. A bottle of the water was brought to this city and subjected to analysis by Dr. Hays. The microscope failed to explain the mystery, but application of chemical tests revealed the presence of minute particles of vegetable matter, and precipitated them so that the reddish hue of the water could be distinguished at a distance. Here is an opening for the research of a naturalist.—*Los Angeles News.*

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OIL IN LIVERMORE VALLEY.—A letter from Livermore to the Alameda *Advocate* says that there is quite an oil excitement there. A well was sunk 55 feet when a gas commenced to issue which took fire (from a candle) and burned brilliantly. There is a constant roaring going on in the bottom of the well and the water in the well is as blue as indigo, and smells of coal oil and sulphur. The gravel that comes from the bottom of the well is covered with some bright metallic substance, the color of gold There is one thing sure, if there is nothing else, they have struck a "bully gas mine."

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SUBSTITUTE FOR FIRE BRICK.—We noticed yesterday at the railroad depot several specimens of grey rock, resembling at first appearance granite, but weighing little more than lava, which are being sent to T. H. Selby, San Francisco, for the purpose of testing its qualities as a substitute for fire brick. The rock is said to be found in great quantities near the Cerro Gordo mines, in Inyo county, and has been, it is said, used in the furnaces of the celebrated Belshaw Smelting Works, and found to be equal, if not superior to the first-class fire brick.—*Los Angeles News.*

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WORK on the tunnel (through the Sierra) of Lake Tahoe and San Francisco Water Works will be commenced in earnest this spring.

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THE Thompson Road Steamer has been doing good work at Stockton.

# GOOD HEALTH.

## Vaccination.

[Written for the PRESS.]

Vaccination (from the Latin *vacca* a cow,) was discovered and reduced to practice by Dr. Jenner, of Gloucester, England, in the year 1798. Previous to that time, it was estimated, that, at least one-tenth of the deaths among the people were caused by small pox. In 1795 it is stated that thirty-six thousand people died of small pox, in England alone, in one year.

In consideration of the unspeakable benefits which his discovery conferred upon the people of Great Britain and the world, the English Parliament gave him the handsome sum of about one hundred and fifty thousand dollars in gold. This, however, was not his only reward, for history will hand the name of Jenner down through untold generations, for ages to come, as one of the greatest benefactors of mankind. His important discovery has banished, wherever practiced, one of the most fatal diseases to which the human family were subjected; for medical testimony is unanimous in the declaration, that vaccination is the only protection against small pox, and that when the system is fully under the vaccine influence, the protection is perfect.

Long before the discovery of Jenner it was known that in certain districts, cows were affected with a disease called *kine pox* (literally cow pox) similar in almost all respects to small pox, and that the same was sometimes communicated to the hands of persons engaged in milking them. It was also known that those who had at any time previously contracted the kine pox from the cow, were protected against epidemic small pox. In the investigation of the subject, Jenner discovered that such persons were also protected against the action of small pox virus innoculated into the circulation. Jenner discovered also, that the small pox virus innoculated into the udder of the cow, produced an eruption in every respect like the kine-pox, which in turn resembled the small pox pustule, but very much modified in intensity, and that the disease from the cow could be passed into the circulation of the human body at will, where it would work perfect protection against small pox. It was also found that virus taken from the pustules of persons afflicted with kine pox, and introduced into the circulation of others, would produce in them the kine pox pustule, and that vaccination, from one person to another, was as effectual a protection against small pox, all other things being equal, as where the virus was obtained directly from the cow.

The above constitutes substantially the discovery of Jenner.

### Dangers from Vaccination.

Subsequent investigations, however, have shown, that there is one serious objection to virus taken promiscuously from the human subject, as it has been found, that when persons are vaccinated who are afflicted with scrofulous, syphilitic, or sycotic dyscrasias, popularly known as "blood diseases," are liable to become incorporated with the vaccine virus, and is capable of being communicated to others having "pure blood," thereby introducing into their systems diseases which are sometimes quite difficult to cure, although generally curable.

There is one other consideration which deserves mention, namely:

Persons who have inherited any such dyscrasia from their parents, that remains latent, may have the same aroused into fearful activity, even sufficient to cause death by the action of and union with pure vaccine matter. All persons therefore whose parents have suffered from any of the aforesaid diseases, or any kind of chronic eruptive disease or from any kind of malignant tumor or ulcer, although apparently perfectly healthy, should, both before and after vaccination, receive proper medical treatment in order to rid the system of any such dyscrasia. After taking the aforesaid primary precautions it then becomes indispensably necessary to use the pure cow pox virus, or if this cannot be obtained, that from persons who have perfectly "pure blood." By so doing perfect safety is secured. So important is the use of pure cow pox virus considered in some parts of Europe that some people make a regular business of its production for domestic use and for export. The most reliable virus that we have in this country is imported from Germany in very small hermetically sealed glass tubes.

The medical profession and all other persons are recommended to observe the above precautions most carefully. In order that this article may be understood by everybody, I will explain that *Variola* is the name usually employed by medical men for small pox, while *varioloid* (literally like variola) is a very mild form of variola which sometimes affects persons after exposure to small pox who have been previously vaccinated, as will be hereafter explained.

I will also explain here that the operations of innoculation and of vaccination are precisely the same, the difference being simply in the kind of virus used.

The various modifications and changes to which the operations are subject may be described as follows:

### Important Considerations.

1st. Matter from a small pox pustule introduced or innoculated (literally, ingrafted) into the circulation of a person who had never had small pox or been vaccinated, will produce in him genuine small pox. Dilute the matter to any extent with water and the result will be the same.

2d. Matter from a small pox pustule introduced into the udder of the cow will produce in it a pustule, matter from which in turn introduced into the human system will produce genuine kine pox.

3d. Matter from a small pox pustule diluted with cows' milk and introduced into the human system will also produce the kine pox pustule. This last proposition was verified by Dr. Basil Thiele in 3,000 cases without a single exception.

Observations on many thousands of cases lead to the following conclusions, as a rule, with some exceptions, to wit:

1st. Every person who has not been vaccinated is liable to have small pox if exposed to either variola or varioloid.

2d. Vaccination when perfect is a sure protection against small pox for life.

3d. Every person is more or less subject to the action of the vaccine virus.

4th. Persons vaccinated in infancy or childhood will never have small pox; but are liable to have varioloid after puberty, if exposed to either variola or varioloid. Varioloid as a rule never affects any one before puberty.

5th. At puberty the system undergoes a change, which makes vaccination again necessary to protect it against varioloid.

6th. Re-vaccination after puberty is a sure protection against varioloid.

7th. A third vaccination is never necessary.

8th. Re-vaccination is never necessary if the first operation was performed after puberty.

9th. If every person was perfectly vaccinated before puberty, and re-vaccinated after puberty, small pox would disappear forever from the earth.

E. J. FRAZER, M. D.
108 Stockton St., San Francisco.

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[Communicated.]

ICED-WATER APPLICATIONS IN CROUP.—Dr. McFarlane states that having employed this in "at least two hundred cases" of croup, he can confidently recommend it. Folds of linen or muslin, large enough to cover the whole throat and upper part of the sternum, just sufficiently wet dripping, should be covered with several thicknesses of flannel, the whole being secured by a handkerchief. When great cold is wanted, two wet cloths should be alternately applied. When the treatment is commenced early, a few hours may suffice to subdue the disease; but in neglected cases several days may be required.

The above manner of treating croup is undoubtedly *the best* ever used; and should be known by every mother in the land. To make the cure *certain* in every case, wrap the patient in a large blanket and put the feet in hot water, to induce perspiration. Then slipping the iced cloths down about the throat and over the chest, without removing the flannels you have the advantage of keeping the inflamed portion cold, while you are assisting nature in keeping the skin active. Two very necessary steps to be taken in the removal of the cause of this disease. L. P. J.

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Dr. Poillon, a French physician, says a cold can be cured by inhaling hartshorn. The inhalation by the nose should be seven or eight times in five minutes.

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Saturday, March 18, 1871.

## OUR WEEKLY CROP.

The Percheron Horse stands at the entrance of our ranch, and any of our readers who can catch him, are free to use him as they may see fit. They may, if they choose, ride him in search of Premiums for New Fruits, and in passing through our library of Mechanical and Scientific Progress, but we advise them in such case to remember that the most profitable course is to hasten slowly.

They can pass in review the Recent Inventions, stop a moment to look through our Microscope, go to the Remarkable Spring, take a look at the Route of the Northern Pacific R. R., visit the California Peat beds, the Rocky Mountain Canal, the Salt Beds of Kern County, etc. They can examine our Poultry Department, test the Tubular Lantern, the Tension Wheel for Sewing Machines, and our Principles of Good Cultivation. Then they can take a hasty trip through the coast, using our Agricultural Notes as a guide book. Then, certainly, the horse will require a rest.

The paper on Ancient Agriculture will interest them during this rest, and the Report from the Santa Cruz Farmers' Club will benefit them. The Professor will tell them of the practical uses of a common article, Chlorine, and the Doctor will give them information concerning Vaccination.

If the horse is capable of further exertion, they can ride (otherwise, they can walk), to our lawn to examine the Cultivation of Grasses, and to our extensive grove to examine the Culture of Trees. Of course, they will tarry here awhile in the Home Circle, listening to the stories and poems, and to the proverbs of Domestic Economy.

What the Mechanics' Institute has been doing, and what the people will gain by the coming Industrial Exhibition of the Institute, claim attention, and the Few Words to the Unemployed, will not pass unnoticed. They will furnish food for thought for at least a week.

OUR METEOROLOGICAL REPORT.—We are one week behind in our meteorological record, as furnished by Dr. Logan; but shall bring it up next week. In the mean time we append hereto the Dr.'s "remarks" for the present week, as especially interesting just at this time.

REMARKS.—In looking over our raintable for the past twenty-one years, we find the mean-rain of March almost equal to that of January: 3.168 inches. In two years only, (1837 and 1865,) has the rainfall measured under one inch. The former year was comparatively dry and the latter wet. We have only received thus far for this month 0.060 of an inch; so that the probabilities are strongly in favor of a sufficiency of rain, yet to come, for the maturing of the present very promising crop. This inference is, at the present writing, (March 12th, 2 P. M.) sustained by the fact that the barometer has fallen 264 thousandths of an inch during the last 24 hours, attended also with a sudden decline of temperature. As this is the windy season, the depression of the mercury may be for wind, but sudden atmospheric disturbances, are always, sooner or later, followed by rain at this season.

## STUDY AND CULTIVATION OF GRASSES.

To common apprehensions few branches of studies appear less important to the welfare of mankind than such as are associated with the better and more economical culture of those varieties of the *Graminea* which are exclusively grown (or allowed to grow, as in natural pastures) solely for their grazing and forage qualities. To the unlearned reader it will perhaps be necessary to explain our meaning farther, by stating that the tall bamboo, the stately sugar cane and maize (corn) as well as the commonly known cereal grains—wheat, oats, barley, etc., belong to the same family of plants as the remainder, which are solely utilized for the purpose of feeding animals, to which latter class it is our desire to more immediately interest the attention of our agricultural readers.

It will doubtless startle many that notwithstanding the more prominent importance which is commonly attached to such products, as the cereal grains, sugar, etc.; yet of the total agricultural productions of the world, the money value, taken at the place of growth of the important items named, do not amount to one-fourth of that yielded by grazing and forage plants when converted into animal matters, such as meat, hides, fat, wool, milk, butter, cheese, etc., etc. In addition to the fact just noticed, it will be well also to bear in remembrance that the breadth of land occupied by the growth of the smaller grazing, as compared with the larger graminceæ, is more extensive by at least one hundred to one. By bearing the proportions above given, constantly in view, the reflecting farmer and all others directly and indirectly (and who can be omitted in the latter list) interested in agricultural pursuits, will more readily be enabled to appreciate our efforts in drawing general attention to this most important subject.

Though it is to be regreted, yet it cannot be considered a cause for feeling humiliated, if, as we shall candidly admit, in grass culture our best practical farmers are considerably behind the best European ones, and more especially the British, though, as we are informed, the great bulk of the latter in place of following the experience of able and practical men, in improved methods based on sound scientific principles, by far the larger portion, are guided by "the rule of thumb," or in other words, no rule.

Scarcely a century and a half has elapsed since attention was first drawn to the economical differences for grazing and other purposes, of the common grasses, and not two centuries have passed since botanists studied them with the object of merely botanically arranging them,—Caspar Bauhin being one of the earliest. In combining scientific enquiry with the object of aiding agricultural production, the place of honor must be awarded to the late Professor Martyn, who observed about the middle of the last century "that grass vulgarly forms *one* idea; and a husbandman, when he is looking over his inclosure, does not know that there are three hundred species of grass, of which thirty or forty may be at the moment under his eye. They have scarcely had a name besides the general one until within these 20 years;* and the few particular names which have been given, are far from having obtained general use; so that we may fairly assert, that the knowledge of this most common and useful tribe of plants is yet in its infancy." The latter remark, we think, is almost equally applicable to the farmer, of the present day. He further wrote—of the one hundred and thirty-three distinct species and varieties of grass, natives of the British Isles, many are of no value to the farmer, while others constitute the foundation of his riches, as they are the staff of life to the most valuable domestic animals. Our attention has been recently attracted to this subject in consequence of Professor Bolander's report on California Grasses, recently read before the California Academy of Sciences. In our next we will suggest how and who ought to promote and patronize experiments in this direction.

*Written about 1870, since which Sinclair has described 1,500, which we are informed have since been multiplied to more than 2,000.

## HOW TO MAKE OUR PUBLIC GROUNDS INSTRUCTIVE.

We possess, in the Plaza and squares of this city, a considerable variety of trees, shrubs and plants, usually of an ornamental character which, to the mass only possess that characteristic; yet which, by a very small outlay of labor and expense, could be made to combine instruction also. The mode by which we propose to accomplish the two objects is by having attached a label with the botanical and vulgar name and the habitat of at least *one* specimen of each variety of plant growing in any public enclosure.

Such labels would be instructive to the non-botanical and also, in many cases, to the botanical students, and well calculated, to engender a taste for botanical studies among the former. We fortunately possess citizens who combine the requisite artistic and scientific qualifications required for such a task, and hope our daily contemporaries will aid our efforts in this connection. We would call the attention of the City Fathers to this cheap and ready mode of assisting in cultivating a love for the study of botany.

PLANTING THE NEW ZEALAND FLAX SEED.—In the absence from California of any considerable quantity of the roots of this important textile, which present the most convenient mode of propagating it, it becomes necessary for those who desire to experiment in its culture to plant the seeds. These are covered by a very thin skin, easily permeated by moisture, and, as we are assured, germinate readily when planted dry. Still, some have recommended that before planting they should be placed in a vessel containing cold water, which should be gradually raised to about 110° of heat, and kept at that temperature until the seed sinks—which will occur in three or four hours. After drying the seed will be ready for sowing.

THE DAIRY BUSINESS IN AUSTRALIA.—We learn from a late number of the Adelaide *Observer*, that the dairymen of Australia are about to inaugurate an export butter trade with Europe. The first shipment of some ten or twelve tons was being put on ship board at the date of the paper before us. No doubt was entertained as to the success of the enterprise. Ought not California to learn a lesson from this movement? Why should this State import more than half its butter across 2,000 miles of railroad; while Australia can export the same article, by sailing ships to a market 10,000 miles distant?

THE MCGARRAHAN CLAIM.—The managers of this job seem to have some wonderful facilities in manipulating politicians. Defeated in the courts of law, denounced by an upright Cabinet officer and the honest Commissioner of the Land office, they have been able to oust the two latter and to get the House of Representatives to override the decisions of the former. There now remains to be seen what they can do with the Senate and then with President Grant. Their success so far in carrying through a declared fraud is ominous. Our belief in human justice, as exemplified in the highest departments of our government, will be sadly jarred if they finally succeed. We still trust that the Senate or the President will put a stop to the scandalous proceedings.

## CORRESPONDING AND TRAVELING SECRETARY.

I. N. Hoag, Associate Editor of the RURAL PRESS, has been elected by the State Board of Agriculture, as Corresponding and Traveling Secretary of the State Agricultural Society. Mr. Hoag's relation with this paper, will remain unchanged. His new position as Corresponding and Traveling Secretary, will enable him to obtain a greater amount of fresh and reliable information upon all subjects connected with the agricultural interests of the State and coast, and our readers will receive the benefit of these additional facilities through the columns of the PRESS. The State Agricultural Society has been charged with being too much inclined to encourage horse racing, at the expense of other and more strictly agricultural interests. The Board, in their last report, promise that they will make an effort to bring up all the material and agricultural interests to a proper standard, at the fair of 1871.—In other words, that they will do their part to render the exhibition at the Pavilion equal in merit and interest to that at the Park. This important task is assigned to Mr. Hoag.

TO CORRESPONDENTS.—We have another interesting "Farm House Chat" from "Mary Mountain," which will appear next week; also "Our Irrepressible Rodents." We have several deferred communications on hand, some of which will appear in our next.

CULTIVATION OF THE TULES.—One of our patrons, who sends for extra copies of the RURAL with which to complete a "big club" which he is getting up, writes from Rio Vista, as follows:—"There is less water on the tule land, this season of the year than I ever saw before; and I have been on the tule since 1855. There will be several hundred acres of tule lands put into cultivation, this year. The grain that is up on these lands looks well."

FOREST TREES AND SEEDS.—A correspondent from Michigan writes: "I have read your articles on forest trees with much interest and would ask one or two questions: Do you plant the seeds when you want the trees to stand, or put them in their places when a year old? How about getting seeds that will grow? What are the best Mulberry trees for shade?

The first question is fully answered on page 169 of the present issue. We think seeds obtained from any seed-man, that advertises in the RURAL can be depended on. Either the White or Black Mulberry make excellent shade and ornamental trees.

JERSEY STOCK.—A gentleman writes from Half-moon Bay as follows:—"Is there any pure blooded Jersey stock in this State? If so can any of your readers inform me, through the RURAL PRESS, where I can get a two-year-old bull, or a yearling bull calf, and what I would have to pay for it."

THE AUSTRALIAN GUM TREE.—"S. C." enquires about the "Australian Gum Tree"—its growth, character, etc. He is referred to the sample number of the RURAL PRESS where this tree was figured and fully described.

LARGE YIELD OF CORN.—Alvah Beemen, Crawford county, Pennsylvania, plowed ten inches deep, planted corn, May 16th, three and a half feet each way, five stalks in a hill, no manure, land a cleared swamp, and harvested 179 bushels of ears per acre. Was that beat by an American farmer in the year 1870? If so, report.—*Ex.*

A farmer on the Balsas ranch, near Los Angeles, last season, raised (or at least the papers there report so) 700 bushels of shell corn from 500 acres of land. How is that for high?

CHOICE POULTRY.—We have visited the yards of Mr. Baily, in Oakland, and shall give our readers some notes thereon next week.

# TREE CULTURE.

## ARTIFICIAL FOREST CULTURE.

In the Premium List of the State Agricultural Society for 1871 a premium of 50 dollars was offered for the largest quantity of useful forest trees planted during the year. At the meeting of the Board of Agriculture, held on the 9th inst., this premium was awarded to James T. Stratton, of Alameda county. There were three applicants for the premium—Mr. Stratton, and E. T. Aiken and Thomas Edwards, of Sacramento county. The contest was considerably spirited, and has excited a good deal of interest. The subject being new in the State and of so much general importance we give below the statement of each applicant made in writing to the Board. They will be found to contain many valuable hints in regard to the cultivation of artificial forests.

Mr. Stratton proved that he had planted during the year, on 53½ acres of land, in one tract, 30,000 blue gum trees (*eucalyptus globulus*) and 3,000 red gum trees, and that all were in a healthy, growing condition. The following is

### Mr. Stratton's Statement.

The seed from which the above trees were grown was gathered in December, 1868, from trees about seven years old, at my own residence, in Brooklyn, Alameda county, and was sown in a frame under glass, on the 15th April, 1869, where the plants remained until they were about three inches high—in the middle of June following—when they were transplanted into boxes 3 feet square, 6 inches deep and 100 in a box. They were well attended to by a careful gardener until November following, when they were carefully cut out, so as to leave attached to each tree a ball of earth 3½ inches square and 6 inches deep, in which condition they were planted in their permanent location.

The land on which they were planted included a variety of soil, about one-half being nearly level, with a stiff, dark loam of good quality, and the other half a heavy adobe, somewhat saline in places and slightly rolling. The whole had been under continuous cultivation, in cereals, during the past 17 years, and had become somewhat impoverished by continual use. The land was prepared by being plowed in the usual manner, as soon as it had become moistened by the fall rains, and the soil was thoroughly pulverized to a depth of 15 inches, in lines or strips two feet wide and eight feet apart from center to center, in which strips the young trees were planted, in rows eight feet apart each way; the task of planting ending about the 1st of February, 1870.

After they were planted they were well plowed, hoed and cultivated, and are now in splendid growing condition, generally about 4½ feet high, although many of them have attained a hight of 8 feet.

The expense of the enterprise has thus far been about $55 per acre of 650 trees, exclusive of the land; and it is expected that they will have cost $150 per acre, before any revenue can be derived from them, which will probably be in about seven years.

The eucalypti are considered very useful forest trees in Australia, where they are indigenous; the variety, *globulus*, being used extensively for piling (as they are free from the attacks of the toredo), and for flooring, as it is a beautiful white color and wears perfectly smooth. I have no doubt that it will be found useful for many other purposes.

Mr. Aiken proved that he had planted, during the year, and in accordance with the plan set forth in his statement, namely, in nursery form—the rows five and six feet apart, and the trees one foot apart in the rows, the following number of trees of the varieties named:—

Lombardy poplar and balm of Gilead, 5,000; morus multicaulis, 7,500; morus alba, (2,) 5,000; California black walnut, 10,000; American white maple, 4,000; American white elm, 5,000; English elm, 2,000; Spanish chesnut, 400; American chesnut, 500. All of which were in a good growing condition. Below is

### Mr. Aiken's Statement.

In the fifth department of the Premium List for 1870, entitled "Agricultural Products," the Board of Directors of the California State Agricultural Society have offered a premium of $50 "for the largest quantity of useful forest trees planted during the year."

Here is an industry that is second to none in the whole list of agricultural productions. The rapid disappearance of the forest trees all over our State, especially in localities bordering upon our rivers and sloughs, has for several years excited the attention of all who claim a home in California and feel an interest in the future welfare of our State.

Since the writer became a resident of this county, there was a fine growth of oak and sycamore timber bordering the Sacramento from the city to its mouth, which it would be safe to say would yield from 1,200 to 2,000 cords of wood for every half mile, on either side. The oak trees were generally straight and handsome, many of them would make two rail cuts of 12 feet each in length, with several cords of wood left in the top. This fine growth of timber which once graced our river, tempered the atmosphere and gave protection to the adjoining plains from the sweeping winds, has entirely disappeared; the woodchopper's axe has stripped the river farms of nearly all the hard wood timber, and the owners are now obliged to rely upon the growth of willows for firewood. One of the greatest disadvantages which the farmers of our plain lands labor under is the want of timber lands and forest trees. There is nothing to protect the growing grain, the young vineyards or the newly-planted orchard, from the fierce northerly winds which visit us almost periodically and generally come at a most critical time for the farmer, and in two days time blow his hope of a good harvest for the season into despair.

These evils can be easily avoided, and at the same time a supply of timber secured to every farmer, and in a much shorter time, too, than many would believe possible, by planting suitable trees, in nursery form, in different places or plantations on the farm, where they may be carefully cultivated for the first two or three years, when they may be properly thinned out, and those removed planted in belts; always taking care that they run in such direction as to afford the best shelter to crops from the prevailing winds. Trees planted in this manner, and kept thoroughly cultivated and well mulched, will make a fine growth and require no irrigation. Mulching and cultivation is better than irrigation. This mode of cultivation has a tendency to encourage the roots to run deep, seeking a moist soil, and giving the trees a hold upon the earth that will prevent their being blown down. It has been demonstrated that nothing is required but an effort on the part of our farmers, skillfully directed, to grow many kinds of our most valuable forest trees on our dry plains, and it would be money well invested for all our agricultural societies to offer liberal premiums for the best and most extensive tree plantations. What better or more enduring monument than can be erected in living tree characters on our prairie farms? The managers of our agricultural societies should encourage the good work by liberal premiums. Make the good work popular, and our winds and plain wastes will soon be conquered.

The following is

### Mr. Edward's Statement.

I planted 7,000 locust trees, last year and this—3,500 each year, for which I claim the Society's premium. I have them set out in alternate rows, eight and ten feet apart, and four feet distant in the rows. I raised the trees from seeds I got in the neighborhood.

To germinate the seeds I put them in warm water, covered them and set them by the stove for about a week, until they got started; then I set them out in nursery form for one or two years before they were set out in the artificial forest. The forest is on high land, about three miles south of Sacramento. I have plowed between the rows four times each year. The first I set out did remarkably well this year; and those of this year's planting are all alive, except two or three per cent. I will state here that the land had not been cropped for a number of years before the trees were set out. I think the expenses will be about $15 or $20 a year; but I expect to get some firewood from it before the end of ten years, by trimming and thinning out.

I hope the Society will excuse me for not bringing in a sample. In about ten years I think I shall have fence posts enough to fence my own land and some to spare for my neighbors.

The Board awarded the premium to Mr. Stratton, on the ground that their offer of a premium for forest trees planted during the year, contemplated that the trees should be planted permanently where the forest was to grow, and not in a nursery from which the trees were to be taken and sold, from year to year, as demand for them could be found. While they would encourage the laudable efforts of Mr. Aiken to introduce the growth of shade and forest trees in all parts of the State, and especially, as is suggested, on the plains, and in belts so as to form wind breaks or screens, and shelter the growing crops, they could not divert the premium offered for a special purpose from the claimant who had fulfilled the conditions contemplated. The Board did not express an opinion as to the proper distance trees for a forest should be planted. They leave this question to the judgment and experience of the cultivators, only requiring that the trees should be planted for permanent growth. The same premium is continued for 1871.

## SETTING TREES.

Written for the RURAL PRESS by Rustic.

My father always set trees with a pole 16 feet long, and a small cord 80 or 90 feet long; but he did'nt always get the trees exactly straight until a neighbor told him of the following plan that *he* had tried for sometime.

To get trees in perfectly straight rows, where you have no lines as a guide, get a surveyor or some other person who understands the business, to start your lines and set your pegs. The cost will be but a trifle, and the satisfaction in looking at your trees afterward will more than pay. Have as many pegs as you mean to set trees, about 20 inches long and all the same size, if possible. Willow sprouts, an inch thick, with the bark off, are good. In order to get the trees exactly where you set the pegs, take a straight stick, six or eight feet long, with a notch around it in the middle and four flat pegs and you are ready for operation.

Now put down your eight-foot stick, on any side, with the notch against the peg; only be sure you don't change sides. The stick being parallel with the rows, stick a flat peg close to each end of the eight-foot stick, and then turn it east and west, putting down two more pegs, the same as before. Now move the eight-foot stick and dig the hole; but don't interfere with the flat pegs. Put in your tree, try the eight-foot stick on the tree the same as you did on the 20-inch peg you dug up, and I will bet your trees are straight every way. Give it a trial and if you don't like it you can fall back on the old way, which reminds me of the man taking the measure of a doorway between his hands.

In looking over the "Facts for Farmers by Solon Robinson," I have found some very useful rules for planting trees, which I think would not be out of place here in California, where farmers treat trees more like fence posts than like trees. Where the summer sun dries the earth two or three feet deep, we need to be more careful than our fathers in the States; and I don't think we will loose by our double attention; for our trees produce enough sooner to pay the difference.

"First: Have plenty of roots to your trees. Second: Dig large holes and make the ground mellow at the bottom. Third: Do not set your stalks too deep. Fourth: Fill the earth carefully around them and tramp it solid. Fifth: Raise the earth slightly so that the water cannot stand around the tree. Then cover the ground four or five feet each way with some kind of mulching, and depend on it you will not complain of trees dying. There is one thing more for you to do: Keep your horses, cattle, sheep and goats away from the trees." "The best form for setting apple trees is that called *quincux*. Set four trees two rods apart in a square and a fifth one exactly in the center."

## TREE PLANTING.

The *Prairie Farmer* very justly commends the spirit that has seized the farmers of Illinois, to plant forest trees. It is clearly a Providential instinct, for it has swept the country like an epidemic. Every one asks: "How many trees have you planted this year?" Not one in a hundred answers "None." At every agricultural meeting members vie with each other in reporting the largest number and the greatest variety set out. They are mostly from seed, and usually eight feet apart, to be thinned out as they expand in dimensions. Every one speaks of the increased retentiveness of the soil for moisture, within the influence of their protection. Especially they attest their sheltering effect against the dessicating and disagreeable winds that are the great objection to life on the treeless prairies. They report a notable improvement in health—less ague and rheumatism, and less catarrhal disturbance. A few years ago, some leaders of the movement planted trees as wind-brakes to their orchards and their dwellings. In every instance these have worked wonders in giving increased fruitages, exemption from spring frosts, and unspeakable comfort to the family and to the barn-yard. The saving of cattle feed is found to be no small item; for every protection from adverse weather enables stock to thrive on less fodder. Villages, which a few years ago wore a bare and cheerless look, are now assuming the sweet attraction of their old New England homes. It favorably affects immigration. First impressions have driven many a new comer from the prairies. Since the furor for tree planting, the repulsiveness is fast being changed to attractiveness. Among the beneficial effects of the young forest may be mentioned many permanently-flowing springs, which had long ceased to run, and new ones not previously observed. We wish this tree-planting epidemic would extend to California. There are premonitory symptoms indicating that the contagion has reached our borders.

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NEW ZEALAND FLAX IN NEVADA.—Mr. O. Hyde writes as follows:—In the article on New Zealand Flax, your correspondent mentions having heard of its being known in Nevada. Such is the fact. While prospecting along the Shell Creek range of mountains, about fifty miles east of Hamilton, I got off my horse to examine large bunches of grass, the body of which, near the ground, were matted together in regular tow heads. The fibres were so strong that it was difficult to break the smallest thread, and I remarked to my companions that it would make excellent rope, or in the rough, roots and all, good paper stock. The Indians have used it to make lines and thread. It grew on the immediate low land between the meadow wire grass and the sage bush, and there were patches of several acres in extent.

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WILD GAME.—Lake Merrit, in Oakland, promises to become a favorite breeding place for wild water fowl, by reason of the restrictions placed upon shooting in that vicinity. After coming to maturity the game will of course fly out into the neighboring marshes and furnish legitimate food for powder; so that the restrictions upon the lake will become a real service to the sportsmen.

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WINE MANUFACTURE IN AMADOR.—The Amador *Dispatch*, after recounting the facilities possessed by that county, for the culture of the grape for wine, says there are many thousands of vines in that county, the fruit of which goes to waste for want of a market. To meet this difficulty and to utilize the present crop and encourage a still larger production, it is proposed to organize an association for the manufacture of wine at some central locality. Preliminary steps have already been taken to that end.

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A SWEET QUINCE.—Some time ago, according to a late number of the *Hearth and Home*, F. R. Elliott reported the receipt of a sweet quince from Pennsylvania. It would be interesting to know the origin of this quince, as the writer, some years ago, found in the overgrown garden of a deserted Jesuit Mission in the northern part of Sonora, Mexico, a quince quite corresponding to Mr. Elliott's description of the one from Pennsylvania.

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NEVADA SILK COCOONS.—Mr. Spence, of San José, says he has carefully examined, at the Kensington Museum, in London, specimens of silk cocoons from all parts of the world; but saw none that excelled those produced by Isoard & Muller, of Nevada City, in this State.

BY OUR LADY EDITORS.

## "CAST THY BREAD UPON THE WATERS AND IT SHALL RETURN UNTO THEE AFTER MANY DAYS."

A STORY BY NELL VAN.

[Written for the PRESS.]

In the attic of a dilapidated dwelling, on Mulberry street, in the city of New York, there once lived a little girl named Kitty Dorr. Her farther was a ship carpenter, and had for a number of years supported his family comfortably; but being disabled by an accident, he fell into indecent habits, among dissolute companions, and failed to obtain steady employment.

His wife, finding it necessary to do something for the support of the family, applied for sewing at the ready-made clothing stores where she was abundantly supplied with work for which she was poorly paid. Early and late the ambitious woman worked while little Kitty did what she could to help, wondering why "Papa" staid away from home so late and seemed so cross when he *did* come. As time wore on, the mother grew paler and thinner from loss of rest and anxiety of mind; the voice grew feeble and her eyes larger and lustrous, while a dry, hacking cough set in—sure indications of that fell destroyer of domestic joy which robs the home while fitting the victim for Angelhood. Poor little Kitty! Her father fast becoming a drunkard and her mother gently fading away from earth-life.

One day the landlord came for his rent, and finding Mrs. Dorr alone and unable to pay him, he grew angry and stormed furiously at the poor defenceless woman. When Kitty came home she found her mother in a fainting condition and alone, so calling in a neighbor from the room below, she ran frantically about the room crying and saying "what shall I do! what shall I do?"

The kind hearted neighbor, after relieving the sufferer, endeavored to pacify the child. "Oh Kitty" said she "don't take on so, your mother is all right now, old Flint, the landlord, has been here; he has turned poor Mrs. Simpson and her four children out, 'cause she could not pay him the very day the rent fell due, and more'n likely he has been threatenin' your poor mother, unless she had the rent ready. Where's your father workin' now, child, can't you go for him?" "He is'nt workin' anywhere," said Kitty, "but he goes out to look for work; shall I run to the corner and see if I can find him?"

Without waiting for a reply the child snatched up her hat and running to the corner grocery, where she had too often seen her father, she stepped up to the counter and enquired for him. "Your father, eh, John Dorr is it you want? Yes, faith, he was just after taking a drop with Tim at the bar, and he stepped out to look for work as he said. Pr'aps he's maybe gone to Jenny Whipple's, where there's always a gang of fellows around the door to entice a chap in who is passing."

Kitty hastened to the place indicated, where she found her father just raising a glass of liquor to his lips. She took him by the hand and tried to lead him from the spot; but little he heeded the child's imploring voice, till he had drained the glass to the dregs, when he suffered himself to be led away. The condition in which he found his wife quite sobered the conscience stricken man, and he tearfully promised to make amends for his past misconduct in the future. His efforts to obtain steady employment, however, failed, and he only succeeded in finding short jobs which gave him intervals between, for the indulgence of his besetting sin.

Slowly and silently the uncomplaining mother sank into the bedridden invalid, and Kitty, heart-broken at the prospect of being left motherless, had many talks with her father in her childish way about saving the money he was spending in drink. Indeed, had it not been for the kind neighbors, many a time the child and her mother must have suffered for food.

When Kitty was nine years old her mother died, and the same day her father was brought home in a state of beastly intoxication! No pen can describe the misery and utter desolation of that home and the anguish of that little soul, thus bereft of all ties to bind her to earth. She had listened too often to the descriptions of the glorious home preparing in the future, which her mother took delight in portraying, to doubt the reality of the life beyond the grave, which the beloved one had entered upon. There was a fascination for the child in the closed eyelid and marble brow, while the pleasant smile and expression of perfect rest gave her the sweet assurance that her mother was happy, and could never again suffer with her in their miserable home.

In one of a handsome row of fine residences on Tenth street, lived Gertrude Hartwell, whose father, a prosperous merchant of Front street, was noted for his benevolence, and many a poor struggling mortal had been saved from degradation through his generous bounty. The child inherited her father's noble disposition and often, when on her way to school, she would share her luncheon with some poor, hungry looking-little one whom she met, or would give away pennies instead of buying candy for herself. One afternoon when standing at the parlor window, while her mother entertained a visitor, she observed a little girl about her own size sitting on the doorsteps opposite, crying. Beside her was a basket, yet she had not the appearance of a common beggar. I must find out what ails that little girl, thought she; perhaps she has hurt her foot for I see great holes in her shoe. Going to her mamma's side she waited till there was a pause in the conversation, when she asked permission to go over and see what the little girl was crying for, and carry her something to eat, in case she was hungry. Her mother readily consented, glad to encourage her child in deeds of charity.

Gertrude hastened to the cook and begged her to give her bread and butter and cake to take to a poor little crying girl in the street. The kind-hearted cook left her work to wait on her young mistress, saying, "God bless the likes of ye miss Gerty, who is as much like the master as two peas; for wasn't it himself that helped poor Dennis when he fell and broke his arm and saved him from the poor-house; sure an' it was. There now, Miss, there's something to save her from starving." In another moment Gertrude stood before the child, saying:—"Little girl, why are you crying? Are you hungry? See, I have brought you something to eat." A pair of large brown eyes were raised to hers and the quivering lips expressed more than words, as she extended her hand for the food, saying:—"Oh, thank you Miss, I am indeed hungry; but I was not crying for that, but because my mother is dead and my father gets drunk and says I must go and beg for food, and I cannot bear to do that. Do you know of anything a little girl like me can do to get food and clothes without begging?" "And she then burst into tears afresh. "Come," said Gertrude, taking her by the hand "come with me to mamma and we will ask her." Then leading her across the street and down the steps into the basement, she asked her name and where she lived. Presently hearing the front door close she hastened to see if her mother was at liberty and soon returned with her.

"So your name is Kitty Dorr, and you have lost your mother," said Mrs. Hartwell to the child. "How long has she been dead," and who takes care of you now?" "Only two weeks ma'am," replied Kitty, "and there's nobody to look after me, so I have to go out begging. I want to learn to work if I could find anybody who would take me." "Mamma," said Gertrude, "I heard Mrs. Edwards asking Aunt Susan, last week, if she knew where she could find a little girl to amuse the baby while the nurse is so busy with the other children, who you know have been so sick. Can't I go over there and see her this very day?" "Yes, my dear, I believe Mrs. Edwards would be an excellent place for little Kitty, and she has long wanted to find a child to bring up with her own to wait on them. Bring me my writing desk and I will write her a note and you and Kitty may go there with it.

That night at supper, Gertrude had a long story to tell her father about little Kitty Dorr, and how she had found a pleasant home with Mrs. Edwards, who was so much pleased with the child's appearance, as she wrote in a note to Mrs. Hartwell, that she could not express her gratitude.

Years after, when Gertrude had grown into a lovely woman, her parents died, one shortly after the other, leaving her the sole possessor of a handsome fortune. She went to reside with her Aunt Susan for the short time previous to her marriage with one who sought her hand and seemed in every way worthy of her.

A life of luxurious ease, after a trip to Europe, seemed before her, and she was at once the admiration and envy of all who knew her. Beautiful children called her mother, and her deeds of charity were seldom outnumbered. A great financial crisis came, and many were thrown from affluence into penury. The husband of Gertrude, grown extravagant and venturesomo, risked both his own and her private fortune and the result was their total ruin. Unable to endure the pangs of conscience in this great calamity, which Gertrude bore so nobly, her husband, in a fit of despondency, procured laudanum and died the death of a suicide. So unexpectedly did this new sorrow burst upon Gertrude, that it came near crushing her; but seeking refuge for herself and little ones in the home of a friend, she yielded up everything she possessed in the world to the creditors, who however refused to appropriate her jewels for which she was enabled to obtain means of subsistence until she could find some way of earning her support.

Kitty Dorr had also grown into a gentle womanhood, with a kindly smile for all. Her childhood had been spent in the family of the kind Mrs. Edwards, and her education had not been neglected. She had learned a trade, which enabled her to become independent, and she had found a home among warm-hearted friends who regarded her as their own.

One afternoon Kitty went to the shop of her employer to carry home her finished work, when a stranger entered with a peculiarly sad countenance which at once won her sympathy. The shop keeper, who was a hard, rough-spoken man, spoke to her in an impatient, hurried manner, and Kitty saw a tear glisten on her cheek as she turned to withdraw. A sudden influence compelled her to approach the fair stranger and, gently touching her arm, she said, "can I do anything for you, my dear lady? for you seem in deep trouble." "Alas! I am looking for work, but find this man unwilling to trust me, because I am a stranger; but surely we have met before, are you not Kitty Dorr, who lived with Mrs. Edwards long ago?" "That is my home indeed, but I have no remembrance of having seen you before, were you a friend of Lizzie Edwards?" "Kitty, have you forgotten the little girl who gave you food when you was crying, while sitting on the doorsteps in Tenth street? Don't you remember Gertrude Hartwell?"

"Gertrude Hartwell," cried the astonished girl, "never can I forget her; but can this be she? Yes, those same tender, loving eyes, and—but come with me and tell me, dear Gertrude, how it happens that you are in pursuit of work."

"Together they left the shop, where they were attracting considerable attention; and as Gertrude talked of the sad past and clouded present, they neared the quiet home of Kitty, which having reached, she bade her friend enter. Upon introducing her to Mrs. Sage, the kind lady at once recognized in Gertrude the daughter of one who had saved her husband from ruin. While they were conversing, Mr. Sage entered and upon learning who their visitor was, went up to her tenderly, and taking her hand said "my dear Madam, I am most happy to make your acquaintance, and perhaps I may be able in some way to be of service to you for all the favors received from your father during his life. We heard with regret of your deep sorrow, and of the helpless condition of your little dependent family, can you, will you come to our home and let us be grand parents to the little fatherless ones? Our own children all died in childhood, and we have only Kitty here, to love. Promise me for your father's sake that you will let me repay, in part, the debt of gratitude I owe to one, who more than once saved me from utter disolation. Mother, here, can tell you how my health suffered and mind wandered from repeated disappointments, till on the verge of insanity, when your father came to my relief and I was once more restored to health and position."

And so Gertrude and her children became welcome inmates of the home where Kitty had enjoyed so much, and together they watched with joy the budding intellects of the little ones who were like angels in the household.

"I can't think how we ever got along before Gertrude came to us," said the old man one night, as they sat around the blazing hearth watching the children at play. "Never before have we enjoyed ourselves so much, as during the past year, since these precious little ones were gathered to our fireside."

And how strikingly is that beautiful passage of Scripture illustrated in dear Gertrude's case: "Cast thy bread upon the waters, and it shall return unto thee after many days."

## SOUNDS OF INDUSTRY.

BY MRS. F. D. GAGE.

I Love the clanging of the hammer,
The whirring of the plane,
The crashing of the busy saw,
The creaking of the crane;
The ringing of the anvil,
The grating of the drill,
The clatt'ring of the turning lathe,
The whirring of the mill;
The clipping of the tailor's sheers,
The driving of the awl:
These sounds of active industry,
I love—I love them all.

For they tell my listening spirit
Of the earnestness of life,
How much of all its pleasure
Cometh of toil and strife;
Not the toil or strife which fainteth
And murmureth by the way;
Not the toil or strife which groaneth
Beneath a tyrant's sway:
But the toil that ever springeth
From a free and willing heart,—
The strife that ever bringeth
To the toiler, nobler part.

O, there's joy and good in labor,
If we labor but aright,
Giving vigor to the day-time
And sweeter sleep at night;
A good that bringeth pleasure
E'en to the toiling hours,
For duty cheers the spirit
As the dew revives the flowers;
Giving strength and hope in sorrow,
Driving storms and clouds away,
Making sunshine for the morrow
From the darkness of to-day.

Say it not that our good Father
Bade us labor as a doom;
No, it is his richest mercy,
Meant to sweeten life's dull gloom.
Let us cheerily then be doing
Whatso'er we find to do,
With an earnest, willing spirit,
And a strong hand, free and true.

## GIRLS AND MATRIMONY

"Mintwood" in her last *conversacion* in Moore's Rural *New Yorker*, gives the following sensible advice to girls:—How you who are soon to be married, fret and worry over your wedding outfit! How you toil all the day with needle and sewing machine, and lie awake nights planning and arranging shapes and trimmings! How you are occupied with these really trifling matters up to the verge of your wedding hour, so that as brides you are worn out, nervous, and weak from overwork. Your strength of body and mind has been lavished on dry goods, as if your lovers cared a straw for them in comparison with you, yourselves, which you have so abused by neglect. A neat and fully respectable outfit, of course, is desirable; but great quantities of elaborate garments are entirely unnecessary. A girl who always keeps her wardrobe in good condition is as well prepared to marry, so far as such things are concerned, as she is to remain unmarried. She needs no more clothing as a wife, than as a maid; and now, when women are making such consummate martyrs of themselves to bridal *trousseau*, it is time for somebody to enter a protest and entreat for the preparation of the *body* and *mind* and *heart* for marriage, as well. No woman should marry without allowing for herself at least a full month or two for quiet rest, and to prepare for the new existence upon which she is to enter. She has enough to think about, heaven knows, and if preparation is needed for death, how much more is it needed for married life. Not that the two are specially akin; but both are equally solemn. And so, "my dear sisters," I hope you will think of something besides the outfit and the wedding cake, making toils less, or postponing the "fatal" day until you have had a good rest for yourselves. Be good and "sensible," and follow my advice;

For the benefit of young girls who are impatient to put on trained skirts, it may be stated that the Princess Beatrice, daughter of Queen Victoria, now nearly sixteen years old, has never yet worn any thing but short dresses even upon the grand occasion of a drawing-room reception, when court-trains are universal.

A Dentist, trying in vain to extract a decayed tooth from a lady's mouth, gave up the task with this apology: "The fact is, madam, it is impossible for any thing bad to come from your mouth."

# DOMESTIC ECONOMY.

## Eating Without Appetite.

It is wrong to eat without appetite, for it shows there is no gastric juice in the stomach, and that nature does not need food, and there not being any fluid to receive and act upon it, it would remain there to putrefy—the very thought of which should be sufficient to deter any man from eating without an appetite for the remainder of his life. If a topic is taken to whet the appetite, it is a mistaken course; for its only result is to cause one to eat more, when already an amount has been eaten beyond what the gastric juice supplied has been able to prepare. The object to be obtained is a larger supply of gastric juice, not of a larger supply of food; and whatever fails to accomplish that essential object fails to have any efficiency toward the cure of dyspeptic disease; and as the formation of gastric juice directly proportioned to the wear and waste of the system, which it is to be the means of supplying, and this wear and waste can only take place as the result of exercise, the point is reached again that the efficient remedy for dyspepsia is work—out-door work—beneficial and successful in direct proportion as it is agreeable, interesting and profitable.

Copper Cooking Utensils.—Copper and brass vessels should not be used for cooking purposes, as poisonous chemical substances are liable to be formed by the action of oils and acids upon the substances of the vessels. The use of such vessels for cooking fruit is especially dangerous, as the acids of fruit act readily upon the metal, forming very poisonous substances.

Keeping Hams.—Have a sack made of cheap muslin, or domestic, somewhat longer than is required to merely hold the ham. Then gather some broom sedge and chop it finely in your cutting box; or, if you happen to be minus such a contrivance, chop it with a hatchet or axe. Place a few handfuls of this in the bottom of your sack, and then having wrapped a newspaper nicely around your ham, slip it upon the chopped sedge. Proceed next to fill up the sack by ramming your chopped sedge tightly around the ham on all sides—the size of the sack should allow of its being an inch thick. Sew or tie it up and the work is done.

Hams put up in this way will keep for years through all kinds of weather, for the sedge is cooling in its effect, it absorbs the moisture attracted by the salt, it bars off the fly. We take it that straw or thoroughly dried grass of almost any kind would act, though we have no experience with anything save broom sedge.

How to Mend Rubber Shoes.—Several letters having been received asking this question, Professor H. E. Colton prepared the following directions: Get a piece of pure rubber—an old shoe—vulcanized rubber will not do; cut it into small bits. Put it into a bottle and cover to twice its depth with spirits of turpentine or refined coal-tar naphtha—not petroleum naphtha. Stop the bottle and set one side, shaking it frequently. The rubber will soon dissolve. Then take the shoe and press the rip or cut close together, and put on the rubber solution with a camel's hair brush. Continue to apply so fast as it dries until a thorough coating is formed. Spirits of turpentine dissolves the rubber slowest, but forms the most elastic cement.

Oat Meal as Food.—If mothers would have their children grow up clear eyed and comely, with frames of bone and not of cartilage, with transparent complexions instead of muddy ones, then do not always set before them bread of fine flour and highly seasoned meats, but give them four or five times a week a breakfast of oat meal mush. Do you say they don't like it? Perhaps you don't know how to prepare it properly. The Scotch method of preparing oat meal, is to make a thin mush, a little thicker than gruel, and the boiling should continue three to five minutes (not more), after the thickening is finished. This eaten, with sugar or milk alone, or with syrup, is highly palatable, and is generally liked by children whose tastes are not vitiated.

The use of Buttermilk.—Persons who have not been in the habit of drinking buttermilk consider it disagreeable, because it is slightly acid. There is not much nourishment in buttermilk, but the presence of the lactic acid assists the digestion of any food taken with it. The Welsh peasants almost live upon oat-cake and buttermilk. Invalids suffering from indigestion will do well to drink buttermilk at meal-times.

How to Make Old Salt Pork as Sweet and Tender as Fresh Pig's Meat.—There is no humbug about this, though it may look like it. We have tried it, and we know the person who discovered it, Mrs. Washington Champion, who thus has fresh, tender meat all the year round. It is simple but requires some labor. The thing is done by boiling and frying alternately, and finishing off with sweet milk boiling and frying also. Here is the receipt: Boil slowly in several waters till sufficiently freshened. Then boil in another water till reduced to a fry. The frying should not take long—about fifteen minutes. Fry for a while till about half done or less, so as to get the water well out, else it will be snappish thereafter. Turn off the fat and pour on sweet milk, and fry until brown. Now you have something that is perfectly tender; the oil is not all fried out as is the case with some meat. The lean is tender with the rest. Pork even tainted or otherwise objectionable, may thus be treated to a great advantage. Will each house-wife that reads this receipt try it, and get the benefit of it? It is no humbug.—*Country Gentleman.*

Wash for the Hair.—"Honey water", as it is generally called, is a most pleasant and excellent wash for the hair, and is used by sponging it into the roots, and also by well brushing the hair with a little fluid at a time. Though called honey-water it is not made with honey, being prepared as follows:—Essence of ambergris, one drachm; essence of musk, one drachm; essence of bergamont, two drachms; oil of cloves, twenty drops; spirit of wine, six ounces; orange flower water, four ounces; distilled water, four ounces; mix altogether, and let them digest fourteen days, shaking ingredients frequently, then filter through porous paper for use. It is not only very useful as a hair-wash, but is an excellent odoriferous perfume.

Salt as a Condiment.—Salt as an addition, or condiment to food, is undoubtedly beneficial. Its immediate effect is to soften and dissolve the food, and thus render the process of digestion more perfect. It forms one of the constituents of the blood and of the body generally. If it be denied, digestion becomes impaired, and the body weak and liable to disease. It is however, a very different thing to eat salt with food and to live upon salted meats. In the latter case certain chemical effects are exerted upon the meat, and its nutrient constituents, by the salt, which modify considerably the nutriment afforded the body. It is of equal importance to the physical health and well being of the lower animals as to humanity, and as a medical agent it ranks among the most important.

Why is Soup Wholesome.—The London *Food Journal* says: Physiologically, soup has great value to those who hurry to and fro from their meals, as it allows an interval of comparative rest to the fainting stomach before the substantial beef and mutton is attacked, rest before solid food being as important as rest after it. Let a hungry merchant or lawyer rush *in medias res*—plunge boldly into roast beef, and what is the result. The defeat is often as precipitate as was the attack. When the body is weary the stomach must be identified with it, and cannot therefore stand the shock of some illy masticated half-pound weight of beef. But if a plateful of light soup be gently insinuated into the system, nourishment will soon be introduced and strength will follow to receive more substantial material.

Asparagus—White and Green.—All who buy this favorite esculent should remember that the white asparagus is not really fit to eat, that it is more or less poisonous, never having had the sun to purify it; besides it costs three or four times as much as the green, as only a small portion of it can be eaten, and this is often acrid and unpleasant, while the green asparagus can all be eaten and is healthy—try it,

A French chemist asserts that if tea be ground like coffee before hot water is poured upon it, it will yield nearly double the amount of its exhilerating qualities. Another writer says: "If you put a piece of lump sugar, the size of a walnut, into a teapot, you will make the tea infuse in half the time." This last we have tried successfully.—*Ex.*

Cheap Pudding.—Soak one cup of bread crumbs in one quart of milk two hours, then add four eggs well beaten, one tablespoonful of butter, a little salt, nutmeg, and sweeten to taste. Bake one hour and a half.

Baked Apple-Dumplings are delicious. Make them as if for boiling in the usual way; set them in a shallow pan; bake in a hot oven, and serve with hard sauce.

## Domestic Receipts.

Liquid Blueing.—To one part of Prussian blue add gradually two parts of concentrated muriatic acid. Let the paste stand for twenty-four hours, then add nine parts of water, and bottle it.

The solution of indigo in sulphuric acid is also used for the same purpose. To prepare it, pulverize one ounce of pure indigo, and add it by degrees to four and a half ounces of concentrated sulphuric acid, mixing it well by stirring with a glass rod. If desired, the acid may afterwards be neutralized with carbonate of potash.

Yeast.—The following is recommended by first-rate authority as a method of making good yeast, that will keep for weeks, even in hot weather:—On Monday morning put two ounces of best bale hops into a gallon and a pint of cold water, boil half an hour, strain hot, and dissolve two ounces of finest table salt and half a pound of sugar in the liquor; when cooled to new milk warmth, put one pound of sifted flour into a large basin, make a well in the center of it with the hand, and add the liquor by degrees, stirring round and round with a spoon until the whole of the flour is evenly mixed with the liquor; set the pan containing the liquor on a stool by the stove, in winter time, day and night. In hot weather this is not requisite. On Wednesday morning boil and mash finely three pounds of good potatoes, and mix them with the liquor in the same way as the flour. On Thursday morning there should be a heavy dark scum on the surface. The yeast must now be stirred thoroughly and strained through a sieve or colander into a gallon jug, corked firmly, tied down, and placed in a cool cellar. Shake well before using.

To Remove Grease from Silk.—Rub together fine French chalk and spirits of lavender to the consistency of a thin paste, and apply thoroughly to the spots with the fingers; place a sheet of brown or blotting paper above and below the silk, and smooth it with a moderately heated iron. The French chalk may then be removed by brushing.

Vanity.—Take one egg, a very small pinch of salt, and the same of soda; mix very stiff with flour; then take enough of this stiff paste to spread out to the size of a sauce-plate. When rolled as thin as a waifer, drop it in clean sweet lard. As soon as it blisters, turn quickly. Take out, grate or sprinkle fine white sugar over it to fill the hollows formed by the blisters.

## Mechanical Hints.

To Revive the Color of Faded Black Cloth or Leather.—Take of the best quality of blue galls, four ounces; of logwood, clean sulphate of iron (copperas), clean iron filings and sumac leaves, each one ounce; put the galls, logwood and sumac berries into one quart of the best white wine vinegar, and heat to nearly the boiling point in a sand bath, then add the iron filings and copperas; digest for twenty-four hours, and strain for use. Apply with a sponge.

Furniture Oil.—To one quart of linseed oil add one ounce of bruised alkanet root, and boil them together in a glazed earthen vessel until the color is extracted from the root; then cool, and strain for use.

Wood Preservative.—In the *Annales de Genie Civile*, Dr. Reinsah gives the following directions for rendering wood difficult of combustion and preserving it underground. "The wood, unplaned, is to be placed for twenty-four hours in a liquid composed of one part of concentrated silicate of potassa and three of pure water. After being removed, and dried for several days, the wood is again to be soaked in this liquid, and, after being again dried, painted over with a mixture of one part of cement and four parts of the above liquid. When the first coat of this paint is dry, the painting is to be repeated twice. This paint mixture should only be made up in small quantities, as it rapidly becomes dry and hard. Wood thus treated becomes uninflammable, and does not decay underground."

Colorless Lacquer.—Dissolve two and a half ounces of shellac in one pint of rectified spirits of wine; boil for a few minutes with five ounces of well-burned and recently heated animal charcoal. A small portion of the solution should then be filtered, and if not colorless, more charcoal must be added. When all color is removed, press the liquid through a piece of silk, and afterward filter through fine blotting paper.

Mixing Varnishes.—When varnishes dry too quickly, by adding a small quantity of finishing varnish the trouble may be remedied.

## Life Thoughts.

An old dog cannot alter his way of barking.

A deceitful man is more hurtful than open war.

A nod from a lord is a breakfast for a fool.

He that fears you present, will hate you absent.

It is more easy to praise poverty than to bear it.

A penny worth of mirth is worth a pound of sorrow.

Grieving for misfortunes is adding gall to wormwood.

Hold your little twinkling light boldly and honestly; then God will pour in the oil, and make it a blazing torch.

Always laugh when you can—it is a cheap medicine. Mirthfulness is a philosophy not well understood. It is the sunny side of existence.

Be not affronted at a jest. If one toss salt at thee, thou wilt receive no harm unless thou hast sore places.

Would a man frequently calculate his income and expenditure, he would escape many a bitter reflection; for he must be lost to every generous feeling of pride and honorable principle who wantonly incurs debt which he knows he can not discharge.

Kind Words! they are blessed things. Speak them every day. Scatter them like sunbeams everywhere. They please others and then return to bless your own ears. Kind words forever.

Do Something.—Luther says: "The human heart is like a mill-stone when you put wheat under it, it grinds into flour; if you put no wheat in it, it still grinds, but then it is itself it grinds, and slowly wears away."

Good sense will preserve us from censoriousness, will lead us to distinguish circumstances, keep us from looking after visionary perfection, and make us see things in their proper light.

The man at the head of the house can mar the happiness of the household, but he cannot make it. That must rest with the woman, and is her greatest privilege.

A Kind Heart.—It is kindly sympathy with human life that enables one to secure happiness. Pride is like an unsilvered glass through which all sights pass, leaving no impression. But sympathy, like a mirror, catches every thing that lives. The whole world makes pictures for a mirror-heart. The best of all is, that a kind heart and a keen eye are never within the sheriff's reach.

Courage in Every-day Life.— Have the courage to discharge a debt while you have the money in your pocket.

Have the courage to do without that which you do not need, however much your eyes covet it.

Have the courage to speak your mind when it is necessary you should do so.

Have the courage to tell a man why you do not lend him your money.

Have the courage to cut the most agreeable acquaintance you have, when you are convinced that he lacks principle. "A friend should bear a friend's infirmities," but not his vices.

Have the courage to show that you respect honesty, by whomsoever exhibited.

Have the courage to wear old clothes until you pay for your new ones.

## Sometime.

It is a sweet, sweet song warbled to and fro among the topmost boughs of the heart, and filling the whole air with such joy and gladness as the songs of the birds do when the summer morning comes out of darkness, and day is born on the mountains. We have all possessions in the futue, which we call "sometime." Beautiful flowers and singing birds are there, only our hands seldom grasp the one, or our ears hear the other. But oh, reader, be of good cheer. For all the good there is a golden "sometime" when the hills and valleys of time are all passed; when the wear and fever, the disappointment and sorrow of life are over; then there is the place and rest appointed of God. Oh, homestead! over whose roof fall no shadows or even clouds, and over the threshold the voice of sorrow is never heard; built upon the eternal hills, and standing with the spires and pinnacles of celestial beauty among the palm trees of the city on high, those who love God shall rest under thy shadows, where is no more sorrow nor pain, nor sound of weeping "sometime."

*George D. Prentice.*

## Mechanics' Institute.

The quarterly report (for December, January and February) of the President, Mr. Hallidie, shows on the whole a favorable and progressive condition of affairs. The financial status is better, for although the balance on hand, $664.33, does not seem large, yet during the last three months over $500 have been paid out for the coming Industrial Fair, and, what is particularly gratifying, $3,000 have been paid on account of the indebtedness of the society, reducing it to $37,000. Moreover, the building has been painted and otherwise improved.

During the quarter 97 members joined the Institute. While a few leave each month, the average gain monthly is 30. Many valuable documents have been presented and 254 books purchased.

The lectures, commenced in the preceeding quarter by the Mechanic Arts College of the University of Cal., are still in progress, and students and visitors show no lack of interest, there being many applications to fill any vacancies which occur. The Institute generously allows the free use of a room for certain classes which lost their former quarters by the recent burning of the Lincoln school building.

By an amendment to the constitution, persons who have rendered the Institute distinguished services, can now be elected Honorary Members; but no more than ten honorary memberships can be conferred yearly.

### The Eighth Industrial Exhibition.

The Trustees are earnestly at work preparing for the Eighth Industrial Exhibition, which is to open on Tuesday, August 8th, and which will probably be the last one for a number of years. Hence unusual efforts are being made to secure its success on a much larger scale than ever before attempted. Over 20,000 circulars have been distributed in the adjoining States and Territories and in the countries on the Pacific Ocean, inviting co-operation. In reply, many words of encouragement, applications for space and enquiries have been received. Books have been opened for applications, and entries can be made at the Library daily,—from 12 M. to 9 P. M. An agent is canvassing this city, and Mr. Dunn has gone to Japan to induce a representation from that Empire and to obtain the appointment by the government of a commission to report on the exhibition and the manufactures of our coast. The Pacific Mail Steamship Co. has liberally offered to bring across the ocean articles free of charge. The exhibition building will be enlarged. The last Legislature appropriated $1,500 per year for two years, to be expended in premiums by the society. Cash premiums amounting to $3,350 are offered, besides those usually given. It is to be hoped that the whole coast will lend efficient aid, for the whole coast will be benefited by a successful exhibition.

### Its Importance to the Coast.

We present briefly the substance of the President's remarks on this subject:

I do not think that the importance of these Industrial Fairs to a new country like ours, full of vigor, talent and industry, can be over-estimated. We are situated on the border of a new continent, undeveloped in its resources which we know to be vast and inexhaustible. We are in close proximity to countries densely populated by races whose traditional exclusiveness has kept them until recently in ignorance of the advance of science, art and manufactures, and whose necessities must create a demand for that talent which we can supply, unless in our blind mistake we kill the goose which lays the golden egg,—a mistake, I believe, caused mainly by fear of an overwhelming inroad of that people, a fear groundless because such an invasion over a vast ocean like the Pacific is practically impossible and beyond the records of history.

The Managers hope to see the mechanics, and manufacturers of our coast, at this Fair, show to these people with large wants, what we have and what we can do; to show them that we can turn out as good and as cheap machinery as any other part of the world; that we can furnish them with manufactured articles of all kinds; that we can supply their needs fully and cheaply. We have a huge market if we choose, and there is no reason why we should not erect manufactories to supply this market. We need manufactories here to develop our resources and enrich the community. [But the presence of factories requires a larger agricultural production, and thus is a direct benefit to farmers as well as to other classes of population.]

These Industrial Fairs tend generally to encourage enterprise and nurture industry by demonstrating the needs and the capabilities of our people. It is to be hoped that the people will lend prompt aid to an enterprise which cannot but benefit them.

## A FEW WORDS TO THE UNEMPLOYED.

EDITORS PRESS.—It is with feelings of regret, I read in the daily papers that there is no improvement in the condition of the working men in our city. Work is scarce, and many families are feeling the pinching of hard times, while hundreds are daily pacing the streets in an unsuccessful search for employment. Now I hold that any person who can advance anything in the shape of a practical idea, towards the amelioration of this state of things, owes a duty to his fellow man, that he has no right to neglect, and therefore I pen this article, assuring all interested that I state nothing but facts, which I am ready and willing at all times to substantiate.

About four months ago, after laying idle for over two months, seeking employment at my trade in this city, without success; dispirited and sick, both mind and body, I resolved in my own mind to start into the country, and work at anything I could get to do. One thing was certain, if I went away, there was one less at home to eat up what provisions we had on hand, and my family would in this respect be gainers. Besides, once in the country without means, I would be obliged to have something to do or else subsist on charity, which is entirely unnecessary for an able-bodied person to do in this State. So with two dollars and a half in my pocket, I took the steamer for Napa, and having an observant eye constantly open for the chance, I secured a job from a gentleman who was a fellow passenger on the boat, to work on his farm at anything he wanted me to do; wages $1.50 per day and board.

Now be it known that for the past fifteen years I had never worked at aught save my trade, and never for less wages than five dollars per day; so that the change in my position gave me ample space for reflection, and helped materially to wear away the time, until I arrived at my destination. I worked ten days on this ranch, assisting at building brush fence, moving grain from an old barn to a new one and in general work, always busy, from about ½ past 5 A. M. until 7 and sometimes 9 P. M., before the chores were all done up. I found the work, taken as a whole, was not so hard and wearisome as working eight hours at my trade. There was a constant change; it was not the same thing over and over again; besides, the country air, and mountain water, with the change of climate, produced an elasticity and buoyancy in my whole system, so that I felt eager for work. They also gave me an appetite of which I was almost ashamed. At the end of ten days my employer kindly informed me that a friend of his, whom he had met that day, was building some new buildings, and was desirous to employ one of my trade to work on them; so he had spoken for me, and if I wished it, I could go next day and accept the situation. I did so, and for the past four months, have been on the tramp in the counties of Napa, Sonora and Mendocino; and the main purport of this communication is to assert that in each town or place which I visited in those three counties, from six to ten men who are willing to work at anything that offers, can find immediate employment. There are plenty of idle men, apparently, in all the towns; but they are of the class who are not much on the work. The pecuniary result of my trip was,—I supported myself, and brought home at the end of four months, a little rising $250.

To all who are out of employment, and low spirited. I recommend to go and do likewise. The natural exodus of all those who cannot find employment in the city, is the country, and once these stay there. It is no worse to be unsuccessful there, than here; you run no more risk, nor in my opinion not one-half as much, of starving in the country as in San Francisco, for the simple reason that almost anybody will give you a meal of victuals and a night's lodging in the country; whilst in the city, if you are obliged to ask it you come into competition with the class called bummers. Hundreds of men start out of this city, monthly, into the country seeking employment; if unsuccessful, the first day or two, they turn back in disgust, determined as they say, to get back to San Francisco before they get broke. Now they positively know there is nothing they can get to do in the city, and how it is any worse to be broke in the country than in the city, it is hard for my philosophy to realize.

To the mechanic, who is out of employment, more particularly if he has a family, I recommend ere he spends his last dollar to go into the country; there is less competition there; he can support his family for one-third of what it costs in this city; he can have a good enough house, with land enough to raise all the garden truck his family can consume, for from five to fifteen dollars per month; and if he can raise a cow and a few fowls, he is pretty nearly independent. A good cow will bring in from butter and milk about $30 per month. Now it takes $3,000, invested at 1 per cent. per month, to yield that amount; while a good cow only costs from $75 to $100. It requires more labor to keep a flower garden in good order, and to raise a few dozen roses and dahlias in the city, than it does to raise two acres of fruit and vegetables in the country. Go into the country anywhere from 50 to 100 miles from this city, and see how easy, almost indolently most people live. They do not have the pleasures and luxuries, the society, the amusements, the fine clothing and all the *et ceterus* of a city life; they are not to be had there; "and what the eye don't see the heart does not rue,"—they do not want them. In a simple, quiet way they lead a happy life, free from care, and all vexatious toil and labor. All their pleasures are simple and innocent; and although some are addicted to whisky, and bean poker, it is far easier to avoid such expensive temptations in the country than in the city.

If you cannot find work at your trade, you can easily find work at the time of putting in crops, and at harvest time; and as soon as you get acquainted with your new home, and your neighbors, you will find an abundance of methods to obtain constant employment; and to a man who has been accustomed to the treadmill of labor in a city—the same thing over and over again, week in, week out, year on year, he will find the change delightful, and the hardest labor mere pastime compared with the monotony of a hard working trade.

Of over one hundred of my acquaintances who have been compelled by hard times to flee this city for the country, during the past year, there are not over ten, but what I am assured have bettered their condition, and would not willingly return. There is but slight prospect of a return to prosperous times, for mechanics in San Francisco, for a year or two to come. The high rates of interest, and the combinations of moneyed monopolies are alone sufficient to retard its great progress. Add to this the tremendous, overpowering competition, in every line of business, and the prospect is anything but bright. On the other hand, a kind Providence having blessed us with a rainy season that could hardly have been more satisfactory to the farmer if he had brought the rain with his own hands, there is every prospect of an abundant season, a glorious harvest; and results can but be satisfactory to all who engage in it. Then let all who are out of employment hie way to the country, where health, content and, with time and patience, wealth awaits them.

Riding in the stage one day a month ago, in Sonora county, with one of the wealthiest and most enterprising business men of San Francisco, he declared he would rather have 200 acres of the splendid land we were looking at, under cultivation, than to possess the most flourishing business in San Francisco. If I have time, I will give some examples in proof of the assertions herein made. For the present I would say to all unemployed, think well of what I have here set forth. You are no worse off in the country, than in the city, while all your associations are there more healthful and beautiful. NIBS.

San Francisco, March, 1871.

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A FARMER never rightly understands his calling till he considers manure of first, not of secondary importance.

## HUMOROUS.

A BREAKING wave is the only thing in nature that is the most beautiful at the moment of its dissolution.

"WOMAN is a delusion, madam!" exclaimed a crusty old batchelor to a witty young lady. "And man is always hugging some delusion or other," was the quick reply.

BOSTON girls refuse to eat corn starch pudding, lest it might impart stiffness to their manners.

WHEN is a chimney like a chicken? When it is a little foul.

A MAN who says he will subscribe anon, very often proves to be a non-subscriber.

THERE is a man in town so knowing, that people who don't know their own minds, come to him for information on the subject.

THE vain man idolizes his own person, and here he is wrong; but he cannot bear his own company, and here he is right.

A SECRET is my slave as long as I keep it under; a secret is my master the moment it escapes from me.

LOVE is better than a pair of spectacles to make everything seem greater which is seen through it.

WHAT is the difference between a man who keeps dogs, and one who has nine walking-sticks? One owns ca-nines and the other nine canes.

TALK about big vegetables. There is a policeman in Oakland who has a beat a mile long.

NEVER.—Lobsters are built more for durability than speed. They never come ashore without getting into hot water.

A RURALIST, whose load of hay was found to develop several bowlders, remembered that he "druv pretty close to a stun wall" on his way to market.

"GO TO the ant, thou sluggard," is good advice, given on excellent authority; but now-a-days most sluggards prefer to visit their uncle.

NOT BAD.—An Albany damsel asked one of her fellow borders, a stylish drygoods clerk, at the breakfast table, "Why is your mustache like my hair?" He blushingly gave it up, when the answer caused him to blush still more: "Because it's all down!"

DUTCHMAN'S RECEIPT.—A German being required to give a receipt in full, produced the following, after much mental effort: "Ish full. I wants no more monish. John Swackhammer."

BUTLER has an eye on the British Lion. That lion had better look out. The eye is cocked.

A YOUNG gentleman asked a young lady what she thought of the "marriage state in general." "Not knowing, can't tell," was the reply; "but if you and I could put our heads together, I could soon give you a definite answer."

No matter how much desire you have to fight, never begin on a mule or a cross-eyed man. Their looks don't advertise clearly enough what they are going to hit.

"YOU are very stupid, Thomas" said a country teacher to a little boy eight years old. "You are a little donkey, and what do they do to cure them of stupidity?" "They feed them better and lick them less," said the arch little urchin.

## THE TWO VERSIONS.

An early morning adventure appeared to and was described by its hero as follows:

"I rose with the glorious sun, with my friend and host, and sallied out for an early sail on the lake. Every drop of dew on the grass, or tree or flower, was a sparkling gem 'of purest ray serene.' The air itself was an elixir, and the music of the early birds, with the soft fluttering of leafy boughs, was suggestive of the perfect harmonies of a sinless sphere. Too much entranced to be thoughtful or prudent, we embarked in a frail skiff which betrayed our confidence, and left us struggling amid the waves. We breasted them with "hearts of controversy," and reaching the shore, returned to our home before we were fairly missed, dripping like water gods."

His wife was less poetic:

"It was the most ridiculous adventure; they went out half dressed, without hats or coats, as if they had been scared from home by a nightmare; and put off, like a couple of dunces, in an old boat that leaked worse than a sieve. Of course it sunk with them, and they came home looking sheepish enough, and as wet as a drowned rat."

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness: 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | Daily Means of: Barometer Corrected. | Temp. Air. | Rel. Hmdty Satura'n 100. | Force of Vapor. | Amount of Cloudiness. | Therm.* Maximum. | Minimum. | Range. | Wind: General direction f'm which it moves, and the Forces. | | R'n† Gauge 50 ft. ab've surf'ce |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FEBRUARY AND MARCH. | INHS. | DEG. | ℉ C. | INHS. | 0–10 | DEG. | DEG. | DEG. | DIR-TION. | F'CE. 0–10 | INHS |
| Sunday.. 26 | 30.270 | 54 | 59 | .250 | 0 | 64 | 38 | 26 | N. W. | 2 | .... |
| Monday. 27 | 30.121 | 55 | 66 | .287 | 0 | 65 | 42 | 23 | N. W. | 1 | .... |
| Tuesday. 28 | 30.068 | 54 | 69 | .297 | 1 | 67 | 40 | 27 | S. | 2 | .... |
| Wedn.... 1 | 30.137 | 52 | 61 | .240 | 1 | 60 | 42 | 18 | N. W. | 4 | .... |
| Thurs.... 2 | 30.222 | 54 | 68 | .294 | 1 | 66 | 38 | 28 | N. W. | 2 | .... |
| Friday.. 3 | 30.239 | 54 | 70 | .300 | 2 | 68 | 41 | 27 | S. E. | 2 | .... |
| Satu'day 4 | 30.176 | 58 | 69 | .340 | 5 | 69 | 42 | 27 | N. & S. | 2 | .... |

REMARKS.—Saturday, March 4.—As shown in our wind column, March came in "like a lion," with a strong north-west wind, causing the evaporation of more rain in one day than fell during any rainy day of the season. With the exception of this one day, the weather has been genial, and spring progresses.

The following measurement of the rainfall in San Luis Obispo, has been communicated by Dr. W. W. Hays:

| | |
|---|---|
| 1870—October | 0.68 |
| 1870—November | 0.38 |
| 1870—December | 2.90 |
| 1871—January | 1.51 |
| 1871—February | 4.43 |
| Total for season | 9.90 |

In Monterey, according to Dr. C. A. Canfield, the rainfall up to date amounts to just 8 inches.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., March 16th.

FLOUR.—Heavy arrivals from Oregon have exerted a depressiug influence on the market. About 9,000 bbls. have arrived during the week, and other considerable lots are on the way.

We quote local brands, superfine, $5.75@6.00; extra, $6.87½@7.00. Oregon brands, superfine, $5.50@$5.75. Extra, $6.50@7.00.

Trausactions include 2,500 bbls. Cal. extra, 1,500 bbls. Oregon extra, and 3,000 do. California and Oregon superfine, for export aud private.

WHEAT.—The market continues exceedingly dull; foreign orders still below offers here. The receipts are small, and but little disposition is manifested to sell. Four cargoes only have thus far been dispatched the present mouth; but five are now loading. It is claimed that after the vessels now loading are dispatched, there will remain but 30,000 tons of wheat in the State—of which only 20,000 can be spared for export.

Sales during the week have averaged some 20,000 sacks, from $2.30@$2.42½. At the close we quote good shippiug at $2.37½@$2.42½.

The Liverpool market has declined 2d., and is now quoted at 11s. 10d. The continental demand does not seem to exceed the current supplies in Liverpool. New York rates are still continued at $1.70@1.75.

BARLEY.—Is still in limitcd demand, at about last weeks quotations. We quote, feed, $1,30@$1,37½. Sales embrace 9,000 sacks.

OATS—We note still a limited demand for oats. Extremes may be quoted at $1.50@1.70. Sales about 2,000 sacks; 450 sacks coast sold at $1.57½.

CORN—Quotable at $1.40@1.55. The receipts are about 2,000 sks. per week.

BUCKWHEAT—Nominal at $3.25@3.50.

RYE—In limited demaud. Last sale, at $2.20.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $27.50@30.00; MIDDLINGS, $35 for teed; $37.50@40 for fine. OIL CAKE MEAL $33.

HAY—Is in steady demand. We quotc ordinary to choice at $13.00@16.00 ₱ ton.

HONEY—Los Angeles, 5-gall cans, $12@16, and Porter's, 2 ℔ do, at $4 ₱ dozen.

POTATOES.—The receipts for the past week have been in excess of the demand and the market consequeutly heavy. Prices, however, have generally been well maintained, and more activity is manifested at the close. Sales include 400 sacks Tomales at $1.70; 2,000 sacks Humboldt at $1.80@1.87½. The present rauge of good quality of California is from $1.70@$2.00—the latter for choice Humboldt delivered on board of cars for the interior.

HOPS.—Demand light—prices nominal at 8@12½c. for California crop of 1870. Nothing new from the Eastern market.

HIDES—We quote Dry, slaughterer's stock, 16@17½ c; Salted, 8@8½c. Sales during the week 2,380 Cal. dry. The New York market is quoted as less active at an advance of half a cent. Cal. is quoted at 22@22½c., with leather in good demand and firm.

WOOL.—Receipts of small lots of spring clip still coming iu and selliug mostly on private terms. The local mills are the chief purchasers. Sales of some 10,000 lbs. are noted at 20@24c., at which rates we may quote; though as yet, no fixed rate having been established, we do not pretend to give reliable quotations.

The New York market is reported as less active but very strong, with moderate inquiry from mauufacturers. Holders are indifferent about offering, believing that higher prices will be reached before long. The clip is ready for the market. California kinds are in good demand at full prices; the stock light, and not of the best quality. Sales of 450,000 ℔s are reported at 21½ to 36, burry fall to fine spring; also 25,000 ℔s pulled at 25.

TALLOW—Transactions for the past week have been large, aggregating about 300,000 ℔s, largely on speculative account, at 7½@8c. ₱ ℔, latter figure for small lots of choice. It is said that there are three dealers in the city, whose combined stock approximates 500,000 pounds.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 6@7c., Alfalfa, 16c.

BEANS—Prices but little changed. Bayo at $2.25@2.75; butter, at $1.90 for small and $2.37 for large; small white, $2.00@2.25; pink, $1.50; red, $1.75; pea, $2@$2.25 per 100 pounds.

FRESH MEAT—In good supply and quotations but little changed. Beef has advanced, while veal has declined. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11½c ₱ ℔.
Do 2d do 8@ 9c ₱ ℔.
Do 3d do 7@ 8c ₱ ℔.

VEAL—The animals embrace more large calves than usual; prices quotable at 8@12c.—a decline of 2½c.

MUTTON—Steady at 9@10c. ₱ ℔. Some 2,000 sheep have reached this market during the past week from the lower coast.

LAMB—A lot of spriug lambs, the first of any account this season, have appeared in the market—quotable at 12½c.

PORK—Undressed is quotable at 6¼@7½c.; dressed, 10@11½.

POULTRY, ETC.—In good supply, and prices but little chauged. Youug Chickens $7@8; Hens $7.50@8; Roosters $7.50@8.00; Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame, $2.50@$3.50 ₱ pair; live turkeys, 18@20c ₱ ℔; Hare, $1.50@2.00 per doz; Doves, $1.00 do.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 27½@32½c. Eastern firkin 25@35c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California new, 10@14c., Eastern, 16@17c.

EGGS—California fresh, 28@30c.

LARD—California Lard, 11-℔ tins, 14@15c; Oregon, 14@15c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $1.50@$2.50; Oregou, $1.25@$2.50; Pears, per box, $1.50@$4.00; Oranges, per 1,000, $25@$45; Tahiti oranges $30 per M.; Lemons, per box, $12; Cal. Lemons, $3@4 per 100; Pears scarce, choice Apples plenty.

CASE GOODS—In 2 ℔ cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Pruues, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—There is at the preseut time a good demand for Mowers, and if the crop prospects continue favorable, Harvesters, Threshers, Reapers and other seasonable implements will be in active demand within the next 20 days. Stocks are said to be liberal, and prices rule low for all kinds of goods in this departmeut of trade.

BAGS AND BAGGING—The market remains quiet for all kinds. Wool sacks have all gone into second hands. The demand for Flour Sacks continues fair. Prices for most descriptions are more or less nominal.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 6½c; Oregon do, 7c; Languedoc Almouds; 25c; Figs, Smyrna, 15@20c; Prunes, Germau, 12@13c, for old and new respectively, ₱ ℔; Raisins, layer, $4.25@5.00; Currants, Zaute, 10½@11½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13½@14½c; Oregon do, 16½@17c; Bacon, Califoruia, 15@15½c; Oregon do, 15@15½c.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, March 9.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

| | |
|---|---|
| City Tanned | 26 @30 |
| Santa Cruz | 26 @30 |
| Country | 25 @28 |

CALF AND KIP SKINS.—Tbe close of the war bas made no difference in the price of French stock as yet, and probably will not. Domestic skins rule the same as beretofore.

| | |
|---|---|
| Best French Calf Skins, ₱ doz | 75 00@100 57 |
| Common French Calf Skins, ₱ doz | 35 00@ 75 00 |
| French Kips, ₱ ℔ | 1 00@ 1 00 |
| California Kip, ₱ doz | 60 00@ 75 30 |
| California Calf, ₱ ℔ | 1 00@ 1 00 |
| Eastern Wheel Stuffed Cal, ₱ ℔ | 80@ 1 25 |
| Eastern Bench Stuffed Calf, ₱ ℔ | 1 10@ 1 50 |
| Eastern Calf for Backs, perf'lb | 1 15@ 1 26 |
| Sbeep Roans for topping, all colors, ₱ doz | 8 50@ 13 02 |
| Sheep Roans for linings, ₱ doz | 5 50@ 10 07 |
| California Russet Sheep Linings | 1 75@ 5 35 |
| HARNESS LEATHER, ₱ ℔ | 30@ 02 |
| Fair Bridle, ₱ ℔ | 33@ 00 |
| Skirting, ₱ side | 4 50@ 4 50 |
| Welt Leather, ₱ doz | 30 00@ 50 40 |
| Buff Leatber, ₱ foot | 22@ 50 |

## San Francisco Market Rates.

WHOLESALE PRICES.—MISCELLANEOUS.

FRIDAY, March 17, 1871.

| | | | | | |
|---|---|---|---|---|---|
| Sugar, crd, ₱ ℔. | 14 @ 14½ | Hemp Seed, ₱ ℔ | 7 @ 9 |
| Hawaiian, do. | 9 @ 12 | Castor Beans, * | 4 @ 4¼ |
| Coffee, C R, ₱ ℔ | 16 @ 16½ | Castor Oil, * | 1 75 @2 00 |
| Rio, do | 17 @ | Linseed Oil | 1 05 @1 10 |
| Tea, Japan, ₱ ℔. | 55 @ 90 | Broom Corn | 3 @ 5 |
| Green, do | 50 @1 00 | Bees Wax | 27 @ 30 |
| Haw'n Rice, ₱ ℔ | 8½@ 9 | Peanuts | 5 @ 7 |
| China, do | 6½@ 7½ | Corn Meal, 100 ℔. | 2 50 @3 00 |
| Coal Oil, ₱ gal.. | 50 @ 60 | Onions, N. C. | 1 50 @2 00 |
| Candles, ₱ ℔ | 14 @ 18 | | |

RETAIL PRICES.—MISCELLANEOUS.

| | | | |
|---|---|---|---|
| Butter, Cal fr, * | 35 @ 40 | Map. Sugar, do | |
| Pickled, do, * | @ | Wool Sacks, new | |
| Or, pkld do * | @ | Second-hnd do | |
| Cheese, ₱ ℔ | 20 @ 25 | Wheat-sks, 22x36 | 13½@ 14 |
| Honey, ₱ ℔ | 25 @ 30 | Potato G'y Bags. | |
| Eggs, per doz | 35 @ | Deer Skins | 15 @ 22 |
| Lard, ₱ ℔ | 15 @ | Sheep sks, wl on | 50 @ 75 |
| Sugar, cr., 6½ ℔. | 1 00 @ | Sheep sks, plain. | 12½@ 25 |
| Brown, do, ₱ ℔ | 10 @ 13 | Goat skins, each. | 25 @ 35 |
| Beet, do, ₱ ℔s. | 1 00 @ | | |

PRODUCE, ETC.

| | | | |
|---|---|---|---|
| Flour, ex, ₱ bbl. | 5 50 @37 00 | Barley, ₱ 100 ℔s | 1 30 @1 35 |
| Superfine, do. | 5 50 @6 00 | Beans, ₱ 100 ℔s | 1 87½@2 50 |
| Corn Meal, 100 ℔. | 2 15 @2 35 | Potatoes, 100 ℔s. | 1 50 @2 00 |
| Wheat, ₱ 100 ℔s. | 2 25 @2 40 | Hay, ₱ ton | 10 00 @15 00 |
| Oats, ₱ 100 ℔s | 1 50 @1 80 | Live Oak Wood. | 10 00 @12 00 |

FRUITS, VEGETABLES, ETC.

| | | | |
|---|---|---|---|
| Pine Apples, † | 5 00 @9 00 | Dried Herbs, † | 25 @ 50 |
| Bananas, ₱ b'h. | 2 50 @5 00 | Egg Plant | @ |
| Cal. Walnnts, * | @ 20 | Garlics | 5 @ 8 |
| Cranberries, ₱ g | 75 @1 00 | Green Peas, ₱ ℔ | @ 20 |
| Cranberries, O, * | @1 00 | Green Corn, ₱ d | @ |
| Apples, No. 1, * | 4 @ 5 | Sugar Peas | @ |
| Pears, table, ₱ ℔ | @ | Lettuce, † bnchs | 12 @ 25 |
| Plums, dried, * | 15 @ 20 | Mushrooms, ₱ ℔ | 8 @ 15 |
| Peaches, dried, * | 15 @ 20 | Horseradish, ₱ ℔ | @ 20 |
| Oranges, ₱ doz | 50 @ 75 | Okra, dried, ₱ ℔ | 37 @ 50 |
| Lemons, ₱ doz | 75 @1 00 | Okra, green, ₱ ℔ | @ |
| Figs, dried, ₱ ℔. | 15 @ 20 | Pumpkins | 3 @ 4 |
| Asparagus, wh. * | 20 @ 25 | Parsnips, † bnchs | @ 25 |
| Green, do | 20 @ 25 | Parsley | @ 25 |
| Artichokes, ₱ d. | 1 00 @1 25 | Pickles, ₱ gal | 50 @ 75 |
| Brussel's sprts, * | 12 @ 15 | Rhubarb, ₱ ℔ | 12 @ 15 |
| Beets, ₱ doz | 20 @ 25 | Radishes, † buns | @ 25 |
| Potatoes | 2 @ 3 | Green Peppers, * | @ 50 |
| Potatoes, sweet, * | @ 5 | Red, do | @ 25 |
| Tomatoes, ₱ ℔ | | Stmmer Squash. | 6 @ 8 |
| Broccoli, ₱ doz. | 1 50 @2 00 | Marrowfat, do. | 4 @ 6 |
| Cauliflower, † | 2 50 @3 00 | Hubbard, do | @ 5 |
| Cabbage, ₱ doz | 3 00 @3 50 | String Beans | @ |
| Carots, ₱ doz | 10 @ 25 | Green Lima, shl. | @ 8 |
| Celery, ₱ doz | 75 @1 00 | Spinage, ₱ bskt. | 25 @ 50 |
| Cress, ₱ doz bun | 20 @ 25 | Salsify, @ bunch | 25 @ 12 |
| Cucumbers, † | | Turnips, ₱ doz | @ 25 |

POULTRY, GAME, MEATS, ETC.

| | | | |
|---|---|---|---|
| Chickens, apiece | 75 @1 00 | Lamb, ₱ ℔ | @ |
| Turkeys, ₱ ℔ | 20 @ 25 | Tongues, beef, ea | @ 75 |
| Ducks, wild, ₱ p | 50 @1 00 | Tongues, pig, ea | @ 15 |
| Tame, do | 1 50 @2 00 | Bacon, Cal., ₱ ℔ | 18 @ 20 |
| Teal, ₱ doz | 2 00 @3 00 | Oregon, do | 18 @ 20 |
| Geese, wild, each | 62 @ 75 | Hams, Cal, ₱ ℔. | 20 @ 25 |
| Tame, ₱ pair | 4 00 @5 00 | Hams, Cross' s c | @ 30 |
| From Chicago. | @ | Choice D'field | @ 30 |
| Hens, each | 75 @1 00 | Whittaker's | @ 30 |
| Snipe, ₱ doz | 1 25 @1 50 | Johnson's Or. | @ 25 |
| English, do | 2 50 @3 00 | Salmon, ₱ ℔ | 10 @ 12 |
| Venison, ₱ ℔ | @ | Smoked, new, * | 12 @ 15 |
| Quails, ₱ doz | 1 75 @2 00 | Pickled, ₱ ℔ | 6 @ 8 |
| Pigeons, dom. † | 3 50 @4 50 | Rock Cod, ₱ ℔ | 12½@ 15 |
| Wild, do | 1 50 @2 00 | Perch, s water, ₱ ℔ | 10 @12½ |
| Hares, each | 40 @ 50 | Lake Big. Trout* | 25 @ 75 |
| Rabbits, tame | 50 @1 00 | Smelts | 8 @ 10 |
| Wild, do, ₱ dz. | 2 00 @ | Codfish, dry | @ 10 |
| Squirrel, ₱ pair. | 25 @ 38 | Herring, fresh | @ 10 |
| Beef, tend. ₱ ℔. | 20 @ 25 | Sm'kd, 100 ℔s. | @ 75 |
| Sirloin and rib | 18 @ 20 | Tomcod | @ 25 |
| Corned, do | 10 @ 12 | Terrapin, ₱ doz. | 2 50 @3 00 |
| Smoked, do | 15 @ 18 | Mackarel, p'k, ea | @ 20 |
| Pork, rib, etc., * | 12½@ 15 | Fresh, do | @1 00 |
| Chops, do, ₱ ℔ | 12 @ 15 | Sea Bass | @ |
| Veal, ₱ ℔ | 15 @ 20 | Halibut | 62 @ 75 |
| Cutlet, do | @ 20 | Sturgeon | @ 4 |
| Mutton chops, * | 15 @ 18 | Oysters, ₱ 100 | 1 00 @1 25 |
| Leg, do | 12 @ 15 | Chesp. ₱ doz | @1 00 |

* Per lb. † Per dozen. * Per gallon.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, March 17, 1871

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 ₱ ton: Railroad, 66c ₱ 100 ℔s; Bar, 1@1½c ₱ ℔; Sheet, polished, 3c ₱ ℔; common, 1½@1¾c ₱ ℔; Plate, 1½c ₱ ℔; Pipe, 1½c ₱ ℔; Galvanized, 2½c ₱ ℔ | | |
| Scotch and English Pig Iron, ₱ ton | $34 00 | @$35 00 |
| White Pig, ₱ ton | — 32 | @ 33 00 |
| Refined Bar, bad assortment, ₱ ℔ | -- 03 | @ — — |
| Refined Bar, good assortment, ₱ ℔ | — 04 | @ -- — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @— 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | -- 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ ℔; Pig and Bar, 2½c ₱ ℔. | | |
| Sheathing, ₱ ℔ | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | — 22 |
| Composition Bolts | — 21 | — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX ₱ box | 12 00 | — — |
| Plates, I C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 10 00 | 10 50 |
| Banca Tin, Slabs, ₱ ℔ | — — | — 42 |
| STEEL.—English Cast Steel, ₱ ℔ | — — | — 15 |
| QUICKSILVER.—₱ ℔ | — -- | — 80 |
| LEAD.—Pig, ₱ ℔ | -- 06 | — 07 |
| Sheet | -- 09 | — |
| Pipe | -- 10 | — 11 |
| Bar | -- 08 | — 09 |
| ZINC.—Sheets, ₱ ℔ | — 10½ | — 11 |
| BORAX.— | — 25 | — 35 |

## List of Societies and Officers.

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LATE NEWSPAPER CHANGE.—E. M. Dewey, Esq., who was for several years connected with the *Messenger*, as editor and publisher, has recently purchased the Visalia *Delta* newspaper and job printing establishment, as we see by the figure bead of that journal. The *Delta* is oue of the keenest and sauciest little papers in the State. It has a well appointed job office, and under the able business management of its new proprietor, is bound to flourisb. We are pleased to notice tbat our old friend has again assumed tbe editorial tripod, and gladly extend to him the right ☞ of fellowship in our craft. If be succeeds in the *Delta* half as well as he did iu the *Messenger*, the people of Tulare county will have no cause to regret tbe cbange.—*Mt. Messenger, Downieville.*

VIRGINIA CITY, Nev., March 13, 1871.

MESSRS. DEWEY & CO.—Gentlemen: I hereby acknowledge the receipt of letters patent for Sulpburet Saving Macbine, procured through your Agency. At the same time, allow me to thank you for your care and skill iu drawiug up application, and promptness in procuring letters pateut on tbe same. Hopiug again soon to profit by your valuable Agency, I have the honor to remain, very respectfully yours, C. C. COLEMAN.


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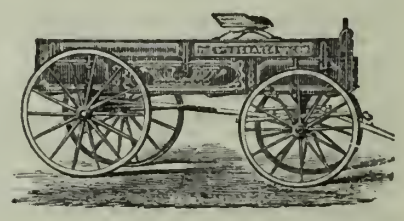

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1871. 1871.

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The following resolution was unanimously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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THIS is a most excellent paper and well worthy of support. The farmers and Agriculturists of the State, generally, should sustain and support it. In the publication of the "Rural Press" the farmers of the State are now supplied with a journal long needed by them. The lack of a farmer's paper in California had been frequently noticed, and the issuance of the "Press" has filled the void.—[Spirit of the Times.

ONE OF THE BEST and most experienced farmers in this county, tells us that The "Pacific Rural Press" (published at S. F. by Dewey & Co., and edited partly by I. N. Hoag) is the best agricultural publication, for the farmers of the Pacific Coast, that is priuted in the United States. Every number has contained matter of great value to the farmers of this part of the State.—[San Diego Union.

NEW PUBLICATION.—The "Pacific Rural Press" is devoted to the agricultural interests of the State, and from the extensive and reliable means of acquiring information possessed by Dewey & Co., through their correspondents, we have no doubt this paper will be, as its first number promises, a desirable acquisition to the farming public.—[Lower Lake Bulletin.

THE second number of the "Pacific Rural Press" is received and evinces much taste in its appearance. This new work is destined to be very useful to the agriculturists of California, and should be well sustained. Four dollars is the subscription price for one year.—[Oakland. Trans

YES, GIVE IT A TRIAL. This new publication is the best agricultural paper on the Pacific Coast. Our farmers will find it a valuable companion. It is issued by the publishers of the Scientific Press.—[Santa Cruz Times.

PACIFIC RURAL PRESS is in quarto form, printed on excellent paper and type, and is a first-class agricultural paper. Its merit entitles it to a large circulation, which we apprehend it will speedily obtain.—[S. F. Elevator.

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PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, MARCH 25, 1871. [Number 12.

## A PEOPLE ON STILTS.

In the low lands of France, to the south of Bordeaux, and especially in the "lands" of Medoc, is found a curious race of people, mostly shepherds, with many fishermen along the sea shore, who have adopted the curious custom of almost universally employing the device known as stilts, as a means of locomotion. Men, women and children are all alike accustomed to this style of going about. The children soon become so accustomed to it as to know no fear, and the women employ it as generally as the men.

The pictures of Rosa Bonheur have made the reading public quite familiar with the singular habits of the people of those countries. The first time that a group of these singular people is seen by the observer, a curious emotion comes over his mind, as of a strange prodigy. When they first came in sight, near the horizon, and are gradually lifted into view, they look much like gigantic crickets creeping slowly along, or making preparations for a spring. As they are observed near at hand, stepping listlessly about, handling with the utmost address the long stick which they use for a balancing pole, when they are moving, and as a rest for the arm or person when they are not in motion, they present a truly curious and unique appearance.

The individual herewith represented, has dropped his satchel and canteen by his side, and taken his seat on the end of his balancing pole, while his faithful shepherd dog sits by his side, waiting for tho word of command to gather up the sheep, if they stray too far. He has taken out his knitting work, which is always carried about by the shepherds, with which to make the most of their leisure hours, and is busy plying his needles, while his eyes are constantly cast about over the plain, watching the movements of his flock. As you approach, you will notice that he is dressed in well-worn sheep skin garments with flaunting hat, well calculated to shade his neck and face from the sun, or shed the water when exposed to the falling rain. Take him altogether, he is about as curious a looking human as one will meet with in traveling the wide world over.

Family and social groups of these weird-looking beings are often seen in great numbers congregated on tho sea shore, the old men and women and children watching the fishermen as they are hauling or setting their nets.

The origin of stilts is unknown, but it is probable that they were not in use before the middle ages, as ancient authors make no mention of them. In the language of the country we have described, they are called *chanque*, which would seem to fix their origin in the period of the rule of the English, deriving it from our word shank. Probably some inventive English mind gave them this serviceable mode of progression.

Perched on these borrowed legs, the shepherd watches over his charge, concealed, perhaps, in the brushwood, or crosses uninjured the marshes and quicksands, with no fear of being torn by thorns or dry twigs; while he can at any time double the speed at which he ordinarily walks. The women, who are invariably dressed in black, look like large ravens perched on dead branches. Whether this singular habit of locomotion has any effect on the character, cannot be decided; but certain it is that these people are distinguished by their wild, savage nature. They have a horror of strangers; and when they perceive a traveler coming toward them, they hasten to flee into concealment.

A SHEPHERD OF MEDOC ON STILTS.

Monstrous Yield.—The *Bulletin* of this city is responsible for the following: D. Perkins sends us from Sherman Island a sample of barley grown from a single seed. The "stool" contains between 500 and 600 stalks nearly four feet high. We never saw in this or any other country such a prolific growth from a single grain of barley.

The Los Angeles Orange Crop.—Contrary to the fears which were at one time entertained, that the Los Angeles orange crop would fall short of an average yield, the crop has proved good. Large shipments are being made to this city, and in spite of the influx of Tahiti oranges continue to bring remunerative prices.

Mustard.—A large quantity of mustard is to be sown in Monterey county, this season.

## HILL CULTURE OF WHEAT.

A correspondent of *Hearth and Home* gives the following in evidence of what may be accomplished by careful cultivation, even in wheat:

On the 10th of September, 1859, I planted one acre of wheat in hills two feet by one apart, put four kernels in each hill, and covered them with a hoe the same as Indian corn is usually planted.

I cultivated it with the hoe on the 15th of October, and again on the 10th of May, following with horse, cultivator and hoe.

The soil was loose gravel of poor quality, except a small portion from which a barn was removed several years before, and from which portion the following calculations were made:

| | |
|---|---|
| Number of hills per acre | 22,440 |
| Number (average) of stalks per hill | 77 |
| Number of stalks per acre | 1,636,120 |
| Number (average) of kernels per head | 77 |
| Number of kernels per acre | 126,135,240 |
| Number (average) of kernels per bushel of sixty pounds | 849,560 |
| Number of bushels per acre, according to above | 148⅝ |

Planting wheat on poor land is like planting any other crop on poor land, it will not pay.

Make your fields rich and I will warrant any man 150 bushels of most excellent wheat upon ono acre, if cultivated as above and the season be a good one.

There can be no question but that a more careful system of wheat culture, than is now employed, would give large returns over the increased cost thereby entailed. Dressing the land, either with barnyard manure or artificial fertilizers, and drill sowing and after cultivation, instead of broadcast sowing and no cultivation, are the means we would suggest for increasing the average yield of wheat in this State. We should be pleased to hear of experiments which have been or may hereafter be made in this direction.

Ramie—An Important Movement.—Some of our enterprising citizens have bought all the ramie roots in market; and they are now being planted for crops of fibre, near Hayward, Alameda county. Mr. Finch goes to New Orleans for one of Lefranc's machines to work it here. Planters in Louisiana seem to be entirely satisfied with this fibre dresser. It costs $500, and it prepares 500 pounds of fiber per day from the green stalks, at very small cost. This machine makes ramie the most profitable production for the farmer for several reasons, viz.: It needs but once being planted; and every year thereafter, it yields three crops, aggregating one and a quarter tons of fibre to the acre. The refuse, turned under, fully manures the ground. Interwoven with silk or wool, it makes what are called stuff goods, which are in great favor. We believe this company sets out 250,000 plants, which assures a firm footing for this new product in California. The plant, like others of the nettle tribe, has no parasites. It remains to be seen if gophers find it attractive.

Silkworm Eggs.—The stock on hand is greater than can be fed in this State; for our mulberry men have turned everything into eggs, neglecting the make of silk. The war in Europe has shut up our only market. This may be a benefit; for it will compel us, now, to turn our attention to making silk, which will be a permanent industry; while the sale of eggs would be, at best, of only limited duration.

In Japan there is also a surplus of eggs, for the same reason. A large consignment from that country is expected here, in a few days, and it is intended to induce all mulberry men to supply themselves, by low prices, and every manner of accommodation; including taking pay in the issuing product of cocoons. The eggs are consigned to James H. Van Read, and they are under government stamps, certifying the quality to be superior.

We may mention here that James Dale Johnston has ready for the press, a complete treatise on silk making; giving detailed instruction, which is very much wanted.

Shade Trees.—The Petaluma *Journal* is informed that over 200 shade trees—cypress, gum and pine, have been set out this spring in the fair grounds of the Sonoma and Miser District Agricultural Society.

Joseph Bassford, who resides three miles from Vacaville, it is said, picked ripe cherries from his tree on the 14th of February.

Pear Tree in Bloom.—A large pear tree in front of the residence of L. Howard, on Weber avenue, Stockton, is in bloom.

## MECHANICAL PROGRESS.

THE IRON PROBLEM.—The following is an extract from an article in Londen *Engineering*:—The percentage of sulphur and phosphorus in the pig iron still limits the applicability of the Bessemer process. "Invention after inventiou has been made for the purpose of effecting a purification in the Bessemer converter, but the results recorded have been total failures. There is one exception, however, with regard to one of the most recent patents taken out in this country, viz., Mr. Sherman's process of purifying iron by means of iedine. Experiments have been made which afford conclusive evidence that the desired effect can be produced under favorable conditiens, and it remains now to be found out how these conditions can be brought under the control of the practical metallurgist, so as to insure a similar favorable result at all times in ordiuary commercial practice. There is another patent which has the same purpose in view, taken out by Mr. James Henderson, of New York. The substance employed is fluerine. It is used in the form of fluor-spar for fettling the converter or furnace, and it is also combined with titanium or titaniferous ore. The action of fluor-spar upon iron containing phosphorus has been tried in the laboratory by eminent chemists, but the result was always negative, and therefore little hope is now entertained with regard to this patent. There remains one important field of research open as yet, viz., the production of steel direct from the ore. This at present is almost monopolized by Mr. C. W. Siemens. The difficulties which beset the road to progress in this direction are so great, and all the experiments require so great an amount of scientific knowledge and perseverance, that the problem seems to have been left in Mr. Siemens' hands by universal consent."

ANOTHER ELASTIC WHEEL.—*Engineering* for Feb. 17th describes an elastic wheel for traction engines, designed to do away with the costly rubber tires. We quote: "The wheel consists of a cast-iron nave formed in two parts, with a number of radiating sockets, each part of the nave having one-half of the sockets formed upon it, so that when they are bolted together the sockets shall be complete. Within the sockets are short tubes, the ends of which extend as far as the fixed periphery of the wheel, the spaces between the tubes being filled up to strengthen the construction. Within each of these tubes is placed a solid plunger, with a hemispherical outer end, the inner end being flat, and abutting against spiral springs placed within the tube; a pin passes through each of the plungers, and the ends play up and down in slots cut in the tube. The ends of the plungers are provided with an adjustable foot, which has, within moderate limits, a universal motion, and is kept in place by a pin passing through a double-coned hole in the end of the plunger. The feet are all linked together, sufficient play being left in the bolt-holes of the links to permit the feet to adjust themselves and take a fair bearing. By this arrangement it is expected that the sensitive-sole plates of the wheel should adjust themselves exactly to the contour of the road, form as perfect springs as do the rubber tyres, and regulate the amount of bearing surface according to circumstances."

NEW SIGNAL LIGHT FOR RAILWAY TRAINS.—We clip the following description from the Philadelphia correspondence of the *Iron Age*, March 2d:—"In the center of the roof of the rear car, over the rear axle, is placed a square lantern, with alternate panes of red and white glass. This lantern is connected by a shaft with the axle, so that eight revolutions of the axle produces one of the lantern. When the car stops the lantern of course ceases to move. Upon each side of the main lantern are two others, also connected with the axle in such a way that when the train is moving forward a solid red light is shown, and when backward a solid green light. The engineer of a train approaching in the rear can thus tell by these lights whether the train is moving or at a stand, and, if moving, in which direction."

UTILIZING TIN WASTE.—The *Iron Age* says:—"An American inventor has, we are informed, deposited at the General Land Office, at Washington, specimens of pig tin, bar iron and tin salts for chemical and manufacturing uses, reclaimed wholly from otherwise useless scraps of tin plate."

EFFECT OF COLD ON IRON AND STEEL.—In our issue of March 4th we alluded to the series of papers read before the Manchester Society upon this subject, in which the weight of evidence was in favor of the conclusion that reduction of temperature increased rather than diminished the strength of iron and steel. *Engineering*, in reviewing the subject, remarks:—"Practice says, 'Iron and steel do break more frequently when exposed to cold;' while theory, arguing chiefly from the results of experiments on tensile strength made by men of science maintains 'that cold does not affect the strength of iron or steel.' So far there is a direct contradiction; but we know that the term 'strength' is often used in very different senses. * * * There can be little doubt as to the effect of cold in diminishing the resistance to concussion and impact of iron such as is ordinarily employed in the manufacture of rails, and particularly of that in which phosphorus is present to any considerable extent. Steel, on the other hand, appears to be less affected in the manner just mentioned than iron, and it is daily gaining ground as a substitute for iron in cold climates. As to the effect of cold on the tensile strength of steel and iron, we fully agree with the results of experiments, such as those made by M. Styffe and others, which show that the power of these materials to sustain dead weight is rather increased than diminshed by cold; but it is difficult to establish any definite relation between tensile strength and resistance to concussion, and more particularly to the effect of numerous small vibrations."

STEAM PLOWING.—At a late meeting of the N. Y. Society of Practical Engineering, Wm. C. Oastler read a paper upon this subject, in which he takes the ground that "direct traction" steam plowing is an *ignis fatuus* which will never be grasped; that under any conceivable circumstances fifty per cent. of the duty of the engine will be wasted, even on level fields. We quote a paragraph from the paper, as reported in the *Artisan* of March 8th: "Absence of economy in cost per acre, consequent upon loss of time in turning the plow at headland; the loss of power and consequent loss of speed at which the engine has to pass over the land; the difficulty and consequent great cost of propelling an engine over or rather through the land to be plowed without reference to its nature or condition, are difficulties inseparable from and enough to make steam-plowing by locomotive traction abortive and unsuccessful; but apart from these mechanical difficulties, there are advantages derivable from the adoption of a correct principle that are not only altogether lost and made of none effect by direct traction, but the splendid results that have followed the rope-traction system are actually turned to a disadvantage. The weight of the heavy steam engine as it passes over the land compresses not only the soil that the plow would turn over in lumps, but leaves, underneath the depth to which the plow has penetrated, a crust or "pan," where water may rest after wet weather, to the injury and oftentimes the destruction of the young plant, the roots of which require moisture, but not a soaking of wet."

AN ENGLISHMAN ON AMERICAN LOCOMOTIVES.—Mr. Brunner, of Montreal, sends to *Engineering* an article on this subject, from which we make a single brief extract: "The cast-iron wheels form another distinctive feature in American practice. The small chilled cast-iron disc wheels of their engine, tender, and car trucks answer admirably well, being cheap, strong and durable at the same time; but, as regards the driving-wheels with hollow spokes and rim, they are, after all, but a primitive contrivance as compared to the solid wrought-iron wheels now manufactured to such perfection by the leading British locomotive makers, and especially by some Belgian and French firms. To turn out a really good wrought-iron wheel, special tools and appliances, and superior manual skill, are indispensable; and it is, perhaps, the lack of these that has prevented the Americans from making an attempt in this direction."

ST. LOUIS IRON MANUFACTURE.—*Van Nostrand* for March, says: The subsidiary iron works in and near the city, are increasing almost monthly. Including the bolt and nut works with a capital of $150,000, the various foundries, stove works, and other establishments, the capital so invested is not less than $5,000,000, with a yearly production of $9,000,000.

## SCIENTIFIC PROGRESS.

FAUNA ARGENTINA.—W. H. Flower gives in *Nature* for Feb. 9th, a summary of the first volume of the "Anuals of the Public Museum of Buenos Ayres"—the sixth number just completed, being the commencement of a new volume. This is to be a most valuable work. The field is extensive, and its present manager, Dr. Burmeister, the Director of the Museum, is a naturalist of note, formerly Professor of Zöology in the University of Halle. We quote a paragraph from the commencement of Mr. Flower's article, to indicate the importance of the work: "Few districts of the world are so rich in well preserved remains of an extinct fauna of remarkable and interesting character as the neighborhood of the city of Buenos Ayres. The immense alluvial plain of the Argentine Republic is the burial place of the Megatherium, the Mylodon, the Glyptodon, the Macrauchenia, the Toxodon, and many other strange forms of ancient life, whose bones are ever and anon restored to light by the crumbling away of the soft banks of the great rivers which flow into the estuary of the Plata. So abundant, indeed, are they that, as remarked years ago by Darwin, any line whatever drawn across the Pampas would probably cross the skeleton of some extinct animal. Collections of these fossils have at various times been sent to several European museums, and much information has been published upon the nature of the animals to which they belonged, but these observations have been generally made upon imperfect or fragmentary materials. * * * This work promises to be one of the most important contributions yet made to the knowledge of Mammalian zöology, for to this class is the publication mainly restricted. The parts already before us contain not only more complete descriptions than have hitherto been given, of many of the extinct forms mentioned above, but have also several admirable anatomical memoirs on rare or little known living forms, especially of the Cetacea which occur in the estuary of the great river Plata, and in the adjoining part of the Atlantic ocean, a field of research hitherto almost unexplored."

INSECT METAMORPHOSES.—The following is an extract from a new book reviewed in *Nature* by Alfred R. Wallace; an adaptation for English readers of M. Emile Blanchard's work on the above subject. The author is speaking of the parasitic hymenoptera: "All the parasites seek out a caterpillar, a larva, or an insect which suits their purpose, in order to lay an egg within its body. The larva which is born from this egg is nourished by the blood and fat of the victim, whose vital organs it does not touch or injure in any way; for were it to die, the parasite would come to an end also. It is only when the larva is nearly full grown, and is about to undergo its metamorphosis into a pupa, that it appears to know that the life of the victim is not likely to be of much further use. It then devours the internal organs of the unfortunate insect, and undergoes its transformation. The skin of the victim protects some of the pupæ of its destroyers after all the inside has been eaten. Nearly all, if not quite all, insects are subject to the attacks of parasitic hymenoptera. Fine, smooth, and brightly colored caterpillars often have a black spot upon their skin, and this is the healed wound of the ovipositor of one of the parasites. Sooner or later the creature is sure to die, and it never reaches the stage of growth when it can lay eggs or reproduce its kind, for before this time the growing larvæ within destroy it, as it were, by slow consumption. Some affected caterpillars die soon, others nearly reach their full growth, and a few undergo their transformation into the chrysalis state before death. It is, therefore, not an uncommon thing for a butterfly-collector, who hopes to see a fine moth disengage itself from its pupal covering, to be disappointed by the appearance of several little parasitic Hymenoptera that had been living within the chrysalis he has been keeping."

AN absolutely perfect galvanic engine, actuated by a perfect battery, would develop only about one-horse power per hour from each pound of zinc consumed in that time. Zinc is much more costly and less efficient than coal, weight for weight.

MICROSCOPIC STRUCTURE OF BASALT.—Dr. F. Zirkel, now of Leipzig, contributes to petrographical literature a small volume upon this subject, which is noticed by Arch. Geikie in *Nature* for Feb. 16th. We give a paragraph from this notice: "The second part deals with the general microscopic structure of basalt-rocks. The common notion regarding that structure has hitherto been that down to its minutest particles basalt is a crystalline rock, that its individual microscopic ingredients mutually impinge on each other, and that the difference between the structure, for example, of granite and basalt consists in little more than in the varying relative size of their component minerals. Prof. Zirkel shows that this notion, which has been founded on mere deduction and not on direct observation, must be changed. He finds that in the majority of the specimens examined by him, there exists between the most minute ingredients a more or less abundant substance, not individualised into crystals, but amorphous, acting like a cement, sometimes glassy in character, sometimes half-glassy, owing to the appearance of hair-like particles, and sometimes so as to present a confused aggregate of darker or lighter minute granules, needles, hair, and crystals. He regards it as hardly possible to doubt that this glassy base in basalt is the residuum of the original *magma* out of which the recognisable minerals in the rock crystallised, and that it furnishes us with a new proof of the igneous origin of basalt."

VIOLET A PRIMARY COLOR.—F. T. Mott writes *Nature*, Feb. 23d: "One more proof that violet is a primary. Place a hand prism between the eye and the sunlight so as to show the prismatic colors. Then held a sheet of yellow glass between the prism and the light, and observe the result. The reds and yellows are scarcely altered, the greens are very greatly intensified, the blues and violets are altogether extinguished. If violet had really any red in it the yellow glass, which does not stop the red rays, would change the violet to red, or would show at least some *trace* of red where the violet had been. Instead of this, the violet is totally stopped out, and the space which it occupied left dark. Wherever the secondary *pink* appears, this is changed to red by the stopping of the violet rays. The increased strength and brilliancy of the green shews clearly also the primary character of this color. It is usually much weakened in the spectrum by mixture with the far-spreading violets; when this is removed it comes out in full splendor. I commend this little experiment to amateurs; it is simple and interesting. The same effect is produced by throwing the colored spectrum on to a white wall, and holding the yellow glass between the prism and the wall."

REDUCTION OF NITRATE OF SILVER BY CHARCOAL.—C. F. Chandler, in the *American Chemist* for March: "When solid nitrate of silver, either in crystals or sticks, is placed upon glowing charcoal, deflagration takes place, the silver being left in the metallic state, while binoxide of nitrogen and carbonic acid are evolved. The nitrate is fused by the heat of the re-action and sinks into the pores of the charcoal, and as each particle of charcoal is replaced by metallic silver, the structure of the original wood is preserved. With proper management, pieces of silver of any desired size can be prepared, showing the exact structure of the wood. A crystal of nitrate is placed on the end of a piece of charcoal, and the blowpipe flame is directed upon the coal near the crystal to start the reaction. When deflagration begins, crystal after crystal may be added. The nitrate fuses, passes down through the porous metal already reduced until it reaches the glowing coal, where it is reduced. I have prepared in this manner lumps of silver weighing an ounce or more, which exhibit most beautifully the rings of the wood."

ARTIFICIAL PRODUCTION OF ALKALOIDS. H. Schiff has succeeded in preparing artificially the alkaloid coniin. This important discovery indicates the probability of our some day being able to make quinine, morphine, and the like by synthesis. By allowing alcoholic ammonia to act at 212° F. on butyraldehyd a body is formed, which, upon combination with platinum and subsequent distillation, yields an artificial coniin that is possessed of all of the chemical and physiological properties of the native alkaloid.—*Journal of Applied Chemistry.*

# CORRESPONDENCE.

## Notes of Travel in Stanislaus and Calaveras Counties.

[Written for the PRESS.]

### Knights Ferry and Vicinity.

Knights Ferry, county seat of Stanislaus county, is situated on the west bank of the Stanislaus river, in the foot-hills, 40 miles from Stockton. It contains about 800 inhabitants, and at this writing is as lively as any town in the southern mines. It contains two hotels, three saloons, five stores, three blacksmith shops, one wagon maker, one saddle and harness shop, two shoe shops, one tin shop, one livery stable, one feed stable, three law offices, two barber shops. Fifty pupils attend the public school daily, and a private school for girls is well attended. The apportionment of the county school fund is $6 per child (as per census of last year). This county paid into the State Treasury $30,000 last year.

Buenavista, (nick-named *Scohegan*), situated on the opposite side of the river, has one store, one saloon, one blacksmith shop, one saddle and harness shop, one public school, and one hotel, the latter kept by S. D. Dingley, who is proprietor of 204 acres of fine grazing land, upon which Messrs. Enslen & Dingley have 1,000 head of French and Spanish Merino sheep. The stallion "Messenger," owned by W. H. Martin of Knights Ferry, was foaled in this county; sire White's Messenger," dam Williamson's "Morgan mare;" is seven years old, 17½ hands high, and as fine a looking specimen of his kind as there is in the State.

One mile from Knights Ferry is a fine quarry of building stone of which the Stanislaus mills are built, the capacity of which is four run of buhr's. This structure is 44 x 44½ feet on the ground, 3½ stories high, cost $51,000 to erect, and is run by water power, (turbine wheel). The warehouse connected is 118 x 74 feet, with capacity of storing 3,000 tons of grain. D. W. Tulloch & Co. are the proprietors.

A fine bed of mineral paint exists in the vicinity of town, and one of the best water-powers in the State. The dam of the Stanislaus mills is built of red fir timber, and cost $6,000. A ditch on each side of the river, carrying the water at least 150 feet above the bed of the river, affords almost unlimited power to drive machinery. There is some talk of erecting woolen mills here. The foot-hills are full of sheep and wool is plentiful. This place has all the facilities of a manufacturing town undeveloped. South, south-east, and south-west, of Knights Ferry is a splendid tract of wheat land, and here may be found some of the largest farmers in the State. R. Threefall & Bro., six miles distant, have this year under cultivation some 10,000 acres,—all in wheat. The covered bridge across the Stanislaus river at this point cost $14,000, and is a fine specimen of workmanship.

### Items in Brief.

J. P. B. Hill, of Fourth Crossing, is the agent of a new idea for a sewing machine, known as the "Wilson Improved Shuttle Machine," with some four or five improvements upon the same. The principal peculiarity is a self-feeding needle. Strength and cheapness are also claimed for the same.

Wyllie & Washburn, of San Andreas, lumber dealers, make and market here some 500,000 feet of lumber of all grades annually. They own and run a steam saw-mill of 20-horse power on O'Neil's creek, some 18 miles east from here.

Disbrow & Holmes, of Mokelumne Hill, manufacture 10,000 gallons of ale annually. This has been their exclusive business for eight years past. Their ale is spoken very highly of.

The "Elongated Paddle Wheel," for steamboats, is the title of an invention by Wm. G. Depew, of Mokelumne Hill (invented February, 1868). He claims that from the fact of its being elongated, it has more propelling surface with a driving wheel of less diameter, and consequently diminishes the power necessary to do the same work. It neither splashes nor lifts water; the paddles revolve upon endless chains. It has the appearance of a very useful invention.

### Vineyards—Insects.

Charles Daclin is cultivating some six acres of a vineyard, one and three-quarters miles distant from Chili Gulch. By purchasing some grapes, in connection with what he raises, he manufactures 1,500 gallons of wine annually. While on a visit to this grapery, a few weeks since, Mr. D. showed me a peculiar insect, that he for the first time, had ever seen himself that day. He took it from the root of an apparently very healthy vine, noticing it accidentally while pruning. He claims to have had more or less to do with vines for many years, but says he never saw the like of this before. It is about one-eighth of an inch thick, and three-fourths of an inch long, has a small white head with two boring horns. Its legs and body otherwise resemble a scorpion on a small scale. He fears it will be very destructive. What is it? [Send us on a specimen preserved in alcohol, for determination.—EDS.]

A. Pillon (Flume House), 3 miles south of Mokelumne Hill, on the Stockton road, has a very finely fitted up vineyard of about 7 acres. He owns 160 acres. On the portion cultivated he has some 15,000 vines of different varieties, and besides what he uses for the table (he keeps public house) he makes some 2,000 gallons of wine and claret annually. Of the latter he makes a very fine article, if your correspondent is any judge.

P. Mariano, next adjoining, is cultivating about 6 acres of vines and making 1,000 gallons of wine annually.

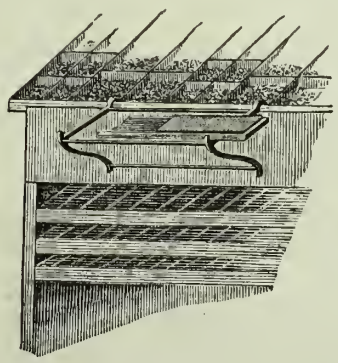
### Calaveras County Hospital.

This institution, situated at San Andreas, now bids fair to become a creditable concern. The building has heretofore been in a very dilapidated condition, but is now undergoing repairs which will soon be completed. Its management is under the care of Dr. E. B. Robertson, who appears to be thoroughly conversant with the direction of a hospital. During the quarter ending March 1st. 1871, there were 21 patients, of whom 5 were discharged cured and 4 died, leaving 12. Causes of death were as follows: Syphilis, 1; pneumonia, 1; Chinese leprosy, 1; consumption, 1. Natives of the whole number; United States, 9; Mexico, 3; Chili, 2; China, 3; France, 3; Scotland, 1.

Several remarkable surgical operations have been performed here successfully, of which in some future article I will speak at length. L. P. MC.

## A Printers' Proof-Galley Rack.

We illustrate below a simple device which, we believe, will be found exceedingly useful to the compositor. This is a proof-galley rack, which is adjustable to any case, without the slightest trouble, and which is shown in the engraving attached to a case, and with a galley placed



really considerable amount of time is saved.

This device is the invention of a practical printer, who ought to know what will upon it. (One end of the galley is broken in the cut, to show the construction better).

When a printer corrects his proof, he is now obliged to place the galley on the case, thereby covering up a number of the boxes, and thus interfering materially with his work. With this device no boxes are covered, the case is not wet, and a be of use. The patentee is Mr. H. H. Gale, one of the publishers of the Roseburg *Ensign*, a copy of which, now before us, impresses us very favorably with regard to its merits. We recommend printers to try the galley-rack, addressing for particulars Gale & Brother, publishers *Ensign*, Douglas, Roseburg County, Oregon. They are for sale in this city by Geo. L. Faulkner, agent California Type Co., Nos. 405 and 407 Sansome street.

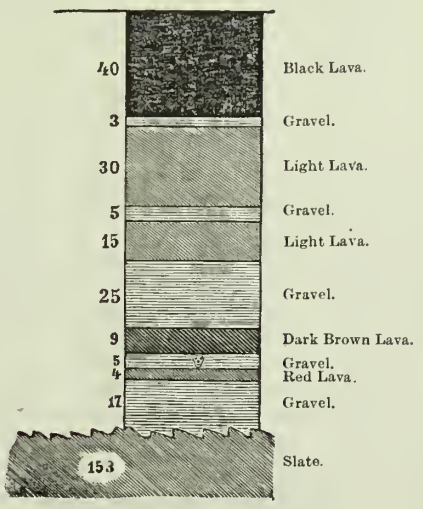
## The Famous Calaveras Skull.

Doubtless most of our readers have heard of the skull, said to have been found in a shaft, near Angel's Camp, Calaveras county, at a depth of 132 feet below the surface. This relic of by-gone times has created quite a sensation in the scientific world, and has been immortalized by verso, in the *Overland Monthly*, by Bret Harte.

The most important question connected with this skull is the truth or falsehood of the story with regard to the locality where it was found. If it was actually found as described and believed by Prof. Whitney, and under the accumulated strata shown in Fig. 1, herewith annexed, it is no doubt the oldest specimen of human remains yet discovered in any part of the world,—in

all probability antedating, by a long period of time, the famous "cave remains" of Europe; and must carry back the existence of men on earth many thousands of years anterior to the time generally fixed for his first appearance on this planet.

Discredit, however, has been attached to Mr. Whitney's account of its discovery, by reason of the various, and sometimes ludicrous, counter reports which have been put in circulation with regard thereto, and to its subsequent history. Without express-




ing any opinion as to the truth of either story, we give herewith a diagram of the different strata penetrated in sinking the shaft, near the bottom of which Mr. W. thinks the skull was found. We present the diagram obtained and forwarded to us by our correspondent "L. P. Me." The locality in the shaft where the find is said to have been made, is designated by a miniature representation of this skull, looking grimly out from beneath its accumulated and alternate strata of lava and gravel.

Fig. 2 is a faithful copy of a photograph of the skull, taken soon after its discovery. The writer was present when it was first exhibited to the Academy of Sciences in this city, and his recollection of it corresponds well with the inquiry herewith presented. We believe this interesting relic is still in the hands of some of our Eastern savans, a promised full report from whom has been now for several years patiently, though somewhat anxiously, awaited.

GUM ARABIC.—The Santa Cruz *Sentinel* recommends that the *Acacia Arabica* and the *Acacia Vera*, which produce the commercial article well known as gum arabic, should be cultivated as ornamental trees.

## Better Communication with Arizona.

The San Francisco Chamber of Commerce last week adopted a resolution to the effect that the mail facilities between this place and Arizona were totally inadequate, and urging the Postmaster-General to establish a semi-weekly mail. Judge Tweed and Gov. Safford, both of Arizona, addressed the Chamber concerning this matter. The subject was brought under consideration by a petition of a number of leading business firms of this city, which urges the necessity for prompt action, representing the danger that a large portion of the trade would be directed to the East, and concluded as follows:

Your petitioners also represent that the population of Central Arizona has nearly doubled in the past two years; that the farmers now raise, from the land cultivated in that section, nearly all the grain required by the Government for the use of the army cavalry and for local consumption; that the rich mining interests are being rapidly developed; that the ores from the Vulture mine are worked by a forty-stamp mill, crushing about 65 tons per day, and yielding yearly over half a million dollars in bullion; that the Big Bug mill is now in successful operation, working the ores from the Eugenia lode, and doing well; that the new placer mines lately discovered will furnish employment to a large number of miners, and that the recent discovery of very rich silver ores in the Bradshaw District will soon bring large numbers of miners to that locality.

Within the past year about three hundred farmers have located lands for ranches on Salt River, and in the month of January last about seventy locations were registered in the Land Office at Prescott, and as soon as the farmers can secure the crop now planted, there will be about three hundred more entries made in that land office. This branch of industry will be greatly increased this year, as the lands are rich, and plenty of water for irrigating purposes at hand.

We are advised upon authority we deem reliable that the mail matter now sent through this route averages fully five hundred pounds per week, and that the increased travel cannot now be accomodated by one stage per week.

A CONVENIENT FIRE-KINDLER.—Mr. John W. Still, of this city, has just patented, through the SCIENTIFIC PRESS Patent Agency, an improved material for kindling fires. The trouble often experienced in getting a fire to burn is sometimes quite serious, especially for young housekeepers. But here is provided, in very compact form, a most irresistible fire persuader. It consists of cocoa-fibre or redwood bark thoroughly saturated with pitch, rosin or other highly combustible gum, and in some cases with other substances. It comes in small cakes, one of which is sufficient to kindle wood or coal. It is light, clean, cheap, and serviceable. It is denominated "Coco Pino," and can probably be found in any grocery store. The principal depot for the article is that of J. W. Still & Co., Washington street.

PETROLEUM DEPOSITS are reported, by a Santa Cruz telegram, to have been lately discovered in the Soquel Augmentation Rancho, near the headwaters of the west branch of Soquel creek. The discovery was made by a party of hunters in observing the sickening effects produced by the waters of a spring from which they drank. A company has been formed for the purpose of working the deposits.

RECLAIMING TULE LAND.—The reclamation project in Yolo and Colusa counties, described and illustrated in the PRESS of Jan. 7, was brought to a successful termination on the 11th inst. The contract for the work has been successfully carried through, under the management of Charles F. Reed, Engineer and Superintendent. The labor of six hundred men has been required since October last, in the prosecution of this important undertaking, whereby 72,000 acres of land, heretofore useless, are now cultivatable.

SOME PASSENGERS.—It seems, according to a recently published pamphlet on the advantages of Oakland, that the Ferry Company carried over a million of passengers during the last year.

# FIELD CULTURE.

## HERBAGE AND FORAGE PLANTS.

The article which we published last week on the subject of "grass" had the effect of causing a gentleman who has over a third of a century paid more than ordinary attention to this important subject, to look up an article of much interest in connection with the subject, and which he assisted in compiling, for the purpose of illustrating a very fine collection of agricultural productions which were placed in the London Exhibition of 1851, and subsequently, for permanent preservation, in the Museum of the Royal Botanic Gardens of Kew, where they still remain.

We have been so much interested and instructed in the perusal of the paper that we feel persuaded the generality of our readers will be gratified to peruse at least a digest of its contents, as the entire paper would be too lengthy for our already overcrowded columns.

The instructive points to be derived therefrom consists mainly in the facts that so short a period has elapsed since the first step was made for the purpose of studying the more economic growth of the grasses which forms such an important source of agricultural wealth, and also that the British isles and subsequently other portions of Europe are indebted to America for at least two of their now most esteemed grasses—Cocks Foot, or Orchard Grass, and Timothy or Herds Grass. We are led to make the last remark in consequence of the gentleman above alluded to having verbally expressed to us his opinion that in California we possess varieties of the Festucas and Phalaric tribes, which, when combined with the above and an appropriate assortment of imported species, would form, according to the quality of land, on which they may be grown, meadows and pastures superior to anything hitherto witnessed, either in the Atlantic States or Europe. Moreover, the historical fact given in the paper above alluded to, with regard to gradual development in Europe of the knowledge of the cultivation and economic use of the grasses, will have direct bearing upon the series of articles which we propose to lay before our readers with the view of attracting more general attention, in this State to this important subject. The paper opens with the following

### Introductory Remarks:

"The culture of plants for the food of domestic herbivorous animals, has always been confined to nations distinguished by advancement in the practice of agriculture, and the other arts attendant on civilization; thus, we find that branch of husbandry to have been successfully practised by the Romans in the first century; and in the sixteenth, it was carried on extensively in the Low Countries, then alike famous for agriculture, manufactures, and commerce; whence it was, about the middle of the seventeenth century, introduced to Britain where its practice may be said to have served as an index to determine the progressive advancement of agriculture from that to the present time.

Although the Egyptians, Jews, Greeks, and other eminent nations of antiquity, bestowed considerable care on the culture of the cereal grains, pulse, flax, and various other plants, the products of which conduced to the alleviation of their personal wants, by affording either food or clothing; and although among many of these nations, the possession of flocks and herds was deemed indicative both of power and honor; yet it does not appear that the cultivation of plants, for the exclusive purpose of feeding these, was practised prior to the period when Rome swayed the sceptre over the greater part of the then known world, —when her warriors and senators enjoyed, in the culture of their lands, relaxation from the dangers of the battle-field, or the cares of the State; and when, according to an eminent agricultural writer of the age, 'the earth delighted to be plowed with a share adorned with laurels, and by a plowman who has been honored with a triumph.'

Then, in the times which immediately preceded the decline of that mighty empire, the Romans not only grew wheat, barley, beans, etc., for bread, but they also cultivated lucern, red-clover, vetches, lupines, fenugreek, and other leguminous plants, which they used both in a green and dried state for feeding their live stock, and for a like purpose they also employed the turnip and rape; while their horses and working oxen were further regaled with the ripened seeds of cerealia, as well as those of the bean, pea, and other leguminosæ. But throughout the barbarous ages which succeeded the ruin of the Roman empire, it may, in the absence of any definite information, be safely inferred, that, with the decline of agriculture and the useful arts generally, that portion in the practice of the former, which alone tended to supply the wants of the domestic animals, was the first to fall into disuse; and if the growth of clover, lucern, etc., was at all continued, it must have been so to a very limited extent, and that most likely confined to the countries where their usefulness was formerly most generally appreciated.

### England in the 16th and 17th Centuries.

In England, while hemp, flax, hops, and buckwheat, in addition to common wheat, rye, and barley, were, in the sixteenth century, reckoned common crops, yet the cultivation of forage or herbage plants was only commenced about the middle of the seventeenth century, with the exception of summer and winter tares or vetches, which are mentioned by the earliest writers on agriculture."

Red clover was sown in the Low Countries, in Italy, and in many other parts of Europe as early as 1597. Some fifty years later sanfoin, lucern and yellow clover are also referred to, and about which time the true grasses first began to be cultivated for hay and pasture. The field culture of turnips was also introduced about the same time. Rye grass was introduced, but soon condemned as an impoverisher of the soil. In 1707 cow-grass and white clover are mentioned, and parsley was sown, "which prevents the rot of sheep." Some were also said to have "made a great improvement in sowing the white mustard for the same purpose."

The next novelty, in 1725, appears to have been whin or furze *Ulex europeus*, "for feeding cattle;" followed in 1744 by wild tare, *Ervum hirsutum*, lady finger-grass *Lotus corniculatus*, and spurry, *Spergula arvensis*. Yellow lucern and burnet, *Poterium sanguisorba*, are mentioned in 1761; about which time Mr. B. Roeque is credited with having introduced *Timothy and Orchard grass from America*.

Timothy-grass, *Phleum pratense*, was first named in South Carolina, from its having been taken to that State by Mr. Timothy Hanson. We shall conclude these extracts next week.

## PLOWING TOURNAMENT.

### At Stockton, March 16th and 17th, 1871.

EDITORS PRESS:—I had the pleasure of being at the meeting of the President and Directors of the San Joaquin Agricultural Society, held before the contest began, at which all seemed to be high-minded, honorable gentlemen, dispelling fears of prejudice or partiality; and giving evidence that an honest effort would be made to deal fairly in the arduous, and too frequently unpleasant duty of umpires.

The place selected for the plowing was inside the Fair Grounds, where the earth was of a black adobe, hard tramped, and so dry that there was but little difference between it and a common public road. It was necessary to hitch from six to eight stout mules to a gang of two sulky plows, running about six inches deep, and twelve inches in width.

### Entrees and Trials.

The entries were A. Ellison, of Maysville, two gangs of sulkys, both being neat and strongly built, mostly of wood; but the expressions were that they were too heavy, and could not be elevated sufficiently in turning, or going from place to place.

Mr. Baxter and Mr. Matteson, of Stockton, both entered strong made gangs of from three to five plows each, to which they applied from six to ten mules, tearing up the ground rapidly. But nobody followed them "things," as there was no place to ride, even if they would'nt "buck." They were pronounced a good tool, however.

Mr. Ready, of Sacramento, entered a plain looking gang plow which was said to be quite a favorite in ground suitable to it; but the ground seemed too hard to keep it in.

Messrs. Matteson and Williams, of Stockton, had also some three sulky gangs, differing but little from each other; plain looking, yet said to be a little complicated, and the attachment of the plows to the draft upon the axel-tree not as good as some others; but their success in sales speaks well for them. [Their plow has been awarded the premium as the best.—EDS. PRESS.]

Mr. Walton's gang-plow from San Francisco, attracted considerable attention, and seemed quite a favorite; it was of easy draft, and neat workmanship; but some complaints arose from an appearance of complication in the manufacture.

Mr. McDonald, of San Francisco, entered a double plow, designed for two horses, and to be worked among trees and vines. It looked neat, and the impressions were that it would facilitate that class of labor.

Hill and Knaugh, of Marysville, entered one sulky for very heavy work, drawing a single plow that was designed to cut twelve or fourteen inches deep, and some sixteen or eighteen wide. Neatly got up, but the general expression was that it was too large to become a popular tool. Their other sulky gang was about the same as all the other gangs for width and depth of cut—from six to eight by twelve inches. It attracted much attention, and seemed the favorite. Its great strength, neatness and simplicity, and ease of handling, and back furrowing seemed complete. It looked beside others, as though it had been stripped of all but a tongue, wheels, plows, and a seat for the driver, expressly for the *races*.

### A Novel Innovation.

The Butler patent plow recently introduced into the State by Mr. Hicks, of San Francisco is a two horse plow, and a novelty. Its innovation upon all our preconceived ideas of forms of *mould-board* is so much at fault, that when looking at it like many others, we were ready to condemn it without a trial. It has a share cut, a straight land side and a straight mould-board, and remarkable as it may seem, turns its furrow well, and apparently runs much lighter than any other; two mules seemed to draw it as easy as five or six did any one of the gangs. It opened a splendid furrow.

There being no dyanometer on the ground, no accurate idea could be arrived at, as to the relative draft of the competing implements. The ground was so very hard that a single two horse plow stood but poor chance to be kept steady with the strength of the plow-man, while the gangs could be kept so by the weight of machinery.

### General Truthfulness.

I must here call attention to the thoughtfulness of Wm. Overhiser, who lives some four miles east of Stockton, and whose public spirit, made his services on this occasion equal to many common men. He brought some fifteen or twenty pair of large mules, and men to handle them, ready to aid, without compensation, any stranger at the exhibition.

Early in the day he discovered that a large crowd continually hung around the "Butler plow," calling it the "clap-board plow," and cracking sundry jokes at its long, lank appearance, and some offering to bet large odds against its turning a furrow. The owner of the plow seemed to have the same idea of Mr. Overhiser, that it should be held till all the balance had been tried, thereby holding the large crowd. The owner astonished the crowd as much by his reticence as to its merits as the "clap-board" itself did by its appearance. Toward evening the crowd became so impatient the men threatened to pull it themselves. When the team was brought to their aid, and the question soon solved. The ground was too dry to do good work, and he team, and teamster, were fairly submerged by the crowd. After it had been started, a gentleman who had been loud in denouncing it, gave vent, by saying "it is the best thing I ever saw for its looks." Well, it was astonishing, and like many other improvements after expending time and money in complicated making, mould-board concave and convex, we go back to a simple straight slab.

We understand that Messrs. Hill and Knaugh, of Marysville, will further test this new invention in the tules and other soils of Butte and Sutter counties.

### The Second Day,

the committee and the contestants received an invitation to visit Wm. Overhiser's farm, which was accepted. He took particular pains to feed the hungry plow-man, and his black-smith shop, feed, teams and hands were all at the services of his visitors, while his kind lady seemed to make all that sat at her large and well-spread tables as welcome as the invited guests of a tea party.

As the day closed all seemed willing to quit. When a vote of thanks was offered to the President, the Committee, and Mr. Overhiser, beside warm expressions of thankfullness that California could boast as great an interest in her agricultural implements, as in her fine horses.

With the very best of feelings the people parted and the first exhibition of the kind in California had proved a success. As the company bade each other "good-bye," each expressed his desire in strong terms that they might meet often in the future, on such occasions. The decision of the judges is awaited with much interest. OBSERVER.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

### FOR THE WEEK ENDING MARCH 7TH.

HOSE SPRINKLER.—William Anderson, San Francisco, Cal.

TOOL FOR CARRIAGE-MAKERS' USE.—Geo. Atkinson, San Francisco, Cal.

MACHINE FOR MAKING HOOKS AND EYES. Jeremy Taylor Ford, San Francisco, Cal.

SPRING FOR VEHICLES.—John R. Hiller, Woodland, Cal.

DOOR CLAMP.—Henry O. Hooper, Diamond Springs, Cal.

APPARATUS FOR BURNING HIDROCARBON OILS.—James R. Lee, Grass Valley, Cal.

BALE-TIE.—James E. Perkins, San Francisco, Cal.

WATER-CLOSET VALVE.—Alfred J. Smith, San Francisco, Cal.

GANG-PLOW.—James W. Sursa, San Leandro, Cal.

GRINDING PAN AND AMALGAMATOR.—Wm. H. Thoss, West Point, Cal.

SAFETY BRIDLE.—James Weatherhead, San Jose, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

HYDRAULIC TURNPIPE.—S. Adams, Michigan Bluff, Placer Co., Cal. This invention relates to an improved turnpipe or tube with nozzle attached, to be used for delivering a stream of water in hydraulic mining. The improvements consist in constructing the pipe near the nozzle in such shaped sections that, when put together, it will be convenient for handling, and well adapted for delivering the water. It consists also in a device for relieving the great strain exerted by the water on the moving joints, in order that the nozzle may be easily directed towards any desired point.

SULPHURET-SAVING MACHINE.—C. C. Coleman, S. F. This is an apparatus designed for saving sulphurets and separating them from the lighter matter which escapes from the mills or from sluices in ordinary placer or hydraulic mining. It consists of a large hollow revolving vessel, which may be cylindrical in shape, or may be slightly tapering, so as to be somewhat smaller at one end than at the other. This cylinder, or cone, revolves on a horizontal axis. On the inside is a spiral screw which causes the sand to move from one end to the other as the cylinder revolves, while the sides are cleared of adhering matter by a spray of water from a perforated pipe which extends through the cylinder from end to end. The inclination and arrangements are such that the sulphurets (which are introduced at the lower end), are discharged by the revolution at the upper end, while the lighter matter is washed out at the lower end.

# Agricultural Notes.

## CALIFORNIA.

Mammoth Clover.—Mr. M. Keller, of Los Angeles, has sent to the *Alta* office two fine bunches of burr clover, each of which is *four and a half feet* in length.

Monster Owl.—An owl said to measure 21¾ inches from the point of his beak to the end of his tail, and 4 feet 5 inches from tip to tip of his wings, was recently taken to the Sonoma *Republican* office. He was killed on Suisun creek, and is claimed to be a veritable Virginia owl.

A Queer Chick.—At the dairy ranch of Messrs. S. Hough & Son, near the head of San Pablo Creek, one of a brood of chicks hatched out a few days since was found to have three eyes, two in the usual position, and one in the center of the forehead, two bills, and other double or triple organs. Mr. H. has bottled it up in alcohol for the inspection of the curious.

A Queer Pup.—The Oakland *Transcript* says that a black and tan slut, belonging to Henry Brown, on Telegraph road gave birth to a five-legged pup. Brown was considerably astonished by the discovery. The animal was perfect in other respects.

Three California Lions were recently killed about 12 miles east of Livermore, by poisining the carcass of a colt with strychnine.

A Big Goose.—Charles Brumfield, of Sonoma county, killed a wild goose one day last week that weighed eighteen pounds, and measured seven feet and three inches from tip to tip of the wings.

A Big Egg.—An ambitious hen belonging to Mrs. Jas Demont, of San Leandroe recently laid an egg which measured 7½ inches one way, by 6¼ the other.

A Bigger One.—Master Max Wolf has seut to the Healdsburg *Flag* a hen's egg that measured 7¾ inches by 6¼ in circumference.

The Chico Grain Fields.—The Chico *Enterprise* of March 11th says;—"The grain fields in and around Chico present at the present time a graud spectacle of lovely green, and in many instances are further advanced than the farmers care about. We understand that some of the most forward fields will require to be pastured down to keep them back to enable it to properly fill.

Wheat in Salinas Valley.—The editor of the Salinas *Standard* of March 10th is informed that the "stand" of yearly grain in that valley is more regular and unbroken in appearance than has been seen for several years before. Up as far as the "Deep Well," 15 or 18 miles above Salinas City, the entire country, except the Jacks and Spence ranches, is covered with the thrifty young grain crop. In and about Freeman's valley the prospects are reported to be equally as good, and the settlers are in excelleut spirits.

The Grape in El Dorado County.—A correspondent of the Sacramento *Union* says that more grape vines are being planted out in El Dorado county this year than ever before. Farmers begin to say that there is money in grapes at $20 per ton. What will pay better, when they can obtain from three to four tons from the acre, and that for an indefinite period?

The same correspondent says that grape brandy is now much sought after in the Eestern market. J. W. B. Dickson, of that county, shipped two car loads of brandy and wine to his brother, in Pennsylvania, last fall. As a result, he now has orders which it is doubtful if he can fill, even at a price consideraby in advance of that paid for the first lot. Mr. D. estimates that there will be 8,000 gallons of grape brandy manufactured in that county this season, besides that produced by Mr. Bugby.

Tule Farming.—The Vallejo *Chronicle* says that tule farming will be a success this season. Twitchell Island has 1,000 acres put down in wheat, and Sherman Island 8,000 in wheat and barley, 3,000 of which is volunteer.

Meeting of Stock Raisers.—The stock raisers of Amador county are called upon to meet in Inyo City an next Saturday, the 25th inst, for the purpose of organizing for the mutual protection of stock.—*Amador Dispatch.*

The Early Rose.—Mr. McKay, living on the trail between Coloma and Placerville, planted 27 pounds of the Early Rose potato, on the 15th of May, last year, and in eight weeks from that date he had new potatoes, and in nine weeks from planting dug 490 pounds. A very little irrigation only was employed.

Beet Sugar in Santa Barbara.—The Santa Barbara *Times* says:—"We have seen a letter from Mr. E. H. Dyer, a gentleman who was the moving spirit in the Alvarado Factory. He says that he will build a factory here of the same capacity as that in Alameda, at a less cost, and furnish a first-class man for the first year after the factory gets into operation; will agree to get $2,000 of the stock subscribed, and more if desired. He says he will guarantee the investments to pay more than 25 per cent. per annum the first year, if there is judicious management, and that the second year will pay 50 per cent. He also says that seed can be procured for the present year's crop.

In a snbsequent letter to the *Alta*, explanatory of the above, Mr. D. says: "That no one may be misled by these statements, I will say that my estimates were not based upon the results obtained by the California Beet Sugar Company, located at this place, but upon certain representations made to me by parties in Santa Barbara, setting forth that fuel and first-class vegetable land, that could be planted as late as July, could be obtained at that place at about one-fourth the same it would cost in Alameda. That, of course, would make a great difference in the cost of manufacturing beet sugar, as fuel and land are the greatest items of expenditure. I believe that beet sugar can be manufactured with profit in many places on this coast, but great care is necessary in the selection of proper soil, as the percentage of saccharine varies greatly on different soils. One per cent. more or less of saccharine in a lot of beets would make a large profit or loss, as the case might be, the per centage of saccharine in beets being so very small. Beets polarized at the Alvarado factory, raised in different parts of the State, vary often six per cent. in saccharine matter."

Beet Planting in Alvarado.—The Alvarado Beet Sugar Company commenced planting their beet seed early in February, and many of the young sprouts are already above ground. Last year the planting commenced about the middle of April, more than two months later than this season. The seed is put in where the beets are to grow; there is no transplanting. The land is ploughed a foot deep, well pulverized, and the beets are to stand in rows fifteen inches apart and eight inches apart in the row. The best beets are those grown on light, rich soil; the worst on heavy alkaline soils.

Maccaroni Wheat.—The *Central Californian* of March 8th says: "S. Baker, who lives about four miles above Hollister, brought to our office, the other day, a sample of wheat he called maccaroni wheat. The grains were about three times the size of those of common wheat. In France this kind of wheat is ground into flour; here in California aud other parts of the United States it is used for maccaroni soup. Mr. B. informs us that he has about thirty acres of this grain sown on his place, and that its yield is much greater than that of common wheat. A Mr. Nash, a year or two ago, sowed fifty pounds of this grain somewhere in Santa Clara valley, and it yieided him fifty sacks. If the thirty acres which Mr. Baker has in does well it is his intention to sow more next year. There is a mill in San Francisco preparing it for use.

Remarkable Growth.—Samples of barley were plucked near Empire City, on the Tuolumne river, on the 16th inst., which were over four feet in length, and fully headed out—the grain fully formed, and in the stage known as the milk. In two weeks longer, such grain would become hard, aud in a rapid process of ripening. The field was undoubtedly sown early, has received the fullest benefit of all the rains, and shows the benefit to be derived from early sowing. The drouth, even if it comes, cannot injure that field.

Prolific Barley.—Mr. B. B. Mundey has a fine field of barley on his ranch, near the Sonoma mountains, many of the stalks from which measure twenty-five inches in height. The field, which contains fifty-two acres, was sown early in January. This growth is hard to beat.

Fruit in the Northern Counties.—The prospect of an abundant fruit crop in the northern counties was never more favorable than at the present time.

Value of Grapes for Wine.—Mr. B. N. Bugbey, the well known wine manufacturer of Folsom, says he can afford to pay $25 per ton for grapes delivered at Shingle Springs, several miles distant from his wine cellars; and he considers them worth $50 per ton when at his place in Folsom.

Crops and Stock in Capay Valley.—A correspondent of the Woodland *Democrat* writes as follows:—"Crops look as fine in this section of the country as I have ever seen them any year in the past. Upon the ranch of Walton & Tabor, in this valley, may be seeu two hundred acres of wheat that will average one foot in hight, and just so on many other ranches. C. V. Fowler, C. W. Davis and P. G. Everett are about the most extensive farmers in our valley.

I noticed an item in your paper of March 4th, about "Yolona," the beautiful daughter of "Norfolk." Upon the ranch of W. Lambert, in Capay Valley, may be seen one of the finest specimens of the horse kind, a son of the noble "Norfolk." He is a beautiful sorrel, weighs 680 pounds, and will not be a year old until May next. For beauty and activity he is unsurpassed. Mr. Lambert expects to see the day when "Veto" will be second to no "Norfolk" colt.

Disease Among the Horses.—The Chico *Enterprise* of March 11th, says there is a disease prevailing among the horses and mules in and about Colusa, which is very fatal. Mr. Gupton, of the Glen farm, has already lost five fine animals by this disease.

Wine Making in Nevada.—The *Territorial Enterprise* of the 12th says: We have received samples of wine of various kinds manufactured in this city by Mr. Andrew Milatovich. In making these wines the grapes were not pressed—being merely broken up by the pressure with the hands and no addition of any kind was made to the pure juice of the grape. Good judges say that the wines thus manufactured in this city are much superior to the wines made from tbe same grapes iu California. Our climate is said to be more favorable for wine making than that of California. Tons of grapes are now used in this city every fall in the mauufacture of wine, principally by Germans and Sclavonians. In a number of saloons all the wine sold is made in this city from grapes brought from California.

Growth of the Pepper Tree.—In Los Angeles there is a pepper tree grown from a seed planted three years ago, the trunk of which measures over eighteen inches in diameter.

Sold.—The Dakin Rancho, on the coast road, about one mile and a half from this city, has been sold to San Francisco parties for $14,600.

## OREGON.

Heavy Rains in Oregon.—Our neighbors to the north appear to be abundantly supplied with water. Dispatches to the associated press of this city, of Monday last, report that the low lands about Albany are more deeply flooded than at any time since 1862. The track of the Oregon and California Railroad was nearly six feet under water at Moss Meadow, near Oregon city. Navigation was very much impeded, while the river bottoms were impasssible by reason of the overflows.

The high water prevailing everywhere in the Willamette valley, greatly interferes with the transportation of supplies.

The wheat market is reported quite active. Buying price for white wheat, $1.17½; red, $1.12½; selling by jobbers, sacked white, $1.25; red, 1.20; flour, extra, $6.50; superfine, $5.50 @ $6.00.

At Eugene city, March 18th, heavy rains were reported for the previous two weeks, and the whole country round about was flooded. No communication to the north of that city for the previous three days. The water was only three feet lower than on the year of the great flood.

Importation of Thorough-bred Stock.—The Willamette *Farmer* urges upon the people of Oregon the importance of organizing a society for the purpose of procuring some of the best stock—horses, bulls, cows, sheep, hogs, etc., either from foreign countries or elsewhere. The same advice is also good for California, or any other State. The societies are got up in the following manner:

An amount of money is raised by subscribing to stock—one man takes ten, another five, etc., as each is able or willing. The money so raised is put in the hands of some trustworthy man, who is a good judge of stock, who goes abroad to make the purchases for the company. He returns with the stock purchased; which is fed for a few weeks, and then sold by auction. The amount of profit is divided among the stockholders, and the amount of their stock is applied to the purchase of animals, if they choose to make a purchase. Usually there is a handsome profit in this operation, and it certainly would have the effect of bringing valuable stock into the country.

Stock Dying, in Douglass County.—We see by our Douglass county exchanges, that cattle, sheep, and hogs, are dying off in that county for want of food. This is almost invariably the case there. The abundant summer range for stock, enables the Douglass county farmers and stock-raisers, to keep an almost unlimited amount of stock during the summer, but little provision being made for winter, they annually lose enough through sheer starvation to nearly pay their taxes, if the same were taken care of and sold at the usual spring prices. Economy, without regard to the suffering of the starving stock itself, cught to cause them to make a more abuudant provision for their winters there, which are characteristically variable and uncertain.—*Oregon Sentinel.*

From Josephine County.—A friend writes us from Josephine that the debt of that county has been reduced to less than $3,000, and that it is the intention to pay it all off this year. He also informs us that there is ample range in that county for 100,000 head of stock, and a large importation is expected this season. It seems to us like folly for our stock raisers to go off east of the mountains in search of grass when there is such splendid openings in an adjoining county, and that too, where their stock is not so likely to be killed off by hard winters and snow storms. —*Plaindealer.*

Yamphill county, Oregon, boasts a calf thirteen months old which weighs over 1,400 pounds.

The Lima Bean is being introduced into Oregon. This variety is said to be the richest and best bean that is grown.

## MISCELLANEOUS.

Beet Sugar in Colorado.—The Colorado *News* gives a very interesting account of steps taken toward securing a beet sugar manufactory in Colorado. It seems that the Chastworth, (Illinois), sugar works are to be removed to some more available locali y. Two offers have already been made for securing the machinery, but other things being equal, the desire is to bring the works here (Denver). At Chastworth, the work commences about the 1st of September, continuing till the middle of March. It costs there $2.38 per ton, to grow sugar beets. Here this crop could be made of all, the most profitable to the farmer. It could be made here, to pay interest and expenses, at about 6¼ cents per pound. A committe has been appointed to procure further statistics and solicit subscriptions, to induce the works to locate in Colorado."

Eggs for New York.—Large quantities of eggs for the New York market are raised in Ohio, Indiana and Illinois. It is said that at Cardington, 96 miles south of Cleveland, Ohio, more eggs are packed for the New York market than in any other town in the West. A writer says: "I visited one cellar where they had 33,000 dozen of eggs in the pickle, and another establishment had 38,000 dozen in the pickle. About 1,500 barrels were shipped from that town to New York in November.

Benefit of Subsoil Plowing.—The *Western Farmer* gives an account of a farmer who bought a field which had been plowed for twenty successive years, with a soil only four or five inches deep. He applied a subsoil plow, running it fourteen inches deep, run it the other way, and harrowed it twice, with an interval of a few days, and had his ground broken up without the aid of an ordinary plow. At one time he marked ground for corn by running a subsoil plow fourteen inches deep, both ways at proper distance, and planting at the crossings, he had a good crop notwithstanding a severe drouth.

Farmers, if you fail to plant out your orchards this spring, you will lose a year! That is somthing of an item in a man's life.

Experiments have been made in France to ascertain what element it is in gas which causes it to be so destructive to trees near which it passes. The hydrogen and the carburetted hydrogen do no harm, but the tar element, and especially the carbolic acid, does the mischief.

It is said that the arid portions of Eygpt formerly desolate and sandy, are now well wateredw ith rains where forest trees have been planted. This planting has been done at government expense.

# HOME AND FARM.

## FARM-HOUSE CHAT—NO. 2.

In an odd number of *Hearth and Home*, I read with much interest, Mrs. Kate Hunnibee's Diary and Report of the Housekeeper's Club. Their discussion was to be "Plans for Kitchens;" and that has set me to thinking. Did they talk of city kitchens, village kitchens or farm kitchens? Doubtless they ventilated them all most thoroughly—compared the merits of all sorts and sizes of this desirable article and "run up" several "loves of kitchens" with a skill and speed familiar only to practiced builders of air castles.

How well I remember my first astonished introduction to a city basement-kitchen. How close, and crowded, and dingy it seemed in contrast with the one in which I had my "bringing up"—the wide and cheerful farm kitchen, whose floor of white maple was so sensitive as to spotlessness that the least movement of a chair was sure to "make its mark."

The purity of that floor was my mother's pet hobby, and afforded for herself and daughters a task almost as endless and hopeless as that of ancient Sisyphus; for large families were fashionable in those days and when my mother counted her flock "we were eleven"—twenty-two feet making countless tracks upon that immaculate floor! Childish memories of it are pleasant enough; for in fine weather we were sure to be let out to play a long time, that the process of purification with hot soap-suds might be carried through, to the final triumph of restoring each chair to its allotted place by the wall, and allowing the performer of this sacred rite to rest upon her laurels and remember the rapturous exclamation of a neighbor who once entered just in the nick of time with—"bless my heart! why, your floor looks good enough to eat my victuals off from!"

But time went on, and my own muscles were made familiar with broom and mop. Then it was I began to learn the secret of premature wrinkles, and take my first lessons in the fine art of scolding.

Big brothers, with awful boots, were sure to want something when that floor was wet. Busy, heedless little feet were sure to come pattering just at the critical moment, and away I would run again with aching arms and ready mop to efface the offending tracks.

Returning to the early home, after a lapse of years, I was glad to see the pride of whiteness extinguished by a coat of spruce-yellow; yet how strangely familiar was each old crack, smooth-worn knot, and the seams of the "new floor" laid in the south end, where once glowed the old-fashioned fire-place and high brick oven. What a marvel to us youngsters was the first stove that entered the old kitchen, and what a vexation to our mother, whose conservative notions were all at war with the march of improvement, which to her seemed bold and aggressive; but from this present stand-point looking back upon years filled with the rush and roar of triumphant progress, how slow and clumsy seem those first timid steps!

That pioneer stove was called the "rotary"—for its whole top went round and round on little wheels, thus placing any needed part directly over the fire. No nicely adjusted stove-furniture was made in those days, but each orifice was furnished with plenty of "rimmers" to accomodate all sizes of pots and kettles that had heretofore been used in fire places.

A long time yet, after the advent of the stove, the kitchen witnessed the whirling of spinning-wheels, little and big, and the annual setting up of the huge, old loom, among whose beams was endless delight of clambering and jumping for the children, except when the shuttle was flying, and we watched with longing eyes the growing web that promised new gowns or coats for the coming winter.

I can almost live over again the pride and joy we had in making and wearing the first bright web of plaid flannel. It was the invention of my eldest sister—a daring innovation upon the general usage of weaving the cloth in white, which was then colored a uniform tint of red, wine-color or blue, and sent to the fulling mill to receive the finishing touches.

From first to last we had all shared the labor that led to this final triumph of home manufacture. Little fingers and large had done their nimble best in the picking, assorting and cleaning of the wool; the spinning, reeling, coloring, spooling and warping of the yarn; the hanging of the web—a most exciting epoch—and then the pretty work of quilling, to keep the supply of bobbins, while the patient sister wove from three to four yards a day of the lovely red and blue plaid!

What a joyful time again when the loom gave its last clang—the fastenings were cut and all took merrily hold to draw the cloth from the great rolling-beam and send it off post haste to the fulling mill. Home it came in due time, nicely pressed, shining, soft and warm.

Then the good sister, who seemed to know everything, took the big shears and cut out six or seven gowns all just alike except as to size. How lifted up was I when allowed to help at the sewing—how downcast when laughed at for making a big star of coarse thread to fasten the end of each seam!

But the day of days arrived with the opening of school, when we trotted out our finery for the envy and admiration of the wine-color girls who had triumphed over us the preceding winter. They rallied the second day, however, and began to brag of still more daring achievements in the flannel line, that should be carried through the coming season. Thanks to the skill and industry of those primitive days, the wheels of time were not more prompt than they, in "coming out" in such dazzling array of many colors as quite put to shame the glory of our plain red and blue.

Why did not some of us preserve a sample or two of those home-made garments of the by-gone age? We shall never see their like again—never hear again the hum of the big-wheel, little-wheel and quill-wheel—the clang of the loom or the squeak of the old-fashioned "swifts." We remember with amazement the amount and variety of work that was done year after year in the homely old kitchens, and—with a glance at our sewing-machines that make short work of countless yards of "store-goods"—we vaguely wonder "How in the world did our mothers and grandmothers manage to get through with so much work?"

There is an old song, dim in my memory, with this refrain—

"For times are not now as they used to be then."

All who stand on the vantage ground of middle life can remember the quiet slowness that distinguished pre-railroad existence; but I can only touch upon it now as affecting life and labor in the country kitchen.

*Firstly*—No fashion cook had ever entered there; nothing so wonderful had ever been seen, neither had it entered into the imaginattion to conceive such rapidity and variety of "change" as doth worry and enslave the woman of the period.

Garments were simple as to construction, durable as to material, perennial as to fashion, that is, the handsome gown, coat, bonnet or cloak, was perfectly respectable through all its years of service, and by no means despised or forced to hurried alteration after its "cut" had clearly gone out of date.

The mother, with hands and heart full of growing children, could go to "meeting" in her ten-year-old silk or broadcloth with no fear of encountering ridicule or ill-natured sneers. Mrs. Grundy had not dawned upon the horizon of country life.

*Secondly*—Housekeeping, in all its details, was simple and consumed but a small portion of the hours allottes to work. There was no great amount of furniture to take care of—no great variety of dishes to be cooked—food plain, wholesome, easily prepared—no temptation to indulge in luxuries for they were almost unknown.

So our problem approaches solution, as we remember that the health of the mother was never impaired by a highly concentrated diet, and though her constant labor often involved great fatigue, her "nerves' were in prime condition and seldom flurried by fashionable "calls" or the strain so "fixing for company."

Simple indeed was the etiquette of visiting, in those country neighborhoods, where the highest form of social dissipation was found at the quilting-frolics, apple-bee' and donation parties.

*Thirdly*—The care of children was, so to speak, a side issue—never in time of health allowed to engross a chief portion of time or thought.

The elder were taught to care for the younger; and the little plain garments, few and durable, required but a mere fraction of the labor now bestowed upon childish wardrobe with their elaborate making, altering, washing and ironing.

So our grandmothers are right when they say it is vastly more troublesome to raise a small family now, than a big one in the days when they were young * * * Chat is sometimes like the wind—it bloweth where it listeth. I was only intending to have "my say" about modern farm-kitchens; but have allowed this drift of recollection to carry me among the by-gones and the grandmothers.

Next chat shall grapple the stern realities of to-day. MARY MOUNTAIN.

Springvale Farm—Santa Cruz.

## Our Irrepressible Rodent.

The foresight and industry of the ant, the exactitude and care of the bee, and the faithfulness and docility of the dog, have long been proverbial. But who, hitherto, has been found to celebrate, in verse or prose, the sagacity and engineering skill of California's pioneer miner—the Gopher?

For how many ages prior to our gold-digging era has he tunneled and drifted, carried dirt, and "made his pile." How skillfully all his operations are performed; how regular and smooth the interior of his habitation; with what energy and diligence he applies himself to his daily labor. Surely we may dole out to him some measure of that respect which all men intuitively, though perhaps grudgingly, yield to real *workers*.

In many ways he is worthy of some slight notice, but it must be allowed that his chief claim to attention is the amount of mischief to which he must plead "guilty."

So great, in fact, is his ability to work wreck and ruin, that it might be instructive if one of my youthful readers, just beginning his troubles in algebra, would endeavor by the cabalistic mysteries of $x$ and $y$, to solve the problem as to whether a "bull in a china shop" or a gopher in a garden, would work the greater mischief in a given period.

Probably most persons have seen some of the gopher's handiwork in their fields or gardens, but to many the animal personally is unknown. Let me try to introduce such to our little friend. Here is one just drawn from his burrow—in the trap. See how viciously he bites at the iron which grips him in a death clasp; he has already broken two of his long teeth in his vain efforts after freedom. Now he is dead, and as I hold him up for inspection the first sound that meets my ear is a small shriek from some fair reader, followed by the exclamation, "the horrid thing—it's a rat!"

I must admit that there is some excuse for the remark, as coming from one unacquainted with the vermin in general. But, if a rat, what has he done with his tail? where are the large ears? the long whiskers? the big lustrous eyes? His legs are two short for a rat's, and his teeth much too long; his nose is much flatter and rounder; and although his hair and skin are soft like a rat's, the color is different.

By the way, do any of my lady readers know that the very finest Paris kid gloves are made of tanned *ratskins?* If not, tell them in a whisper, Mr. Editor, or they may faint.

The gopher is of a dull reddish brown on his back and side; his belly being of an ashy gray hue, and his paws white. His claws are strong and powerful, not retractile, and he has two long incisor teeth in either jaw, that protrude beyond his lips and lend a fierce expression to his face; he is also provided with two capacious pouches, lined with fur, that open externally just in front of the shoulder. Nature has thus provided him with mattock, spade, and wheelbarrow; and right diligently he plies his implements. The distance to which he will extend his burrow, in a single night, and the amount of earth that he brings to the surface, and makes into those well-known, neat little mounds, manifest his astonishing powers of endurance, and continuous hard work. My description may be thought incomplete should I omit to say that he belongs to the family of the mole-rats *(Aspalacidæ)*.

Unlike most rodents, such as the beaver, the common rat, etc., this curious little creature is most unsocial. An animal so singularly shy, solitary and savage, is rarely to be found. He is a thorough Ishmaelite; his hand against every man's, and every man's against him. In the whole animal kingdom he counts no friend. Hawks and cranes by day; badgers, 'coons, and all prowlers in the darkness by night; cats, wild and domestic, by day and night—all combine to compass his destruction. Not only are all creatures of other species inimical to him, but innate in his breast, he cherishes a deadly animosity to all rivals of his own kind. In his burrow he tolerates no intrusion. Should a neighbor break through into his premises he is immediately seized, and a war *a' outrance* entered upon.

The Indians (who by the by, are good naturalists) were well acquainted with this trait in our friend's character, and laid their plans to trap him accordingly. One gopher having been captured and well secured to a long line, they placed him in the "run" of the gopher they wished to catch. Gopher No. 2 finding his territory invaded, rushes on the intruder; a fierce duel at once commences, tidings of which are communicated telegraphically to the Indian holding the free end of the line. He proceeds to haul in the cord, but so savagely is the combat still raging, and so tight is the grip each has of the other, that both gophers find themselves in the hands of the Indians before they are willing to cry, "Hold, enough!"

Doubtless many of the pioneers of '49 can still picture in their mind's eye the portly figure of a genial citizen of Monterey, sitting in his garden after dinner, his sides shaking with laughter, as an Indian practices the foregoing sport for his delectation.

Now for the "irrepressible" part of the question. Those of my readers who live in rural, or even suburban districts, will only too readily accord the applicability of the adjective. Every one who enjoys the pleasure of taking care of a garden, let it be never so small, must have experienced more annoyance and vexation from the insidious attacks of this little creature than is credible to dwellers in cities. Of all the plagues possible to the nurseryman, orchardist, or viniculturist, I will venture to say that none meet with such universal vituperation and malediction.

Two hundred young trees have been destroyed by this animal in a few days and nights. Not only does he commit havoc for the purpose of satisfying his appetite, but wherever he runs his burrow (and he sometimes runs it twenty or thirty yards in a few hours) he cuts all roots that happen to come in his way. A prominent dairyman in Monterey county told me that he had lost half his potato crop from the inroads of gophers.

Beets, pumpkins, corn and all "green crops" suffer very much in gopher-infested localities. In many parts, too, the ground is so riddled with their burrows, at a depth where the deepest plowing fails to break them up, that they are complete masters of the situation, flitting hither and thither, at their own wild will; here the roots of some choice fruit trees are gnawed through, there your earliest ripe melon is scooped out by his teeth and the hollow filled with finely powdered soil, farther on some long-cherished flower has disappeared, and no trace left, other than a small spot of moist earth that a half dollar would almost cover.

Baits do not readily tempt them; though at a time when green feed is scarce, they may sometimes be poisoned by introducing finely powdered strychnine mixed with syrup into a small beet or potato, and putting it down their holes. Traps have hitherto been mostly bungling inventions, although our national ingenuity is triumphing everywhere.

These creatures, such thorough adversaries to cultivation, are themselves performers of a most important part in Nature's farming arrangements. In conjunction with the ground squirrels they make the surface drains which admit the superfluous rain into the heart of the earth, thus assisting in supplying deep springs in our dry climate. The advent of the farmer renders this operation unnecessary, as the rain then descends with facility through the whole loosened surface of the plowed land. Their mission accomplished, they are classed as useless vermin, and doomed to destruction accordingly. Thus exemplifying once more the excellence and wisdom of Him, who has so carefully and wondrously arranged all things in what we call the "order of Nature."

SENT EAST.—On the 7th inst., a car load of such delicacies as cauliflower, and asparagus of fine quality, with a lot of salmon, the largest of which weighed 55 pounds, was sent overland to whet the appetites of our Eastern friends and give them an idea how Californians fare in early springtime.

THE *coccus cacti*, a species of the cactus from which the cochineal insect is produced, has been found in Todd's Valley California, which has all the properties of the commercial article, in making light pink and rich carmine dyes.

# POPULAR LECTURES.

## Chemistry and its Applications.

[Prof. EZRA S. CARR before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

### Phosphorus—It Exists in Man.

LECT. V. Mar. 18.—Phosphorus, the name signifies bearer of light, was first discovered in 1672. It is a substance which is found quite largely in Nature under certain conditions. It exists in the bodies of animals, especially in the bones, about one-half of which is phosphate of lime and nearly one-half is what is called gelatine. I have here a bone out of which the phosphate has been taken, leaving the gelatine, and you see that I can twist and bend it and even tie it up in a knot.

The proportion of the phosphate and of gelatine is not the same, however, in all animals nor even in the same animal at all ages. When young, there is more gelatine and less phosphate of lime, and when old, less gelatine and more phosphate, relatively, in the bones of animals. This explains the reason why a child's bones will bend more easily but break with more difficulty than those of a grown person.

The bones of an adult weigh, we may say, about 10 pounds. About one-half is earthy matter, mostly phosphate of lime, say 5 pounds. About one-half of this, nearly 2½ pounds, is phosphoric acid, and again about one-half of this, 1 to 1¾ pounds, is phosphorus.

There is also more or less phosphorus in the blood, the brain and the nervous system. It gets into the body from the food, for phosphorus exists in bread, in all kinds of grain, in leguminous and other plants, particularly in the seeds. The plants derive it from the soil, for it exists in minerals. This mineral, which I have here and which is called *Apatite*, consists of phosphate of lime, the same combination which exists in our bones.

The principal store-house from which we extract the phosphorus for use in the arts is the bones of animals. If we heat bones in a closed vessel they become blackened, charred, and we get *bone-black*. If we heat them in the air, we burn away the gelatine and get a white residue of phosphate of lime. The lime is then separated by sulphuric acid, leaving phosphoric acid, a compound of phosphorus and oxygen ($PO_5$). We can remove the oxygen by heating with charcoal powder, getting carbonic oxide, and leaving the phosphorus.

### Experiments with Phosphorus.

Phosphorus has a strong affinity for certain other bodies, as chlorine or oxygen, and is never found uncombined in Nature. So strong is its affinity for chlorine that on putting a piece into a jar of chlorine gas, it burns, combining with the chlorine. It will also combine with oxygen, but must be previously heated to a certain temperature, about 150°. At 111° it melts.

Phosphorus enters into several different combinations with oxygen. If we burn it in a tube where only a certain amount of air can get at it, it forms a lower compound called phosphorous acid, $PO_3$, which is this white smoke; and this red substance is a still lower compound, oxide of phosphorus, $P_2O$. If I ignite this piece of phosphorus and place it in a jar of oxygen gas, it gives an intense light, burns to phosphoric acid. This acid is readily absorbed by water, and colors blue litmus red.

Phosphorus is not soluble in water. If exposed to the air, it diffuses a white smoke and a light (it phosphoresces), which is very easily seen at night; it oxidizes, but the oxidation occurs at a low temperature, too low to occasion ignition, and is called *slow combustion*. In using phosphorus we must be careful to exclude it from the air (we usually keep it in water) as there is danger otherwise of its catching fire.

Phosphorus is dissolved to a certain extent in sulphuric ether, but more readily in sulphide of carbon. I have here a solution of sulphide of carbon holding phosphorus. I pour some on this paper. As the sulphide of carbon is very volatile, it rapidly passes off as vapor, leaving the phosphorus in a very fine powder on the paper, and this, as you see, inflames as soon as the sulphide of carbon is volatilized. Such a solution is therefore very dangerous, and, indeed, is sometimes used for setting buildings on fire.

### Lights in Graveyards—Jack O'Lantern.

There is another compound—of phosphorus with hydrogen—the properties of which I can show you. I make it thus: I have here a glass retort. In this I put phosphorus and a solution of potash (soda or lime would do as well), also a few drops of sulphuric ether. I dip the end of the retort under water and heat the bulb. The only use of the ether is to drive out the air from the retort, which it does immediately, being very volatile. When the solution boils, bubbles rise, from the end of the retort, to the surface of the water, but as soon as they come into contact with the air they inflame spontaneously and beautiful rings of white smoke are thrown out. The bubbles are filled with phosphide of hydrogen ($PH_3$). The gas ignites on reaching the air, forming phosphoric acid—the white smoke—and water.

Now, you have all heard of, some of you may have seen, the luminous phenomena or "ghostly lights," of the cemeteries. These are nothing but what I have just shown you. When the solids and the fluids of the body decay underground, where there is a deficiency of air, phosphide of hydrogen is formed. This, being diffused through the soil, comes to the surface in very small amounts, and, as in the case of phosphorus, gives a luminous appearance instead of a flame.

The phenomenon of the "jack o'lantern" is similar. The carcasses of animals decay in cold, wet places, and the phosphide of hydrogen is formed and inflates a light jelly-like substance, just as carbonic acid distends dough in bread-making. The inflated substance, having about the same density as air, is carried hither and thither by any currents of air, and the phosphide of hydrogen, slowly exuding, gives the luminous appearance as before.

### Its Use—Matches.

Phosphorus is used principally for making matches. But it must, for use, have some other substance mixed with it. If I melt a piece of phosphorus in a tube, then insert a stick into the melted substance and withdraw it, the phosphorus inflames but doesn't make the wood burn. This is because phosphorus burns so quickly that the wood is not heated sufficiently. Phosphorus burns at 150° and sometimes at a lower temperature, but wood requires about 1,000°. But if I first tip the piece of wood with sulphur, and then add the hot phosphorus, the latter will, on igniting, inflame the slowly burning sulphur, and this in time will inflame the wood.

This illustrates the principle of the match. Matches are first tipped with sulphur and then a paste, of gum or glue or similar substance thoroughly incorporated with phosphorus, is added. In this paste there is also added some oxide, as oxide of lead or nitre, to provide the necessary oxygen. The glue glazes and protects the phosphorus from the air, that it may not inflame spontaneously. When we rub the match, we rub off the coating and, by friction, elevate the temperature sufficiently to ignite the phosphorus; the oxides furnish sufficient oxygen to support combustion, the sulphur is ignited and, in turn, ignites the wood.

Although phosphorus in its elementary state is a violent poison (it is frequently employed as a rat poison), yet when combined with other elements it forms an essential part of our bodies and a necessary constituent of our food.

### We Impoverish the Soil, and waste Millions.

As I before said, phosphorus exists in grain. We can make an interesting and important calculation for our State. If we assume the production of wheat in California as 18,000,000 centals, this will contain about 7,000 tons of phosphoric acid, which is equal to about 15,000 tons of phosphate of lime. The value of this amount which is taken from the soil, estimating from the value of common bone flour or meal, may be put at $1,600,000.

Now every person requires a definite amount of food. We may, in general terms, say this is equal to about 30 bushels of wheat yearly. Hence the 500,000 inhabitants of California will consume each year the phosphate of 9,000,000 centals, or about 3,500 tons of phosphoric acid, worth about $800,000. The 40,000,000 people of the United States would thus consume the phosphates of 720,000,000 centals of wheat, or 280,000 tons of phosphoric acid, worth about $67,000,000.

We see then how much valuable substance is removed from the soil of California yearly. Do the farmers seek to replace it? No. They even try to waste the valuable substance of the straw by burning it. We take pains that the phosphorus consumed by our bodies shall be carried away out of the State, washed into the ocean to be transported long distances and consumed by animals elsewhere. We are throwing away the matter which, deposited in part as guano, we shall be importing from distant places forty, fifty, a hundred years hereafter. The grain which we export may be considered a permanent loss, but the phosphates which we eat might be saved. Of course our soil does not yield such crops as it did.

No one will calculate the value of the amount wasted by each individual as less than $5 per year. Probably it is nearer $10, but we will say $5. The waste then of the 500,000 inhabitants of California amounts at least to the sum of $2,500,000 every year.

You may ask: Is this practical? Yes We are impoverishing our soil, wasting material of great value, every pound of which might be saved.

## Artificial Stone Making in San Francisco.

We visited the Pacific Stone Company's works, on Turk and Larkin streets, last week, and found that they had twenty men busily employed and were turning out daily two tons of stone, chiefly for ornamental work. This shows that the merits of their manufactured article is being appreciated here.

We have previously described fully the method of manufacturing the Ransome stone, and have spoken of its excellent qualities, qualities which have been proved by the severest tests and are attested by the highest authorities. The stone withstands the effects of heat and cold, moisture and dryness, and other climatic influences. It is a perfect imitation of natural sandstone, and is, in fact, a stone, not plaster, nor concrete. It can be shaped after any design, however intricate, at a comparatively low cost, and the more complicated the design, the less the expense compared with that of natural rock.

We see that the company are making colored stones, the color penetrating the whole piece and being indestructible, we are told. We were assured that they were prepared to reproduce in the stone any color or shade of color which might be desired.

Every stone in the very handsome church which Dr. Stone's congregation are building, is furnished by this company. Ornamental work is being done for the grounds of Mr. Ralston, at Belmont. There are some very fine specimens of work for the lot of Mr. Thomas Anderson, at the Masonic Cemetery. The vases which are to be placed on each side of the steps, and which are fashioned after designs by Messrs. Wright & Saunders, are as fine as anything in stone in this city. For lots in Lone Mountain cemetery some very nice decorations are being manufactured. A font is being made for St. Pauls church at Benicia, etc., etc.

Grindstones are quite a speciality. One was shown us of 70-inch diameter, weighing 1½ tons, made for the California File works. Indeed, we saw stones varying from 70 inches to 3 inches in diameter, and from 12 inches to ¼-inch in thickness, which are made here.

This company have made a contract with Mr. Ransome, in virtue of which he will remain here several years. This fact will give additional guarantee to the excellence of the articles which will be manufactured. Their business will undoubtedly increase to large dimensions, and is already almost too great for their present capacity. We understand that the company will enlarge their works this summer.

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THE Sacramento *Union* completed twenty years of existence last week. Like wine the *Union* improves with age, and it has justly attained the foremost rank in our State.

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ICE MANUFACTURE.—The *Alta* states that negotiations have been entered into for the manufacture of ice in this city with the Carré machine.

# GOOD HEALTH.

## AN ULCER CURED BY A DOG.

James M. Hole, M. D., writes as follows to editor of the *Herald of Health*:—Some time in the month of February, 1864, I was called to see an elderly man—say 60 to 65 years of age. On entering he said: "Doctor, here is a very sore arm for you; I have had many doctors to treat me, but here it is. By this time he had the bandage removed from it, and just at that moment a large dog got up and walked over to his master, as he held the arm exposed, filled with bloody, pus-looking stuff—a bad looking ulcer indeed. The dog offered to lick it, but he ordered him away. I said: "Let him lick it off, if he will; I can see it better." "Here, Watch!" The dog walked up, went to work and licked it clean and nice from the shoulder to the wrist. The man seemed to experience considerable pain, but I kept his attention by getting an explanation of how long the sore had been there, the cause, etc. When the dog had finished, he retired to his resting-place on the rug in the room perfectly contented.

In answer to an inquiry as to the cause of the ulcer, he said: "I was bitten by a garter snake in harvest. My arm did not pain me much, and I did not tie it up; but after a while it became very much swollen. I doctored myself for some time, and then went to Dr. A., who said he would cure it in six weeks, but got worse instead of better. Then for one month I was under the care of Dr. B., but experienced no change for the better. I then used three or four bottles of patent medicine, but it did not help me. I began to think it a very bad case. Finally, I tried a German doctor; have taken medicine, but it still remains uncured. I have sent for you to ask what you think of it."

The arm presented a generally ulcerated surface. I indeed thought it, as the man himself remarked, "a bad case." I ordered him to let the dog lick it three times a day, and if necessary, apply a little lard to it to induce him to lick it faithfully, and after each operation to apply a cloth moistened with melted lard and salt. I told him to call at my office in ten days. I did not see him for about six weeks, when in he came, saying: Good evening, Doctor. I am well! How much is your charge?" Said I "One hundred dollars—what you offered." He replied—"That is too much; I will give you twenty-five dollars." "All right." I took a good look at the arm—it was well and entirely healed. I have no doubt as to the dog being the instrument of cure. I mentioned the fact to some of my medical brethren, but it did not seem to impress them favorably, and so it has remained ever since, as above stated.

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THE USE OF LEMONS.—When persons are feverish and thirsty beyond what is natural, as indicated by a metallic taste in the mouth, especially after drinking water, or by a whitish appearance of the greater part of the tongue, one of the best "coolers" internal or external, is to take a lemon, cut off the top, sprinkle over it some loaf sugar, working it down into the lemon with a spoon, and then suck it slowly, squeezing the lemon and more sugar as the acidity increases, from being brought up to the surface from a lower point. Invalids with feverishness may take two or three lemons a day in this manner, with the most marked benefit, manifested by a sense of coolest comfort, and invigoration. A lemon or two thus taken at tea-time, as an entire substitute for the ordinary tea of summer, would give many a one a comfortable night's sleep and an awakening of rest and invigoration, with an appetite for breakfast, to which they are strangers who will have their cup of tea and a hearty supper.

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RIPE FRUIT AND COLD WATER.—"Can a nursing mother eat ripe fruit of all kinds, and drink cold water?"

She can and should. Ripe fruit is one of the best articles of food, and cold water the best and only drink needed. The fruit should not be eaten between meals, but as a part of the regular meal. It should always be thoroughly masticated. Cold water should not be drank at meals, or soon after eating, as it retards digestion. The prevalent idea that nursing mothers must be fed upon warm slops is a fallacious one, and the practice is injurious to both mother and child, and should never be adopted.—*Good Health.*

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As sore throats are very prevalent, it may be of service to the afflicted to know that a gargle of a little alum and honey, dissolved in sage tea, will relieve it.

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SAN FRANCISCO:

Saturday, March 25, 1871.

## OUR WEEKLY CROP.

That's a fine young farmer from Medoc, Southern France, whom we have engaged to overlook our ranch. He is knitting and farming at the same time. How this is possible will be ascertained by reading the accompanying article. We should like to engage a few more young people for similar situations; salary no consideration but a handsome face is necessary; ladies preferred; work easy; position elevated,—a fine opening. The young man, as can be seen, has a pleasant place, surrounded by fields of Wheat and of Ramie.

After our farmer has been scrutinized to the satisfaction of our friends, they will please take the usual glance at the library of Mechanical and Scientific Progress, and read the Notes from Stanislaus and Calaveras counties. They will undoubtedly be pleased to examine the new Proof-Galley Rack, and to visit our anatomical cabinet where is to be seen the Famous Calaveras Skull.

By walking to our lawn, they can see what has been done for the Cultivation of Grasses, and can at the same time witness a Plow Tournament. Our collection of Recent Inventions is close at hand, and the observatory, whence one can overlook the General Agricultural Facts on the Coast.

Here Mary Mountain joins our party and we indulge in a pleasant Farm-House Chat. The Irrepressible Rodent frisks past us and dives into his hole. Prof. Carr talks very pleasantly and instructively concerning a Common Thing, of which we ought to know, and the Doctor has his department filled with interesting facts. We likewise hear something about the making of the Stone Decorations of our house and grounds.

Silk Culture (more particularly of Utah) Osage Orange Culture, Raisin, Prune and Orange Culture, are all carried on in another department of our farm, which is situated near our Poultry Department.

Our Home Circle and Domestic Department afford their usual interesting variety of story and song and useful hints. And the Donner Tragedy is reserved as the dramatic finale.

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TO CORRESPONDENTS.—We are literally flooded with communications, many of which we shall have to condense, and some we shall probably have to decline for want of room in our crowded columns. "Badger" sends us an account of a summer visit to Devil's Lake, as a counterpart to his winter visit already published. Mr. T. Hart, Agent, has furnished us some facts from his experience in tree culture in California. We have the "History of a Hat" for the juveniles from a little 13-year-old girl. We have also received an interesting letter, describing a new "Fire Escape" from a lady, and some hints about making bread from another lady. The report of the "Santa Cruz Farmers' Club" comes to hand just as we are going to press.

## SILK CULTURE IN UTAH.

The people in this Territory are becoming fully alive to the importance of the general introduction of silk culture as one of the best and most profitable industries of the country. Brigham Young is already quite an extensive producer of silk. Other parties are also engaged in the business, and all seem to have been uniformly sucessful. A gentleman writing from Spanish Fork, in that Territory, says:—"I have propagated the same worms for four years, and every worm spins. I have never seen any symptoms of disease among them."

We have received a sample of the cocoons raised by him, and should pronounce them of a good quality. The variety of cocoons cultivated is the same as is mostly cultivated in Asia Minor. The cocoon is of an oval or egg shape, pointed at both ends. There is much less gum or glue in this cocoon than in that of the French and most of the Japanese varieties, and hence the silk is more easily wound off or reeled.

Another correspondent from Salt Lake City says:—"I am fully convinced that this country is one of the best for producing eggs and silk. Our bench lands are remarkably good for fruits of most all kinds."

A writer in the Deseret *Evening News* calls attention to this subject and says: "With the sole view to promote the prosperity of the industrious and worthy pioneers of the Great West, I beg to furnish them, through your paper, a few valuable extracts from a most excellent elementary work, of 33 pages, on *Silk Culture*, from the pen of I. N. Hoag, Esq., editor *Pacific Rural Press*, and an extensive silk and mulberry culturist of Sacramento, Cal. Our dry climate and fruit-tree-growing soils are like those of Northern California, preeminently suited for the culture of silk and the production of marketable silkworm eggs, and in view of the *enormous profits*—the *easy culture* and easy facilities to transport to *ready-cash markets* the eggs and silk, I earnestly hope our people, in imitation of President Young, will engage in this *lucrative* business without further delay."

Thousands of mulberry trees and cuttings for silk culture are being shipped to Salt Lake from this State. The streets of Salt Lake City and the public and private grounds, these are also being ornamented with mulberry trees raised near Sacramento. The people of that city are combining the ornamental with the useful. They intend to clothe themselves with silk produced from the same trees that ornament their grounds and afford them protection from the sun. We hope success may attend their efforts in this worthy enterprise and we have no doubt of it.

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PROFITS OF ORANGE CULTURE.—The immense profit to be reaped from the production of oranges, when once the trees get to bearing, even in the central portions of the State, are well illustrated in the following from the Vallejo *Chronicle* of the 25th ult.: General Vallejo is shipping considerable quantities of oranges to San Francisco from Sonoma county, which are said to be superior to those from Los Angeles. The first lot came in at Christmas, bringing $50 per thousand; second lot brought $40, and another lot of 3,000, superior to those from Los Angeles, arrived yesterday. The General has raised 15,000 oranges from thirty trees.

Orange trees cost only about three times as much as apple trees, and every one, who has a garden or fruit orchard should set out a few trees on trial. No more beautiful amount can be placed in a fancy garden than one or two orange trees. Their constant and deep green foliage, with blossoms and fruit almost constantly showing, renders the tree beautiful as well as useful.

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IN CASTROVILLE.—Somewhere near 1,000 trees have already been set out in Castroville the present season.

## HOW TO PROPAGATE THE OSAGE ORANGE FROM SEED.

Prepare the ground thoroughly by plowing or spading and pulverize it finely with harrow or rake. To sprout the seed, put it in a vessel and cover with warm, not hot, water. Keep the vessel in a warm place, and change the water once a day. Let the seed soak from five to ten days, after which pour off the water and cover the vessel with a damp cloth. Keep in a warm room and stir the seed occasionally; in about one week more they will begin to sprout and are ready for planting.

There are a little over eleven thousand seeds in a quart, and it is safe to calculate that a quart will produce five thousand plants, if it is properly managed. The seed should be planted, in this State, in March or April, according to the season, and in drills eighteen or twenty inches apart, with twelve good seeds to the foot in the drills. If the season should prove very dry, and the seed are not on very moist soil, they will want some irrigation; but if on sandy and moist soil they will probably not need it. If the weeds grow freely it may become necessary to hand-weed the rows before the plants will show themselves, as they are very delicate and tender until they get three or four inches high, and require careful culture and a clear entrance into light. When once fairly out of the ground they will become hard and strong in a few days.

The rows will now require to be cleaned once or twice a month with a cultivator and hoe, until the weeds cease to grow. The plants in good soil will make an average growth of from three to four feet the first season. The next spring, or when one year old, they should be transplanted in the hedge and cultivated as directed in the RURAL of March 11th.

### Osage Orange Timber.

The Santa Barbara *Press* notices the fact that the osage orange makes a most excellent timber—especially wagon timber; that it resists rot and decay indefinitely. There is said to be a forest of osage orange on the Upper Trinity river, in this State, two miles wide and fifty in length. The *Press* urges farmers and ranchmen to give this excellent tree a place on their lands, and make it a point to get it well introduced both as a hedge and as a timber tree as soon as possible. It seems quite unaccountable that this useful and rapid-growing tree should have been so much overlooked in this part of the country.

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THE DONNER TRAGEDY.—Being assured by reputable authority that our correspondent was misinformed in regard to some of the statements recently given in an article headed as above, we have this week given place to another version of this remarkable and unfortunate chapter in California's early history, prepared by two of the real actors in the scenes described; and we believe this, though very lengthy, will nevertheless be read with interest by the thousands of our citizens who have read or heard more or less of the unfortunate immigrants, and the starved and frozen victims. We think, however, had one of the writers in to-day's issue known our regular correspondent half as well as we do, he would have judged her differently; for we know her to be a generally careful, conscientious writer, and far from being given to intentional or willful misrepresentation.

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ORCHILLA PICKERS.—It appears that the 300 emigrants reported as having left New York recently for Magdalena Bay, were sent out by Eastern parties under special contract, to pick and plant orchilla.

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THE SUTRO TUNNEL is now in 1,867 feet, with work constantly and rapidly progressing.

## ANSWERS TO CORRESPONDENTS.

POULTRY BOOKS. — Geyelin's Poultry Breeding, published by Orange Judd & Co., of New York, is perhaps as good as any; but for the further information of our correspondent we would say that no less than three new poultry books are in preparation. One by Lockwood & Co., of Hartford, Connecticut; one by J. S. Bester, of same city; one under the auspices of the publisher of the *Rural New Yorker*.

HOW TO GET RID OF ANTS.—We know of no better way than to saturate a sponge in water made as sweet as possible with sugar,—catch and scald them. A little coal oil poured into their nest, if you can find it, will pretty effectually close them out.

TO GET RID OF LICE ON CHICKENS.—Sprinkle a little snuff under their wings and on other portions of their bodies—not too much. Or put it freely in their dusting places. Tobacco stems or leaf tobacco pounded up will take the place of snuff. To keep rid of the vermin, see that the roosts and nests are kept clean.

JERSEY STOCK.—In reply to the query of our Half Moon Bay correspondent, about pure blooded stock, Mr. W. A. Z. Edwards, of San José, writes us that he knows of at least three different families of that stock in the State, owned respectively as follows: Mr. Millard, at San Rafael; A. W. Forbes, of San Francisco (on his Centerville ranch); and C. B. Polhemus, near San José. Our correspondent knows nothing about a yearling calf or two-year old bull, or the price for such; but he has a thoroughbred bull and some quarter breeds, with regard to which he would be pleased to correspond with our querist.

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THE PLOWING TOURNAMENT.—We publish, in another column, a report of the late Plowing Tournament, from an eye witness, who, we presume, does justice to all the plows operated. We notice, however, the absence from the list of a number which bear a first-class reputation. California is far ahead of any other State in the number and superiority of its patent gang-plows, and we hope another and more complete match will be given at the State Fair. The grand parade of stock might well give way one day in the week for a thorough plowing contest.

The Committee of Judges consisted of W. D. Ashley, Andrew Wolf, H. E. Wright, Cutler Salmon and Ezra Fiske, all well-known farmers of much practical experience. The premium awarded was $100 and a framed diploma for the plow doing the best plowing of every kind, and being the best for all purposes. The prize was awarded to Matteson & Williamson.

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SEEDS.—H. A. Dreer, of 714 Chestnut street, Philadelphia, sends us a parcel of seeds, including Ice Cream Watermelon, Philadelphia Market Tomato, Wheeler's Tom Thumb Lettuce, Trophy Tomato, Casaba Muskmelon, etc.

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MULBERRIES IN LAKE COUNTY. — The Lakeport *Avalanche* says that the mulberry is to be tried in that vicinity this season.

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TALL BARLEY.—Barley stalks twenty-nine inches in hight, from the Borando ranch, Monterey county, have been shown in Salinas.

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A PORK PACKING ESTABLISHMENT, on the Cincinnati plan is about to be started at Soquel, in Santa Cruz county.

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THE fruit crop of Butte is very promising, and bids fair to greatly exceed that of any former year.

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BEAUTIFUL.—The hills around this city are looking beautifully green at the present time.

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BARLEY is scarce in White Pine at 6 cents per pound.

## RAISIN, PRUNE, ORANGE CULTURE, ETC.

A subscriber from San José writes us as follows: "Some gentleman of means at the East, who intend to come to California during the year to make permanent homes, have employed me to start, for them, a large number of raisin grapes, prunes, oranges, almonds and English walnuts. They have not as yet fully determined where they will locate, though I presume they intend going to the southern portion of the State. I think, however, they would prefer a location in some of the Bay counties, or foot-hills of the Sierras in the central portion of the State, provided they could find a climate and soil adapted to raising and curing such fruits and nuts as I have named. I have great faith in your judgment regarding these matters, and would like to have your opinion as to the *very best place* in the State to engage in this business. Also if there are not some places in the central counties, where most or all of these fruits could be raised and cured, as a safe and profitable business. I read the RURAL PRESS, and send it to my friends at the East. Any advice or hints you may be pleased to give, through the paper if you choose, as to location, climate, soil, etc., best adapted to these fruits will be thankfully received."

Our correspondent has asked some questions, the answers to which interest very many of our own citizens, as well as many in the Eastern States, who, like his friends and employers, are looking to California for a permanent home and profitable business. We shall not undertake to answer the first question as to the "very best place" to engage in the business, very definitely, for the reason, that there are so many good places or localities that it is almost impossible to determine which is the *very best*, without a long continued series of experiments in all, and a careful comparison of the results. It is the province of the local and State agricultural societies to induce these experiments and publish the results of the same. Individuals can do much in the determination of these questions by engaging, in a small way, in the cultivation of the fruits and nuts above named, and sending to the PRESS, or to the local papers, the facts for publication.

We shall gladly give publicity to any communications, from different localities on the subject of the above inquiries.

The southern portion of the State has obtained a world wide reputation for the production of semi-tropical fruits, from the fact that it was earlier and more thickly settled than other parts of the State, and fruit culture was more extensively engaged in before the acquisition of California by the United States, and the general settlement of the same by the American people. Hence the vineyards and orchards of oranges, nuts, etc., are older, and bearing in great profusion there; while in most other portions of the State, such orchards being young, are not so fully developed, and while producing equally as well in proportion to age, and as good fruit, their reputation has not yet become so well established.

### Grapes for Raisins.

As to the production of good raisin grapes, many localities in all parts of the State have succeeded admirably. And many who have had more experience or instruction in the art of curing raisins have produced an excellent article of raisin, equal to the imported. We published, March 11th, the reports of the principal hotel keepers, of the city of New York, upon some raisins sent from Visalia, Tulare county, to the Editor of the New York *Tribune*, which were very favorable—placing the California raisin on a par with the very best imported.

Raisins have been made by Mr. Bugby from grapes grown at his vineyard in El Dorado county, by J. R. Nickeron of Placer county, and by E. F. Aiken of Sacramento county, equal to the best imported from Sicily or Malaga. And so we might name individuals all over the State, who have demonstrated the adaptability of the soil and climate of these localities to the production of the raisin grape, and the curing of the fruit.

A word as to the conditions of soil and climate necessary to the production of the grape, and making of raisins. The soil should be rich and strong; but not too damp; of a quality that will impart flesh rather than juice to the grape. A mixture of loam and clay is believed to be the best. This will secure, with a good pulp, the proper quantity of saccharine matter. Vines for the production of raisins should never require artificial irrigation, while the grapes are growing. Hence a locality should be chosen with particular reference to this fact. The growth must be even and uniform, from the formation of the berry to the final maturity and perfect ripening of the grape.

The best raisins are produced in countries, which, like California, have no rain during the summer season. This fact alone is a strong argument against irrigation, and in favor of a soil that will hold just enough moisture to produce a good and healthy growth through the season. The atmosphere also must be light and dry and of an even temperature day and night. In such an atmosphere the skin of the grape will be thinner and more delicate, and the flesh more tender and more highly flavored.

It seems to be universally observed that a mountainous or broken country, and especially one which has been rendered so by volcanic eruption, is the best grape country. Indeed we believe that fruit of most all kinds grown in such country is more delicately flavored, finer grained and in fact more *natural* than that grown in the valleys or low and flat lands. Fruits, especially all vine and shrub fruits, seem to delight in new, wild soil. Our observations and experience in grape culture, for most all purposes, would lead us to choose the foot-hills, either of the Sierras or the Coast Range of mountains for raisin culture.

### Orange and Prune Culture.

Many of the same arguments and reasons in favor of these localities for grape culture are equally applicable to orange and prune culture. Until of late years, it has been generally supposad that oranges could not be successfully raised in the central or northern portions of the State. But a few trees have been planted in almost every locality throughout the valley portion of the State, and within the last two or three years these trees have been coming into bearing. The fruit produced has been very generally good, and in some places very superior; so much so that we may now claim that almost the entire State is adapted to the culture of semi-tropical fruits, and that these fruits are not, as heretofore supposed, confined to a few of the southern counties.

The climate of our State is peculiar and exceptional, in many respects. It is well known that in the summer season, the weather is warmed and the nights and days are of a more uniform temperature the farther north we go up the great valleys, through the central portion of the State. Even at San Diego the weather is cooler than at Marysville, Colusa or Tehama.

California reverses all our previously conceived notions of northern and southern climates, and of their peculiar productions. In seeking a locality for the cultivation of any particular product, therefore, we are obliged to consult, not the *general*, but the *special* locality, climate and soil. For instance, at Silveyville in Solano county, in the summer, there is every afternoon a stiff cold and chilly sea breeze, sweeping northerly across the plains, and this breeze is so constant as to incline the trees in that direction. While ten miles west in the foot-hills is one of the mildest and most uniform climates, both winter and summer, to be found in the State. The warm atmosphere hovering around the foot-hills lifts the cold breeze above the tops of the mountains, while gentle spring zephyrs float below. There are thousands of just such localities all along these hills from Sonoma to Tehama, and just as many most excellent localities for the culture of the fruits and nuts which form the subject of inquiry in the letter of our subscriber.

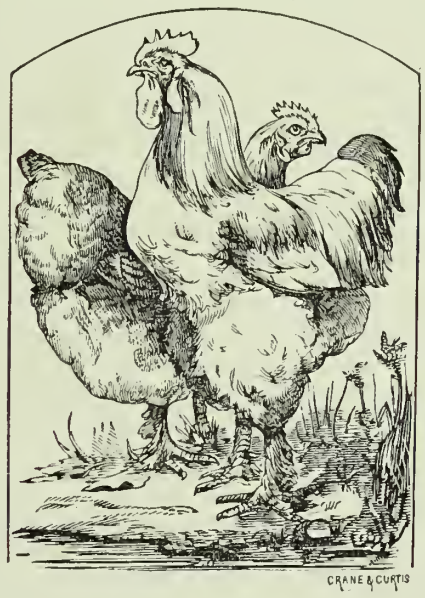
As to the second question, we would remark that we have not at hand now any figures or data to show the profitableness of the culture of any or all the fruits or nuts named; but in the absence of such particular data will say we believe that such a business can safely and profitably be entered upon in many localities in the central counties. Indeed we believe that it may be made to rank among the safest and most profitable of agricultural or horticultural pursuits of the State.

## POULTRY NOTES.

### CHOICE POULTRY YARDS.

Last week we spent an hour viewing the fine specimens of thoroughbred fowls in the yards of Mr. Geo. B. Bayley, on the corner of 16th and Castro streets, in our neighboring city of Oakland.

Mr. B. has five coops of imported light brahmas, all of which are pure blooded and in fine condition. In one of these we find a trio obtained from Wm. Simpson, Jr., of West Farms, Treasurer of the N. Y. State Poultry Association. The cock, nine months old, weighs twelve pounds; and one of the hens ten pounds. Their period of growth being two years, we must rate this couple as decidedly promising chicks. The young broods grow so rapidly that the feathers do not keep pace with their bones and flesh, consequently they appear about the feeding coops in a semi-nude condition. The brahma hens are in the first class as layers, and as setters, and tender mothers.




BUFF COCHINS.

They are also easily broken of setting—two or three days of solitary confinement effectually curing them.

"Dickens," and "Pickwick," named by J. K. Felch, poulterer, of Natick, are handsome young light brahma cocks eight months old weighing about eleven pounds each. Mr. Felch is the only well known special breeder of light brahmas in the U. S. who names and gives the full pedigree of his fowls. This variety of fowl is quite fine looking, when pure blooded, and seem, so far, to be the most popular of any of the high breeds introduced into the State.

Mr. Bicknell, of Westmoreland, N. J., has supplied one coop of six hens and one cock. His hens are all laying now, and Mr. Bayley has just filled an order for twenty dozen light brahma eggs, to a new breeder in the State, who starts at once in poultry business in San Francisco.

A trio of dark brahmas attracted our special attention, the hens looking remarkably fine. These were imported from Montreal, Canada. The cock is the finest marked we have seen in the State.

The white leghorns, comparatively a new variety in America, are a smart-looking small fowl maturing early, being fit for market in four months and laying at five months. They are of non-setting proclivities, and possess the black spanish quality of laying early, etc. The cocks are decidedly plucky and of fine appearance. Mr. Bayley has a fine trio from the henery of Mr. Farlee, of N. Y., who breeds no other fowls but white leghorns.

A fine coop of Houdans are reported excellent layers and non-setters. They appear like a small, finely finished fowl. Are very hardy constant layers, and mature early, like white leghorns.

Among the most noticeable fowls are the Buff Cochins. They are very large, and form a slick looking family. They are excellent setters, and promise to do well here. The Buff Cochins are celebrated for their great size, being winter layers and are reported to be the best known fowls for rearing chickens. Are particularly the fancy fowl at the East at this time. We herewith present our readers, with a portrait of a hen and cock of this breed, now in Mr. Bayley's yard, drawn and engraved for the PRESS.

A full block of land is owned by Mr. Bayley, who devotes most of it for his fowls. His breeding coops, each containing a cock and from two to six hens, are raised some two feet and a half from the ground, and are made about 4 feet wide, 6 feet long, and 4½ feet in hight at apex of the roof. Each coop is enclosed in a picketed yard 16 feet wide by 24 feet long. These yards arranged in a row extending nearly across the block, dividing it about midway. On one side of this he is raising a field of oats and grass for the hens to roam and feed in.

In order to keep his full bloods laying as long as possible, common hens are now employed for setting. The various young broods, from one to four weeks old, show very plainly how marked and distinct are the different breeds.

The eggs, when compared, also show distinctive characteristics. The light brahmas are large and fine oval-shaped; the dark brahmas are nearly the same. Mr. Bayley occasionally finds an enormous-sized egg—his advertisement in our paper representing the exact size and outline of one of them. The buff Cochin lays a dark, nearly round and heavy egg; the Houdans and Leghorns lay a pure white and remarkably large-sized egg for the calibre of the fowl. We judge both breeds to be peculiarly suited for the farmers of California.

Mr. Bayley manages his "chicken ranch" with system and thoroughness; taking care of the eggs entirely with his own hands. He has arranged and numbered boxes corresponding to the number given each coop. These boxes are "honey-combed," or provided with cells, forming a separate receptacle for each egg. The cells are partly filled with bran. The large end of each egg is marked in pencil with the number of the coop and date of dropping, and the small end inserted in the bran—showing at a glance the age of the eggs. He also keeps a tabular record of the product from each coop, a perusal of which convinced us that he has been fortunate in obtaining good layers.

Mr. B. has been less than one year in getting so fine a start in his business. He believes it will be profitable, and that there is going to be an early and immense demand for blooded fowls on this coast, and is determined to afford all facilities possible to encourage the profitable improvement of domestic fowls. In recommendation of his worthy enterprise, we are free to say that we believe he may be relied on by all customers, far and near, to furnish the genuine stock that he purports to sell.

In two or three weeks he expects an arrival from E. C. Comey, of Boston, of thirteen light brahma hens and four cocks of the celebrated "Autocrat" stock. His arrangements in the East are such that purchases are made as favorable opportunities are presented. Parties can order through him special importations, when desired. We recommend all who delight in viewing handsome poultry to visit Mr. Bayley's yards and they will not feel disappointed.

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CROPS ON RUSSIAN RIVER.—A correspondent of the Russian River *Flag*, writing from Healdsburg says: "My own opinion, based upon present appearances, is that we shall have a grain crop, next year, 50 per cent. greater than ever before raised in this valley.

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THE peach trees, in various parts of the State, present a beautiful sight at this time—the pinkish tint of their blossoms contrasting beautifully with the deep green of the landscape.

BY OUR LADY EDITORS.

## JOHN EUSTACE, OR THE TRIUMPH OF PERSEVERANCE.

BY NELL VAN.

[Written for the PRESS.]

I had been teaching district school in the small New England village of N—, upwards of a year, when one morning a little stranger boy was led into the school-room by one of the children. He was sitting by the roadside crying, and upon questioning him, I found the little fellow to be quite an intelligent lad of nine years, who had no parents, and had run away from an old woman, in a neighboring town, with whom he had been living, and by whom he had been cruelly beaten for some trivial offense. He had somewhere picked up a leaf from an old spelling book, from which he had managed to learn many of his letters. His name he said was Johnny Eustace, and he had no recollection of any other home than the one he had left where he had been so unkindly dealt with. He said he wanted to learn to read, but she would not teach him, and so anxious was he to go to school that he said if I would only allow him to come and be one of my scholars, he would do anything for me. When I asked him where he would live, he looked up so pleadingly, and inquired if I would not let him stay in the school-house, and run of errands for some good people in the village for food, till he could find a place to work for his board.

Pleased with the boy's straight-forwardness, and desire for knowledge, so unusual in a child of his age, I gave him a book and told him I would talk with him again after school. At noon I took him home with me, where mother and myself kept house together, to get some luncheon, and mother was also much interested in the child, as he reminded her of a little brother of mine, who died years ago, at about his age.

Taking me aside she said, "Helen, I feel wonderfully attracted toward that boy, and I do insist upon you bringing him here to stay till he is called for at least, for he seems an object of pity, and 'twould be no more than right to give him a helping hand." Now my heart never went out towards boys as it always did towards little girls, and I could not at first think favorably of mother's plan; but my sympathies being solicited in the child's behalf, I finally consented, inasmuch as she seemed so ready to assume the extra care which his coming would necessarily involve. As we returned to school that afternoon, I asked the little fellow how he liked my home, and whether he would like to come and stay with us for awhile till I could hear more about his past history.

Choking back his tears, he expressed so much gratitude that I felt condemned for my reluctance to accede to the proposition. I took occasion to tell the child that we were poor, and were obliged to work, and should expect him to do all he could to assist us, for we had no room for drones in our hive. I also endeavored to impress upon his mind that childhood is the seed-time of life, and in order to reap a rich harvest, it is necessary to begin to cultivate early the precious gems of morality. Industry, truthfulness, justice and perseverance, are among the necessary virtues to be planted and watered in our natures, and kept alive and growing till they become a necessity of our being. I felt sure that my words had been understood and left an impression, for which he seemed gratified.

Thus little Johnny became my protégé and companion in my walks to and from school. He proved himself an apt scholar and a very useful member of the household, saving us both many steps by his willingness to wait upon us. It seemed a great pleasure to mother to sew for him, and as she sat knitting stockings for him, during the long winter evenings; he seemed to appreciate her kindness, and his expressions of gratitude amply repaid us for all our extra care and anxiety.

One day, when Johnny had been with us about eight months, a tall, dignified-looking lady visited the school. She was a stranger to that part of the country, and manifested considerable surprise at the numerous institutions for public instruction which she found at the north. I ascertained that she was a native of Charleston, South Carolina, and had not traveled much out of the Southern States, which are not remarkable for educational privileges. At the hour of dismissal she lingered on the school ground, attracted by the children, whom she sought to draw into conversation, but found them exceedingly shy and unsatisfactory. When I came out she joined me, and we walked through the village conversing on various topics, till Johnny came running after me with a question to ask. "What child is that?" said my companion, "What a remarkable brow he has!" When I gave her his history, or at least that portion with which I am familiar, she seemed strangely moved, and promising to call at our home that evening, she slipped into my hand a roll of bank-bills, which she insisted upon my accepting for the boy's benefit, and hastily bade me "good morning."

During the remainder of my walk, I seemed haunted by the keen eye of the stranger, as she listened with breathless interest to my recital of Johnny's trials, and I felt a little suspicious that he might belong to her, and that she had visited my school to obtain tidings of him. But then I dismissed such fancies, and argued that she was doubtless a person of abundant means, who took pleasure in seeking out worthy objects of charity upon whom to lavish her bounty.

I handed the money to mother when I entered, and related to her the incident of the morning. She was seized with apprehension lest Johnny's relatives were on his track and would come to claim him, which would be to us such a source of regret. We found the roll of bills amounted to fifty dollars—a generous sum, which we resolved to devote exclusively to the boy's use; and impatiently waited for the evening which would, we hoped give us an opportunity of learning more of the stranger's history, and if possible gain some clue to the mystery of Johnny's birth, if she was as we conjectured a relation of his. Evening came and we waited in vain for our expected visitor. She did not come, and supposing something might have detained her, I called at the hotel or my way to school, the next morning, and learned to my dismay, that the lady had left town on the early stage. And we never again either saw or heard of her.

As I look back on the past, after a lapse of twenty years, I have much to thank Johnny for, in giving me a new insight into the nobleness of boyhood. As I before said, I never was fond of boys, but my fondness for this one taught me to look more favorably on the entire sex, and my success as a teacher has been partly owing to the experience gained through having him for a study. Of course, the boy had his faults, as who has not; but his inordinate desire for acquiring knowledge enabled him to surmount all difficulties, and I have often been amazed at the rapid progress which he made in his studies. He seemed to comprehend at a glance, what required much explanation to the rest of the class, and in a few years he entered the academy where the principal found that he excelled in declamation and logic, proving that his future course should be among the professions.

Resolved to let him choose his own career in life, and aid him to the best of my ability, I had many serious talks with him, and it was decided that he should enter college. We bade him adieu with sorrowful hearts, for he had become very necessary to our happiness during these years we had spent together. He entered college under very different auspices from most of those with whom he was thrown in contact, who were the sons of wealthy parents, ready to anticipate their every want. Yet it was often remarked that no student made a better appearance or won a higher esteem among the Professors than John Eustace. It was necessary for him to be very studious, for his ambition led him to devote his evenings and college vacations to teaching, in order to lessen the expenses of the course. And when at the close he graduated with honors, a joyful welcome awaited him at home after years of absence, and how proudly mother folded him to her heart, calling him the most endearing names.

In the course of time he was admitted to the bar, and entered at once the practice of his profession, and rapidly rose to eminence. He was everywhere acknowledged as an upright and honest lawyer, whose great success seemed to be in the dispensing of equal justice to all. The deep love he bore for all humanity, and the lively interest always manifested in the community, rendered the name of John Eustace both honored and respected.

It was now that we began to reap a rich harvest for the years of toil and anxiety we had spent. In his life we realized what can be accomplished by ordinary ability, urged on by a zeal and determination on his part seldom met with, but capable of being fostered. As John prospered, our simple home was exchanged for a more commodious one. Servants became necessary, and in our declining years mother and I had the satisfaction of engaging largely in the momentous questions of the day, which had always engrossed our thoughts. The liberation of the slave and the political sentiments and prejudices against the advancement of woman in positions of trust awakened our enthusiasm, and life became to us filled with new joys and duties which completely lifted us out of the former cramped position, and we began to appreciate the glories of liberty, which is at last dawning upon the women of our land.

Happy years have thus flown away without further change in our domestic arrangements, till recently, as we sat at our evening meal, the door bell was violently rung and a letter was brought in from the Express. It was for John, from, as he supposed, some new client. Well I remember the low whistle he gave while scanning its contents, and looking up at mother, in his jovial way, he said, "Well, mother, your dear boy is in luck. What do you say to taking a trip down among the Carolinas with me to look after a small estate there. And you, too, little woman," as he often addressed me; "let's pack up and make a journey to look after some important business which requires immediate attention." Upon our expressing our curiosity and astonishment, he continued:—"It seems a rich old lady has lately died who claimed me as her nephew, and in her will she named John Eustace, of N——, as her sole heir."

In a few days we set out for a trip south, and reaching our place of destination found the remnants of a family of whom John was as a shining star. Thirty years before, a beautiful girl had been wooed and won by Major Eustace, an army officer; but being a wild fellow and poor, he was frowned upon and forbidden the house. The consequence was, the girl eloped with him, they were privately married and went north, where nothing was heard of her for ten years, when her sister made a pilgrimage to learn tidings of her. She traced her to the house of an old woman, where, deserted by her reckless husband, she gave birth to a son and died, leaving him in her charge. The boy had escaped from her when nine years of age and was traced to N——, where the aunt had seen him and satisfied herself that he was in good hands.

Seeing in her own family the ill effects of wealth upon the morals and principles of young men, she resolved to try the experiment of allowing this one to work his way up to competence. Unaware of her presence she had often crossed his path, and became deeply attached, but postponed the time of making herself known to him for various reasons, until at last she was prostrated by illness which rendered her an invalid for years, most of which time she was a great sufferer, and could not endure any undue excitement. At her death her will had been opened and the result was that John Eustace became a millionaire.

The incalculable good that money, the moving power of the world, can accomplish in the hands of generous-hearted philanthrophists, has been exhibited in the various bequests for founding colleges and increasing the funds of benevolent institutions; but seldom do we find men who, in their lifetimes, are so generous as to devote a fortune to such objects. A noble nature, such as John Eustace possessed, could divine no more fitting use for applying this newly acquired wealth than by founding an institution for the protection and education of the young of both sexes, who, like himself, were thrown upon a cold world, destitute and uncared for, except as by chance they found such friends as he has.

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How to Get Happy.—"Mother," says little Minnie, "I have learned to be happy, very happy."

"How, my child?" the mother replied.

"By trying always to make those around me happy, and forgetting myself," she answered.

Little Minnie had learned a very useful lesson—a lesson which many older people fail to understand. Little folks, try, all of you, to learn it.

## SOMETIME.

Life does not find completeness here,
We grasp at things too far away,
And many a hope grown doubly dear,
Just at its brightest droops away.

We love, and lose—we strive, and fall—
We dream, and dreams are idle things;
The tree falls soonest in the gale,
To which some vine for safety clings.

O voices sad! O weary hands!
O eyes more sweet than pansies are,
Somewhere, I think, in Summer lands,
Life lifts for you its morning star!

Sometime for those who, trusting, wait,
Shall the white flowers of gladness blow,
And time will fully compensate,
The pain and loss that now we know.

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What is a Kindergarten?—For those who do not know what the word Kindergarten implies, I will say Kindergarten means a garden for children, where the children are considered as the various plants, and the teacher as the gardener; who has to be intimately acquainted with their nature and needs, in order to supply all the necessary conditions of soil, moisture, sunny-side or shade, that is necessary to promote their healthy growth and fruitage. At the same time Froebel wanted a garden connected with every school, so that the children should be in constant contact with nature, and be able to watch her processes, and learn to take care of plants, and also animals; which duty, lovingly performed in early childhood, prepares the child, later in life, to take care of those dependent on him.

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The Approach of Sleep.—It is a delicious moment, certainly, that of being well nestled in bed, and feeling that you shall drop gently to sleep. The good is to come—not past, the limbs have been just tired enough to render the remaining in one posture delightful; the labor of the day is done. A gentle failure of the perceptions comes creeping over us; the spirit of consciousness disengages itself more and more with slow and hushing degrees, like a mother detaching her hand from that of her sleeping child; the mind seems to have a balmy lid closing over it, like the eye;—'tis closing—'tis more closed—'tis closed. The mysterious spirit has gone to take its airy rounds.

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How to Dress.—The secret of woman's dressing consists simply in her knowing the three unites of dress—her own position, her own age, and—her own points! And no woman can dress well who does not. After this we need not say that whoever is attracted by the costume will not be disappointed in the wearer. She may not be handsome or accomplished; but we will answer for her being even tempered, well informed, thoroughly sensible and a complete lady.

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Phenomenon seen on Tearing Cotton Muslin.—According to Mr. Andrew Pritchard, when a piece of new muslin is torn in the dark, a line of light is observable along the torn edges. It is not known whether this arises from electricity or phosphorescence, but it seems to depend upon the dressing of the cloth, since, after being washed, the phenomenon does not manifest itself. A piece of stout, twilled new cotton is said to furnish the best subject of experiment.

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Hint about Umbrellas.—Most people dry their umbrellas handle upward. This concentrates the moisture at the tip where it is close, rusts the wire which secures the stretchers, and rots the cloth. After the umbrella is drained, it is better to invert it, and dry it in that position.

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A man living at a hotel is like a grape vine in a flower-pot—movable, carried around from place to place, docked at the root, and short at the top. No where can a man get real root-room, and spread out his branches till they touch the morning and evening, but his own home.—*Beecher.*

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A Delicate Compliment.—A negro driver of a coach stopping to get some water for the young ladies in the carriage, being asked what he stopped for, replied: "I am watering my flowers." A more delicate compliment could not have been paid.

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Men's happiness springs mainly from moderate troubles, which afford the mind a healthy stimulus, and are followed by a reaction which produces a cheerful flow of spirits.

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We have heard many women complain of their husbands' neglect of home. A spoonful of honey will keep more bees in the hive than will ten of vinegar.

# DOMESTIC ECONOMY.

## Fretting, a Habit.

"Fretting," says the *Herald of Health*, "is one of the silliest, most unnecessary, unchristian, unreasonable, unprofitable, undignified, unpleasant and useless things in the world. It never does any good; but always does harm to the one that frets, if no one else. Fretting is a *habit*, and may either be inherited or acquired."

The effects of fretting are quite as serious upon the individual who frets, as upon those with whom he comes in contact. It cramps and belittles the mind, and diseases the body of the unfortunate possessor of the habit; and however pleasant other surroundings may be, it brings disquiet and unhappiness into every household where it finds admittance. Although it often intrudes into the more public walks of life, its most sure and safe retreat is within the precincts of the household. There it works its direst effects, producing dyspepsia, nervousness and unnumbered forms of diseases upon the individual, and brings unhappiness, discomfort and numberless trains of evil to all who compose the household. And perhaps there is no other peculiarity so surely transmitted to posterity as this, especially when the habit is fixed upon the mother.

Fretting is too often regarded as the *result*, rather than the cause of disease. As already stated it is a *habit*, whether acquired or inherited; and like all other habits can be effectually broken up, if the sufferer can only apply his will firmly to the work. We know of no better rule for accomplishing this than the one assigned in the journal from which we have already quoted.

"The subject must do the greater part of the work. He or she must first be convinced of the folly, uselessness, and sin of the thing, and fully determine to conquer the detestable habit, and then whenever anything irritable occurs, KEEP THE MOUTH SHUT, and think of the folly and sin of giving way to the fretting proclivities unti the irritated feeling has ceased.

The persons coming most nearly in contact with the victims of this habit can also do a great deal to aid them in overcoming it by kind and encouraging words, and by carefully refraining from saying or doing anything likely to induce the feeling of fretfulness."

SALT IN THE HUMAN SYSTEM.—Prof. E. Johnson, of Scotland, says: Upward of half of the saline matter of blood (58 per cent.) consists of common salt; this partly discharged every day through the skin and kidneys, the necessity of continued supplies of it to the healthy body becomes sufficiently obvious. The bile also contains soda (one of the ingredients of salt) as a special and indispensible constituent, and so do all the cartilages of the body. Stint the supply of salt, therefore, and neither will the bile be able properly to assist digestion nor the cartilage be built up again as fast as they naturaly waste. It is better to place salt where stock can have free access to it, than to give occasionally in large quantities.

## Dressing Frogs for Food.

A LETTER from Florence Italy. contains the following:—This morning I wandered through the market, and, turning a corner, came suddenly upon a frog merchant, who was busy preparing and selling the little jumpers. On a table was a large bag, into which a boy put his hand and took out a number of live frogs; with a pair of scissors he decapitated them in rapid succession, at the same time cutting the skin of the back open, and then threw them into a large earthen dish which contained, perhaps a hundred more in the same state. Although headless, they were all swiming about and jumping in the liveliest manner. After soaking for a short time, they are taken out and dexterously skinned and then thrown into a tub of clear water. Even after being beheaded and skinned, some of them managed to swim around in the tub, and always tried to climb up the sides. They are sold by weight, and are cleaned, the feet cut off, and are ready for the purchaser, who no doubt enjoys them more than I could after seeing the whole operation of killing.

## Cold Meats.

The greatest desideratum of a second-hand dish, so to speak, is that it should not taste as such. Nothing is more abominable than the bad taste which is so prominent in the attempts at warming up cold meat, which your plain cook is pleased to call minced veal, hashed mutton, etc. The only means to avoid that taste is to remove carefully from the cold meat you are going to use, every part that has seen the fire as well as gristle and fat. Let every slice be carefully trimmed, and let them all be as near as possible similar in size and shape; then make your hash, and, even if you are not an expert at combining sauces and spices, at any rate it will not have a warmed up taste. The following are various formulas for warming up mutton and others meats:

Cut an onion in slices and fry it in butter till it assumes a deep brown color, then put in a table-spoonful of flour, and when it is well amalgamated with butter, add a little less than half a pint of stock broth, or even watter previously warmed. Stir a few minutes on the fire, and then proceed to flavor your sauce with walnut or mushroom catsup, tomato sauce, spices, and pepper and salt, in such proportions as taste may suggest and practice will teach. A little burnt onion browning may be put in if the sauce is not of a sufficiently deep color.

When the flavoring is completed, strain the sauce through a fine colander into a sauce-pan, and place in it your slices of meet. Keep the saucepan at a moderate heat till it is time to serve, and send your hash with a garland of bread sippets fried in butter around it. The longer the meat lies in sauce the better will your dish be. Proceed as in the above recipe as far as the butter, flour, and onions are concerned; then add to your sauce a moderate allowance of mustard; then add the stock, with or without a little white or red wine. Season with catsup, spices, pepper, and salt. Strain and put in the meat, serving with pickles or not, according to taste. Beef and pork are best warmed up in this way.

A mode of warming cold meat is in this wise: Fry some slices of onion in butter, and when they begin to take color put in your slices of meat, pepper, salt, and a sprinkling of flour. Keep on frying till the onions are thoroughly done and the meat warmed, then add a small quantity of stock broth, or water, with a small quantity of vinegar and serve.

## Forks and Sawmills.

A curious juxtaposition, the reader will say; but we have introduced them here as illustrative of the popular clamor which almost always attended the introduction of improvements and inventions, in the ordinary ways of labor and life, when inventions first began to find their way into the industries and amenities of society.

Forks were first known in Italy toward the end of the fifteenth century; but it was a hundred years before they came into use in France, and nearly a hundred more before they had traveled as far northward as Scotland. Their introduction into England was at first ridiculed as a piece of affectation and effeminacy. In one of Beaumont and Fletcher's plays, "your fork-carving traveler" is spoken of with great contempt, and Ben Johnson, also joined in the laugh against them.

The first man who appeared with an umbrella in the streets of London drew down upon himself a pelting shower of mud and stones, which was worse than the rain against which he had spread the new-fangled protection.

So with sawmills.—The old way of making boards was by splitting up the logs with wedges; and, clumsy as the method was, it was no easy matter to persuade the world there was a better. Sawmills were first used in Europe in the fifteenth century. In 1663 a Dutchman built one in England, but the public outcry against it was so vehement that he was obliged to decamp; and, for the next hundred years, no one ventured to repeat the experiment. In 1768 a rash adventurer began to erect another mill, but a conservative mob gathered at once, and tore it down.

AN INDUSTRIOUS WOMAN.—Mrs. Jane Ellis, of Searsport, Me., 74 years of age, has woven 340 yards of carpeting from March 10 to November 24, besides making 200 pounds of salmon nets and weaving 200 yards of cloth. All this in addition to doing her house work, and taking care of a sick husband.

## Domestic Receipts.

CHEAP FRUIT CAKE.—Take three cups of dried apples, soak over night; in the morning chop fine, add two cups of molasses, and cook slowly one hour; when cooled a little, add one cup of sugar, one of raisins, one of thick sour cream, two eggs, one teaspoonful of soda, flour enough to make a stiff batter, season with cinnamon, cloves, nutmeg, and lemon to taste; bake in a moderate oven.

MOCK MINCE-PIES.—Six crackers pounded fine, one cup of molasses, one of sugar, one-half of butter, one-half of vinegar, one-half pound of raisins chopped, two eggs, and spice to taste.

WINE JELLY.—One box of Cox's gelatine dissolved in a pint of cold water, then add a pound of loaf-sugar, the juice and grated rind of three lemons; pour on to this a pint of boiling water and a pint of wine, add cinnamon and cloves to taste. Bring all to a scald, strain, pour into molds, and set on ice till it is wanted. To be eaten with meats.

FAIRY BISCUITS —Rub two ounces of butwith half a pound of flour and four ounces of sugar, and a few drops of almond flavoring; mix with the white of an egg, and a tablespoonful of milk; work well into paste two ounces of sweet almonds well pounded and through a wire seive; take up pieces the size of a half dollar, bake a few minutes on buttered paper, taking care to keep them a pale color.

SNOW-FLAKE CAKE.—Half a cup of butter, two cups of sugar, four of flour, one of sweet milk, three eggs, well beaten, one tablespoonful cream of tartar, half a teaspoonful of soda—or if you have prepared flour use no soda or cream tartar. Bake the cake in shallow jelly pans; while baking, grate two fresh cocoanuts carefully, and spread over each cake, as it comes from the oven, a thin frosting, and then sprinkle thickly with the grated nut. Three layers of cakes make one cake. This recipe will make two loaves.

MOLASSES CANDY.—One tea-cup molasses, half teacup any kind of sugar, teaspoonful vinegar, a piece of butter half the size of a nutmeg. Put the whole in a skillet on a hot fire, and boil exactly ten minutes, stirring it all the time. Then set off to cool. Pull it as soon as it is hard enough. Boiling it twelve minutes will make it too hard. Eight minutes will not be enough. Ten minutes by the clock is the exact time.

## Mechanical Hints.

WHITE SHELLAC, when new, will very readily dissolve in the usual solvents, but on exposure to the air it is gradually changed in its character, and it seems almost impossible to dissolve it; in such cases it should be put away in the bottle or jar in a warm place, and in time it will thoroughly dissolve.

TEMPERING OLD FILES FOR CHISELS.—Heat the chisel gradually to a cherry red heat, then dip in water about one inch of the chisel end till it comes to a black heat, then rub with a rubber till you see a blue color, then quench it directly. This is the way blacksmiths do them.

ANOTHER WAY.—Grind out the cuttings on one side, and you will have a bright surface, then *damp* the surface with a little oil; then lay the file on a piece of red-hot iron, bright side upwards. In about a minute you will see the bright surface turning yellow; and when the yellow has deepened to about the color of straw, plunge in cold water.

TOOLS IN THE WORKSHOP.—Of all tools in the workshop whether of the amateur or of the practical man, the absence of the grindstone would be most severely felt, without it the restoration of the edges of tools would be scarcely possible, and upon their perfection much of practical success of cutting processes depends. Sharp tools produce, with the least expenditure of time, surfaces so nearly finished as to require but very little polishing; whereas blunt tools leave lines and mouldings less accurately defined, and the additional friction or polishing employed to gloss over the defects makes a bad case worse, and obliterates all the keen edges that would impart to the work a defined or exact character.

SEASONING WOOD BY BOILING.—Small pieces of non-resinous wood may be perfectly seasoned by boiling four or five hours. Sash frames of Spanish chestnut which has been so boiled have been "wedged up" within six weeks after the tree was felled, and have stood to admiration. The boiling takes the sap out of the wood, and most hardwood so treated shrink one-tenth in the process.

## Life Thoughts.

THE crown of all real manliness, of all Christian manliness, is purity.

"GRANDEUR of character," says Channing, lies wholly in force of soul.

To be very attractive to all sorts of different people, one must have great readiness of sympathy.

HEAVEN-GATES are not so highly arched as Princess' palaces; they that enter there must go on their knees.

POSTERITY is able to be impartial, and restores the too great admiration of contemporaries to the proper degree.

NATURE has written a letter of credit upon some men's faces, which is honored wherever presented.—*Thackeray.*

IN youth, women are our idols; at a ripe age, our companions; in old age, our nurses, and in all ages, our friends.—*Bacon.*

AN APT ANSWER.—Said one man to another: "If it wasn't Sunday, how much would you take for all that lumber?" If it wasn't Sunday I'd tell you.

IT is not until the flower has fallen off that the fruit begins to ripen. So in life, it is when the romance has passed that the practical usefulness begins.

MOST of the successful men are healthy men or were so at the time the foundation of their fortune was laid. To get rich requires health, and to keep and enjoy a fortune it is even more important.

HAVE the courage to show that you respect honesty, by whomsoever exhibited.

Have the courage to wear old clothes until you pay for your new ones.

Have the courage to obey your Maker, at the risk of being ridiculed by men.

Have the courage to prefer comfort and prosperity to fashion in all things.

## Character is Power.

It is often said that knowledge is power, and this is true. Skill or faculty of any kind carries with it superiority. So, to a certain extent, wealth is power and genius has a transcendent gift of masterâ over men. But higher, purer, better than all, and more constant in its influence, more lasting in its sway, is the power of character—that power which emanates from a pure and lofty mind.

In any community, who is the man of most influence? To whom do all look up with reverence? Not the smartest man, not the cleverest politician, nor the most brilliant talker; but he who in a long course of years of prosperity and adversity, has neighbors, who have seen his life, and all of whom pronounce him worthy to be called wise and good.

IN any society when a difference of opinion arises on matters of little or no consequence, it is wise to give in, although you may have incontestible proofs to support the correctness of your opinion; this flatters the other's vanity, and cannot injure yourself.

"THIS little fellow," said Martin Luther of a bird going to roost, "has chosen his shelter, and is quietly rocking himself to sleep without a care for to-morrow's lodging; calmly holding by his little twig, and leaving God alone to think of him."

THE things that belong to man must be understood, in order that they may be loved; the things that belong to God, must be loved in order to be understood.—*Pascal.*

"FOR MYSELF" said the great Spinoza, "I am certain that the good of human life cannot lie in the possession of things which for one man to posess is for the rest to lose but rather in things which all can possess alike, and where one man's wealth promotes that of his neighbor."

NEVER be sorry for any generous thing that you ever did, even if it was betrayed. Never be sorry that you were magnanimous, if the man was mean afterward. Never be sorry that you gave. It was right for you to give, even if you were imposed upon. You cannot afford to keep on the safe side by being mean.

THERE is no royal road to learning, the scholar must be content to tread upon each round of the ladder if he would reach the top, remembering "that which is easily gained is little valued."

FOR my part, says Hawthorne, if I had an insupportable burden; if, for any cause I were bent upon sacrificing every earthly hope as a peace offering toward Heaven, I would make the wide world my call, and good deeds to mankind my prayer. Many penitent men have done this and found peace in it.

# The Snow-Bound, Starved Emigrants of 1846.

### Statement by Mr. Reed, one of the Donner Company.

*"The Donner Tragedy—A Thrilling Chapter in Our Pioneer History."*

EDITORS PRESS:—An article under the above quoted title appeared in your issue of January 21st, 1871. The preface contained the following:

"The sufferings of the Donner party, who were snowed in, and detained on the mountains more than three months, in the winter of 1846-47 has been much talked about, and some garbled stories have been published; but from the very nature of the case, anything like a true history was difficult to come at."

The writer of the above truly says that it has been much talked about, and some garbled stories have been published. But there never was a more garbled story than the one entitled the "Donner Tragedy," written by F. H. McDougal. After the lapse of 25 years the sad affair must be raked over and hashed up to furnish material for F. H. McDougal's "Tragedy."

F. H. McDongal's informant, Mrs. Curtis, never was a member of the Donner party, and she states herself that she never was. Then how could it be possible for her to give anything like a true history. "From the very nature of the case" she could know nothing about the company in the mountains. Nevertheless she vouches for her statement as being true, when it must have been derived from hearsay only, and the writer of the "Tragedy," knowing from the statement of Mrs. Curtis that the information she could give was only hearsay, must have exercised very little judgment in writing such garbled matter for a journal of the character of the PRESS.

I have never appeared voluntarily, and never wished to, before the public in reference to this sad affair; having gained the ill-will of parties who wished to write books with reference to it by refusing. Myself and family have always refused giving particulars, but were always willing to give general items; and it is with extreme reluctance that I publish the following statement of my connection with the Donner party, only giving the general outlines.

I have a diary containing all the particulars pertaining to the party in the mountains, and my four children are living witnesses of the truth. Two of them were old enough at that time to remember all the circumstances. I have always "drawn the curtain over the revolting scenes."

I would do all again that I did do in the company except two things: First, leaving my family and wagons in the desert to hunt water to gratify the desire of a number of the company, when there was a plain road traveled by companies before us. Second: No inducement could persuade me to leave my family to the tender mercies of a company.

"A touching little incident is related of these times. On the passage from the camp to Fort Sutter, Mr. Brein and one of his little daughters became very faint, and it was feared that they would die. It was proposed to Mr. Reid that they should stop and light fires, and try to restore them. He treated the matter coolly, not to say gruffly, saying that he did not think it worth while to take much trouble about it. On hearing this, his little girl took him by the hand, saying in the sweet earnestness of a grateful child, "Papa, if it hadn't been for Mr. Reed (Mr. Brein) we should all have been dead!" The sight of the sweet pleader brought the lesson home to his heart. He instantly ordered a halt; when they kindled fires on each side of them, administered remedies, and the sufferers were saved."

With what fine flow of language, and how smoothly the "touching little incident is written. Surely the informant and writer, after being so particular in giving the conversation, could have located the place on the route from the emigrants' camp to Sutters Fort. No, that would not answer the purpose. I denounce it as wilfully and maliciously false, and the heart that could give utterance to it, must be devoid of all the finer feelings of a woman. Refering to Mr. McCutchen's account for all the transactions at this place "Starved Camp" only stating that Mr. Brien was not sick, neither was it feared that he would die. He had only one daughter then, she was an infant not more than eighteen months old.

I thank Mr. and Mrs. Brien for giving shelter to my wife and children, but as to giving them of their stores they never did.

The article "Donner Tragedy," reflecting with unmerited severity on me as a man and my efforts in carrying relief to the suffering party when I, without fear of contradiction, can say that myself with Mr. McCutchen did more for that party than all the members together, is my justification in publishing the following statement of my acts in connection with the Donner Party.

Any one wishing further information of myself is referred to Thornton's "Oregon and California," Bryant's "What I saw in California," and Hall's "History of San Jose."

I left Springfield, Ill., with my family about the middle of April 1846. George and Jacob Donner with their families accompanied me. We arrived at Independence, Mo., where I loaded two of my wagons with provisions, a third one being reserved for my family. Col. W. H. Russel's company had started from here before our arrival. We followed and overtook them in the Indian Territory. I made application for admission of myself and others into the company, and it was granted. We traveled on with the company as far as the Little Sandy, here a separation took place. The majority of the members going to Oregon, and a few wagons, mine with them, going the Fort Bridger, Salt Lake Route for California. The day after our separation from the Russel company, we elected George Donner captain. From this time the company was known as "The Donner Company."

Arriving at Fort Bridger, I added one yoke of cattle to my teams, staying here four days. Several friends of mine who had passed here with pack animals for California, had left letters with Mr. Vasques—Mr. Bridger's partner—directing me to take the route by way of Fort Hall and by no means to go the Hastings cut-off. Vasques being interested in having the new route traveled, kept these letters. This was told me after my arrival in California. Mr. McCutchen, wife and child joined us here.

Leaving Fort Bridger we unfortunately took the new route, traveling on without incident of note, until we arrived at the head of Webber canyon. A short distance before reaching this place we found a letter, sticking in the top of a sage bush. It was from Hastings. He stated that if we would send a messenger after him he would return and pilot us through a route much shorter and better than the canyon. A meeting of the company was held, when it was resolved to send Messrs. McCutchen, Stanton and myself to Mr. Hastings; also we were at the same time to examine the cañon and report at short notice. We overtook Mr. Hastings at a place we called Blackrock, south end of Salt Lake, leaving McCutchen and Stanton here, their horses having failed. I obtained a fresh horse from the company Hastings was piloting, and started on my return to our company, with Mr. Hastings. When we arrived at about the place where Salt Lake city is built, Mr. Hastings, finding the distance greater than anticipated by him, stated that he would be compelled to return the next morning to his company. We camped this evening in a canyon. Next morning ascending to the summit of the mountain where we could overlook a portion of the country that lay between us and the head of the cañon, where the Donner company were camped. After he gave me the direction, Mr. Hastings and I separated. He returning to the companies he had left the morning previous, I proceeding on eastward. After descending to what may be called the table land, I took an Indian trail and blazed the route where it was necessary that the road should be made, if the company so directed when they heard the report. When McCutchen, Stanton and myself got through Webber cañon on our way to overtake Mr. Hastings, our conclusions were that many of the wagons would be destroyed in attempting to get through the cañon. Mr. Stanton and McCutchen were to return to our company as fast as their horses would stand it, they having nearly given out. I reached the company in the evening and reported to them the conclusions with regard to Webber cañon, at the same time stating that the route that I had blazed that day was fair, but would take considerable labor in clearing and digging. They agreed with unanimous voice to take that route if I would direct them in the road making, they working faithfully until it was completed. Next morning we started under these conditions, and made camp that evening without difficulty on Bossman creek. The afternoon of the second day, we left the creek turning to the right in a cañon, leading to a divide. Here Mr. Graves and family overtook us. This evening the first accident that had occurred was caused by the upsetting of one of my wagons. The next morning the heavy work of cutting the timber commenced. We remained at this camp several days. During this time the road was cleared for several miles ahead. After leaving this camp the work on the road slackened and the farther we advanced the slower the work progressed. I here state that the number of days we were detained in road-making was not the cause by any means, of the company remaining in the mountains during the following winter.

We progressed on our way, and crossed the outlet of the Utah, now called Jordan, a little below the location of Salt Lake city. From this camp in a day's travel we made connection with the trail of the companies that Hastings was piloting through his cut-off. We then followed his road around the Lake without incident worthy of notice until reaching a swampy section of country west of Black Rock, the name we gave it. Here we lost a few days on the score of humanity. One of our company, a Mr. Halloron being in a dying condition from consumption. We could not make regular drives owing to his situation. He was under the care of Mr. Geo. Donner, and made himself known to me as a Master Mason. In a few days he died. After the burial of his remains we proceeded on our journey making our regular drives, nothing occurring of note until we arrived at the springs where we were to provide water and as much grass as we could for the purpose of crossing the Hastings desert, which was represented as 40 or 45 miles in length, (but we found it at least 70 miles). We started to cross the desert traveling day and night only stopping to water and feed our teams as long as water and grass lasted. We must have made at least two-thirds of the way across when a greater portion of the cattle showed signs of giving out. Here the company requested me to ride on and find the water and report. Before leaving I requested my principal teamster, that when my cattle became so exhausted that they could not proceed further with the wagons, to turn them out and drive them on the road after me until they reached the water, but the teamster misunderstanding unyoked them when they first showed symptoms of giving out, starting on with them for the water.

I found the water about twenty miles from where I left the company and started on my return. About 11 o'clock at night I met my teamsters with all my cattle and horses. I cautioned them particularly to keep the cattle on the road, for that as soon as they would scent the water they would break for it. I proceeded on and reached my family and wagons. Some time after leaving the men one of the horses gave out and while they were striving to get it along the cattle scented the water and started for it. And when they started with the horses the cattle were out of sight, they could not find them or their trail, as they told me afterwards. They supposing the cattle would find water went on to camp. The next morning they could not be found and they never were, the Indians getting them, except one ox and one cow. Losing nine yoke of cattle here was the first of my sad misfortune. I staid with my family and wagons the next day, expecting every hour the return of some of my young men with water, and the information of the arrival of the cattle at the water. Owing to the mistake of the teamsters in turning the cattle out so soon the other wagons had drove miles past mine and dropped their wagons along the road as their cattle gave out, and some few of them reaching water with their wagons. Receiving no information and the water being nearly exhausted, in the evening I started on foot with my family to reach the water. In the course of the night the children became exhausted. I stopped, spread a blanket and laid them down covering them with shawls. In a short time a cold hurricane commenced blowing; the children soon complained of the cold. Having four dogs with us I had them lie down with the children outside the covering. They were then kept warm. Mrs. Reed and myself sitting to the windward helped shelter them from the storm. Very soon one of the dogs jumped up and started out barking, the others following making an attack on something approaching us. Very soon I got sight of an animal making directly for us; the dogs seizing it changed its course, and when passing I discovered it to be one of my young steers. Incautiously stating that it was mad, in a moment my wife and children started to their feet scattering like quail, and it was some minutes before I could quiet camp; there was no more complaining of being tired or sleepy the balance of the night. We arrived about daylight at the wagons of Jacob Donner, the next in advance of me, whose cattle having given out, had been driven to water. Here I first learned of the loss of my cattle, it being the second day after they had started for the water. Leaving my family with Mrs. Donner, I reached the encampment. Many of the people were out hunting cattle, some of them had got their teams together and were going back into the desert for their wagons. Among them Mr. Jacob Donner, who kindly brought my family along with his own to the encampment. We remained here for days hunting cattle, some of the party finding all, others a portion, all having enough to haul their wagons except myself.

On the next day, or day following, while I was out hunting my cattle, two Indians came to the camp, and by signs gave the company to understand that there wers so many head of cattle out, corroborating the number still missing; many of the people became tender-footed at the Indians coming into camp, thinking that they were spies. Wanted to get clear of them as soon as possible. My wife requested that the Indians should be detained until my return, but unfortunately before returning they had left. The next morning, in company with young Mr. Graves,—he kindly volunteering,—I started in the direction the Indians had taken; after hunting this day and the following, remaining out during the night, we returned unsuccessful, not finding a trace of the cattle. I now gave up all hope of finding them and turned my attention to making arrangements for proceeding on my journey.

In the desert were my eight wagons; all the team remaining was an ox and cow. There was no alternative but to leave everything but provisions, bedding and clothing. These were placed in the wagon that had been used by my family. I made a cache of everything else. Members of the company kindly furnishing team to haul the wagon to camp. I divided my provisions with those who were nearly out, and indeed some of them were in need. I had now to make arrangement for sufficient team to haul that one wagon; one of the company kindly loaned me a yoke of cattle, and with the ox and cow I had, made two yoke. We remained a this camp from first to last, if my memory is right, seven days.

Leaving this camp we traveled for several days. It became necessary from some cause for the party who loaned me the yoke of cattle to take them. I was again left with my ox and cow, but through the aid of another kind neighbor I was supplied with a yoke of cattle.

Nothing transpired for some days of any note. Sometime after this it became known that some families had not enough of provisions remaining to supply them through; as a member of the company, I advised them to make an estimate of provisions on hand and what amount each family would need to take them through. After receiving the estimate of each family, on paper, I then suggested that if two gentlemen of the company would volunteer to go in advance to Capt. Sutters, [near Sacramento] in California, I would write a letter to him for the whole amount of provisions that were wanted, also stating that I would become personally responsible to him for the amount. I suggested that from the generous character of Capt. Sutter he would send them. Mr. McCutchen came forward and proposed that if they would take care of his family he would go. This the company agreed to. Mr. Stanton, a single man, volunteered, if they would furnish him a horse; Mr. McCutchen, having a horse and mule, generously gave the mule. Taking their blankets and some provisions they started for California. After their leaving us we traveled on for weeks, none of us knowing the distance we were from California. All became anxious for the return of McCutchen and Stanton.

#### Leaving the Company.

It was here suggested that I go in advance to California, see what had become of McCutchen and Stanton, and hurry up the supplies. They would take care of my family. That being agreed upon I started, taking with me about three days provisions, expecting to be able to kill game on the way. The Messrs. Donner were two days drive in advance of the main party when I overtook them. With George Donner there was a young man named Walter Herren, who joined me; with all the economy I could use, our provisions gave out in a few days; I supplied our wants by shooting wild geese and other game when we could find any. The next day after I was joined by Herren, I proposed to him—I having a horse and he none—that we would ride half the day about; it was thankfully accepted; no game to be seen; hunger began to be felt, and for days we traveled without hope or help. We reached the Sierra Nevada mountains; I could have stopped here, and, hunting, found game. Then again I might not be successful. This would have delayed our progress and increased our hunger. The second day before we found relief, Herren wanted to kill the horse; I persuaded him from it by stating that we might find relief soon, but before we would perish, I would kill the horse. Soon after this he became delirious; this afternoon, while walking, I found a *bean*, and gave it to him, and then never was a road examined more closely for several miles than was this. We found in all *five beans*. Herren's share was three of them. We camped that night in a patch of grass a short distance off the road. Next morning, after traveling a few miles, we saw some wagons.

#### Eating Axle-Grease.

We soon reached and ransacked the wagons, hoping to find something to eat, but found nothing. Taking the tar bucket that was hanging under one of the wagons, I scraped the tar off and found a streak of rancid tallow at the bottom. I remember well that when I announced what I had found, Herren, who was sitting on a rack near by, got up, hollooing with all the strength he had, and came to me. I handed the tar paddle to him having some of the tallow about the size of a walnut on it. This he swallowed without giving it a smell. I then took a piece myself but it was very repulsive. He, craving more, I gave him another piece. Still wanting more, I positively refused stating that it would kill him. After leaving the wagons probably fifty yards, I became deadly sick and blind. I rested myself against a rock, leaning my head on the muzzle of my gun. Herren, seeing my conditon, came to me and said: "My God, Mr. Reed, are you dying!" After resting a few minutes, I recovered, much to his joy.

The wagons were within a short distance of the steep descent going down into Bear river Valley. After descending the first steep pitch, I discovered wagons in the valley below us. Herren, said I, there are wagons in the valley, pointing to them. When he saw them, he gave vent to his joy, hallooing at the top of his voice, but could not be heard ten rods off, he being so weak. The sight of the wagons revived him and he descended the mountain with all his ability.

On reaching the wagons we found several families of emigrants who supplied us with bread. I here met Mr. Stanton with two Indians, on his return to the company with provisions sent by Capt. Sutter, on receiving my letter. Next morning Mr. Stanton started for the company and myself for Capt. Sutter's.

[To be continued.]

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BIRD ARCHITECT.—Dr. T. H. Hyatt, the California Correspondent of Moore's *Rural New Yorker* writes:

Among the evergreen foliage of a live oak tree, standing near the springs at *Junglewood*, we noticed a bird's nest, large enough for that of a pigeon or turtle dove, which had an awning or arbor built over as a screen against the hawks, as well as to keep off the burning rays of the mid-day sun. It exhibits a very judicious instinct if not a show of reason.

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″ W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF | | | | | TEMP.* | | | WIND. | R'N† |
|---|---|---|---|---|---|---|---|---|---|---|
| | Barometer Corrected. | Temp. Air. | Rel. Hmdty. Satura'n 100. | Force of Vapor. | Amount of Cloudiness. | Maximum. | Minimum. | Range. | General direction f'm which it moves, and the Forces. | Gauge 50 ft. ab've surf'ce |
| MARCH. | INHS. | DEG. | ₱ C. | INHS. | 0–10 | DEG. | DEG. | DIF-TION. | F'CE. 0–10 | INHS |
| Sunday.. 5 | 30.061 | 55 | 83 | .364 | 10 | 60 | 49 | 11 | S. E. 2 | 0.020 |
| Monday.. 6 | 30.039 | 55 | 80 | .349 | 10 | 59 | 50 | 09 | S. E. 2 | 0.040 |
| Tuesday . 7 | 30.157 | 54 | 63 | .263 | 1 | 63 | 42 | 21 | N. W. 2 | .... |
| Wedns... 8 | 30.292 | 54 | 76 | .315 | 5 | 64 | 42 | 22 | S. E. 2 | .... |
| Thurs.... 9 | 30.11 | 55 | 64 | .274 | 5 | 6 | 42 | 23 | N. 2 | .... |
| Friday. .10 | 30.052 | 55 | 73 | .311 | 5 | 66 | 41 | 25 | S. E. 2 | .... |
| Satu'day.11 | 30.068 | 59 | 75 | .388 | 3 | 72 | 43 | 29 | S. E. 2 | .... |
| Sunday..12 | 29.866 | 55 | 59 | .271 | 3 | 69 | 42 | 27 | S. & S.W. 3 | .... |
| Monday..13 | 29.832 | 53 | 55 | .218 | 1 | 63 | 41 | 22 | N. W. 3 | .... |
| Tuesday .14 | 30.159 | 50 | 63 | .225 | 7 | 60 | 38 | 22 | S. E. 2 | .... |
| Wedns...15 | 30.207 | 57 | 69 | .32. | 9 | 68 | 47 | 21 | S. E. 2 | Spkl |
| Thurs....16 | 30.109 | 55 | 68 | .29 | 9 | 61 | 42 | 22 | S E 3 | .... |
| Friday ..17 | 30.104 | 52 | 60 | .22 | 5 | 62 | 4 | 20 | S. E. 2 | .... |
| Satu'day.18 | 30 111 | 58 | 64 | .23. | 7 | 60 | 6 | 24 | S. E. 2 | Spkl |

*Thermometograph. †Rain.

REMARKS.—Saturday, Feb. 18, 1871.—The weather has been variable and more or less stormy or cloudy during the whole week—not one single entirely clear day presenting. Although the rain has not exceeded a sprinkle, still the tendency continues (at the present writing, March 19, 11 A. M), and we see no reason for modifying the opinion expressed in our remarks last week. The same cosmical causes which have delayed the rains in the southern part of our continent, doubtless affect us also; and the result will he, here as well as there, late but sufficient rain.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., March 23d.

FLOUR—Has been in only moderate demand for either export or milling. City millers advanced their prices 25c per bbl. for extra, and Oregon standard brands correspondingly advanced.

We quote local brands, superfine, $5.75@6.00; extra, $6.12½@7.25. Oregon brands, superfine, $5.50@$5.75. Extra, $6.75@7.25.

Transactions include 9,000 bbls. Cal. extra, 3,000 bbls. Oregon extra, and 2,500 do. California and Oregon superfine, for export and private.

WHEAT—The market still continues very dull. There has been but one departure during the week. The joint price of freight and wheat still places the cost on shipboard above the limits of foreign orders. There are said to be orders here, which with a small reduction in either freight or grain would soon absorb the balance of the crop on hand. An early arrival of ships over due, and the consequently still further reduction in the probability of charters, until the incoming of the next crop, may have the effect of reducing freight within buyer's limits.

Sales during the week have averaged some 19,000 sacks, from $2.35@$2.45. At the close we quote good shipping at $2.35@$2.45.

The Liverpool market has advanced 2d., and is now quoted at 12s. New York rates are still continued at $1.70@1.75.

BARLEY—Is still in limited demand, at about last weeks quotations. We quote, feed, $1,30@$1,37½. Sales embrace 8,000 sacks.

OATS—We note still a limited demand for oats. Extremes may be quoted at $1.60@1.70. Sales about 2,500 sacks.

CORN—Quotable at $1.50@1.60.

BUCKWHEAT—Nominal at $3.25@3.50.

RYE—In limited demand. Last sale at $2.20.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $28.50@29.00; MIDDLINGS, $35 for feed; $37.50@40 for fine. OIL CAKE MEAL $33.

HAY—Is in steady demand. We quote ordinary to choice at $12.00@15.00 ₱ ton.

HONEY—Los Angeles, 5-gall cans, $12@16, and Porter's, 2 ℔ do, at $4 ₱ dozen.

POTATOES—Have ruled in good demand during the past week. The present range of good quality of California is from $1.70@$2.00.

HOPS—Demand light—prices nominal at 8@12½c. for California crop of 1870. Nothing new from the Eastern market.

HIDES—We quote Dry, slaughterer's stock, 16@17½ c; Salted, 8@8½c. Sales during the week 2,000 Cal. dry.

WOOL—The receipts of spring clip increase as the season advances. Sales of 41,000 ℔s. private; but believed to be at a high figure. Shippers are not inclined to purchase at the rates now demanded.

TALLOW—The extremes may still be quoted from 7@8c.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 6@7c., Alfalfa, 16c.

BEANS—Prices but little changed. Bayo at $2.25@2.50; butter, at $1.80 for small and $2.00 for large; small white, $1.90@2.00; pink, $1.50; red, $1.75; pea, $2@$2.12½ per 100 pounds.

FRESH MEAT—In good supply and quotations but little changed. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@12½c ₱ ℔.
Do 2d do 8@ 9c ₱ ℔.
Do 3d do 7@ 8c ₱ ℔.

VEAL—The animals embrace more large calves than usual; prices quotable at 9@12½c.

MUTTON—Steady at 8@9c. ₱ ℔.

LAMB—quotable at 14@15.

PORK—Undressed is quotable at 7@8½c. for grain fed; dressed, 10½@12.

POULTRY, ETC.—In good supply, and prices but little changed. Young Chickens $7@8; Hens $7.50@8; Roosters $7.50@8.00; Ducks, tame, $8@9 ₱ doz; do wild, $1@3.00 ₱ doz; geese, tame, $2.50@$3.50 ₱ pair; live turkeys, 18@20c ₱ ℔; Hare, $1.50@2.00 per doz; Doves, $1.00 do.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 25@30c. Eastern firkin 20@30c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California new, 10@14c., Eastern, 16@17c.

EGGS—California fresh, 28@30c.

LARD—California Lard, 11-℔ tins, 14@15c; Oregon, 14@15c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $2.50@$3.00; Oregon, $1.75@$3.00; Pears, per box, $2.50@$4.00; Oranges, per 1,000, $25@$45; Tahiti oranges $30 per M.; Lemons, per box, $12; Cal. Lemons, $3@4 per 100; Pears scarce, choice Apples plenty.

CASE GOODS—In 2 ℔ cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—There is at the present time a good demand for Mowers, and if the crop prospects continue favorable, Harvesters, Threshers, Reapers and other seasonable implements will be in active demand within the next 20 days. Stocks are said to be liberal, and prices rule low for all kinds of goods in this department of trade.

BAGS AND BAGGING—The market remains quiet for all kinds. Wool sacks have all gone into second hands. The demand for Flour Sacks continues fair. Prices for most descriptions are more or less nominal.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 6½c; Oregon do, 7c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12@13c, for old and new respectively, ₱ ℔; Raisins, layer, $4.25@5.00; Currants, Zante, 10½@11½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13½@4½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 15@15½c.

### WHOLESALE PRICES.—MISCELLANEOUS.

| | | | |
|---|---|---|---|
| Sugar, orsh'd, ℔ | $ 14 @$ 14½ | Hemp Seed, ℔ | $ 7 @ 9 |
| Hawaiian, do. | 9 @ 12 | Castor Beans, ℔ | 4 @ 4½ |
| Coffee, Cos. R, ℔ | 16 @ 16½ | Castor Oil, gal | 1 75 @2 00 |
| Rio, do | 17 @ | Linseed Oil, gal. | 05 @1 10 |
| Tea, Japan, ₱ ℔ | 55 @ 90 | Broom Corn, ₱ ℔ | 3 @ 5 |
| Green, do | 50 @1 00 | Beeswax, ₱ ℔ | 27 @ 30 |
| Rice, Haw'n, ₱ ℔ | 8½@ 9 | Peanuts, ₱ ℔ | 5 @ 7 |
| China, do | 6½@ 7½ | Corn Meal, cwt | 2 50 @3 00 |
| Coal Oil, ₱ gal | 50 @ 60 | Onions, cwt | 1 50 @2 00 |
| Candles, ₱ ℔ | 14 @ 18 | | |

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, March 24, 1871

| | |
|---|---|
| IRON.—Duty: Pig, $7 ₱ ton; Railroad, 60c ₱ 100 ℔s; Bar, 1@1½c ₱ ℔; Sheet, polished, 3c ₱ ℔; common, 1½@1¾c ₱ ℔; Plate, 1½c ₱ ℔; Pipe, 1½c ₱ ℔; Galvanized, 2½c ₱ ℔ | |
| Scotch and English Pig Iron, ₱ ton | $34 00 @$3 00 |
| White Pig, ₱ ton | — 32 @ 33 00 |
| Refined Bar, bad assortment, ₱ ℔ | — 03 @ — — |
| Refined Bar, good assortment, ₱ ℔ | — 04 @ — — |
| Boiler, No. 1 to 4 | — 04¾@ — — |
| Plate, No. 5 to 9 | — @ — 04½ |
| Sheet, No. 10 to 13 | — 04½@ — 05 |
| Sheet, No. 14 to 20 | — 05 @ — 05½ |
| Sheet, No. 24 to 27 | — 05 @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ ℔; Pig and Bar, 2½c ₱ ℔. | |
| Sheathing, ₱ ℔ | — — @ — 26 |
| Sheathing, Yellow | — 20 @ — 21 |
| Sheathing, Old Yellow | — 10 @ — 11 |
| Composition Nails | — 21 — 22 |
| Composition Bolts | — 21 — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | |
| Plates, Charcoal, IX ₱ box | 12 00 — — |
| Plates, I C Charcoal | 10 00 10 50 |
| Roofing Plates | 10 00 10 50 |
| Banca Tin, Slabs, ₱ ℔ | — — — 42 |
| STEEL.—English Cast Steel, ₱ ℔ | — — — 15 |
| QUICKSILVER.—₱ ℔ | — — — 50 |
| LEAD.—Pig, ₱ ℔ | — 06 — 07 |
| Sheet | — 09 — |
| Pipe | — 10 — 11 |
| Bar | — 08 — 09 |
| ZINC.—Sheets, ₱ ℔ | — 10½ — 11 |
| BORAX.— | — 25 — 35 |

SUCCESS IN BUSINESS.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALD'S BUSINESS COLLEGE, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and HEALD'S COLLEGE JOURNAL, which will be sent free upon application. Address, E. P. HEALD, President, business College, San Francisco, Cal. 1v1-3msnr

## San Francisco Retail Market Rates.

FRIDAY, March 17, 1871.

### MISCELLANEOUS.

| | | | |
|---|---|---|---|
| Butter, Cal fr. ℔ | 30 @ 40 | Wool Sacks, new | |
| Pickled, Cal. ℔ | @ | Second-hnd do | |
| do Oregon, ℔ | @ | Wheat-sks, 22x36 | 13½@ 14 |
| Honey, ₱ ℔ | 25 @ 30 | Potato G'y Bags. | |
| Cheese, ₱ ℔ | 20 @ 25 | Deer Skins, each | 15 @ 22 |
| Eggs, per doz | 35 @ 40 | Sheep sks, wl on | 50 @ 75 |
| Lard, ₱ ℔ | 15 @ 20 | Sheep sks, plain. | 12½@ 25 |
| Sugar, cr., 7 ℔ | 1 00 @ | Goat skins, each. | 25 @ 35 |
| Brown, do, ₱ ℔ | 10 @ 13 | Plums, dried, ℔. | 15 @ 20 |
| Beet, do, 7 ₱ s. | 1 00 @ | Peaches, dried,* | 15 @ 20 |
| Sugar, Map. ℔. | 37½@ | | |

### PRODUCE, ETC.

| | | | |
|---|---|---|---|
| Codfish, dry, ℔ | @ 10 | Barley, cwt | 1 30 @1 35 |
| Flour, ex, ₱ bbl | 5 50 @7 25 | Beans, cwt | 1 87½@2 50 |
| Superfine, do | 5 50 @6 00 | Potatoes, cwt | 1 75 @2 25 |
| Corn Meal, 100 ℔ | 2 15 @2 35 | Hay, ₱ ton | 15 00 @18 00 |
| Wheat, ₱ 100 ℔s | 2 25 @2 40 | Live Oak Wood | 10 00 @12 00 |
| Oats, ₱ 100 ℔s | 1 60 @1 75 | | |

### FRUITS, VEGETABLES, ETC.

| | | | |
|---|---|---|---|
| Pine Apples, † | 5 00 @9 00 | Egg Plant | @ |
| Bananas, ₱ ℔ | 3 00@5 00 | Garlics | 5 @ 8 |
| Cal. Walnuts, ℔. | @ 20 | Green Peas, ₱ ℔ | @ 20 |
| Cranberries, ₱ g | 75 @1 00 | Green Corn, doz. | @ |
| Cranberries, O, ¶ | @1 00 | Sugar Peas, ₱ ℔ | @ |
| Apples, No. 1, ℔. | 4 @ 5 | Lettuce, ₱ doz | 12 @ 25 |
| Pears, table, ₱ ℔ | @ 12½ | Mushrooms, ₱ ℔ | 8 @ 15 |
| Oranges, ₱ doz ? | 50 @ 75 | Horseradish, ₱ ℔ | @ 20 |
| Lemons, ₱ doz | 75 @1 00 | Okra, dried, ₱ ℔ | 37 @ 50 |
| Figs, dried, ₱ ℔. | 15 @ 20 | Okra, green, ₱ ℔ | @ |
| Asparagus, wh.* | 12 @ 15 | Pumpkins, ₱ ℔. | 3 @ 4 |
| Green, do | 20 @ 25 | Parsnips, † bnchs | @ 25 |
| Artichokes, doz. | 75 @1 00 | Parsley | @ 25 |
| Brussel's sprts, * | 12 @ 15 | Pickles, ₱ gal | 50 @ 75 |
| Beets, ₱ doz | 20 @ 25 | Rhuharb, ₱ ℔ | 12 @ 15 |
| Potatoes, ₱ ℔ | 2 @ 3 | Radishes, † huns | @ 25 |
| Potatoes, sweet,* | @ 5 | Green Peppers, * | |
| Potatoes. new | @ 06 | Red, do | @ 25 |
| Tomatoes, ₱ ℔ | | Summer Squash | |
| Broccoli, ₱ doz | 1 50 @2 00 | Marrowfat, do. | 4 @ 6 |
| Cauliflower, † | 2 50 @3 00 | Huhhard, do | @ 5 |
| Cahbage, ₱ doz | 3 00 @3 50 | String Beans, ℔. | @ |
| Carots, ₱ doz | 10 @ 25 | Dry Lima, shl | @ 8 |
| Celery, ₱ doz | 75 @1 00 | Spinage, ₱ hskt. | 25 @ 50 |
| Cress, ₱ doz bun | 20 @ 25 | Salsify, ₱ bunch | 25 @ 12 |
| Dried Herbs, b'h | 25 @ 50 | Turnips, ₱ doz | @ 25 |

### POULTRY, GAME, MEATS, ETC.

| | | | |
|---|---|---|---|
| Chickens, apiece | 75 @1 00 | Lamb, ₱ ℔ | @ |
| Turkeys, ₱ ℔ | 20 @ 25 | Tongues, beef, ea | @ 75 |
| Ducks, wild, ₱ p | | Tongues, pig, ea | @ 15 |
| Tame, do | 1 50 @2 00 | Bacon, Cal., ₱ ℔ | 18 @ 20 |
| Teal, ₱ doz | | Oregon, do | 18 @ 20 |
| Geese, wild, each | 37½@ 50 | Hams, Cal, ₱ ℔. | 18 @ 20 |
| Tame, ₱ pair | 3 50 @4 00 | Hams, Cross' s c | @ 25 |
| From Chicago. | @ | Choice D'field | @ 25 |
| Hens, each | 75 @1 00 | Whittaker's | @ 25 |
| Snipe, ₱ doz | 1 25 @1 50 | Johnson's Or. | @ 25 |
| English, do | 2 50 @3 00 | Salmon, ₱ ℔ | 10 @ 12 |
| Venison, ₱ ℔ | @ | Smoked, new,* | 12 @ 15 |
| Quails, ₱ doz | | Pickled, ₱ ℔. | 6 @ 8 |
| Pigeons, dom. do | 3 00 @3 50 | Rock Cod, ₱ ℔. | 12½@ 15 |
| Wild, do | 1 50 @2 00 | Perch, s water, ₱ ℔ | 10 @12½ |
| Hares, each | 40 @ 50 | Lake Big. Trout* | |
| Rabbits, tame | 50 @1 00 | Smelts, ₱ ℔ | 6 @ 8 |
| Wild, do, ₱ dz | 1 75 @2 00 | Herring, fresh | |
| Squirrel, ₱ pair. | 25 @ 38 | Sm'kd, 100 ℔s. | @ 75 |
| Beef, tend, ₱ ℔. | 20 @ 25 | Tomcod, ₱ ℔ | @ 25 |
| Sirloin and rib | 18 @ 20 | Terrapin, ₱ doz | 5 00 @6 00 |
| Corned, ₱ ℔ | 10 @ 12 | Mackerel, p'k, ea | @ 20 |
| Smoked, ₱ ℔ | 15 @ 18 | Fresh, do | |
| Pork rib, etc., ℔ | 12½@ 15 | Sea Bass, ₱ ℔ | @ |
| Chops, do, ₱ ℔ | 12 @ 15 | Halibut | 62 @ 75 |
| Veal, ₱ ℔ | 15 @ 20 | Sturgeon, ₱ ℔. | 4 @ 5 |
| Cutlet, do | @ 20 | Oysters, ₱ 100 | 1 00 @1 25 |
| Mutton chops,* | 12½@ 15 | Chesp. ₱ doz | @1 00 |
| Leg, ₱ ℔ | 12½@ | | |

* Per lb. † Per dozen. * Per gallon.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, March 23.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

| | |
|---|---|
| City Tanned | 26 @30 |
| Santa Cruz | 26 @30 |
| Country | 25 @28 |

CALF AND KIP SKINS.—The close of the war has made no difference in the price of French stock as yet, and probably will not. Domestic skins rule the same as heretofore.

| | |
|---|---|
| Best French Calf Skins, ₱ doz | 75 00@100 57 |
| Common French Calf Skins, ₱ doz | 35 00@ 75 00 |
| French Kips, ₱ ℔ | 1 00@ 1 40 |
| California Kip, ₱ doz | 60 00@ 75 30 |
| California Calf, ₱ ℔ | 1 00@ 1 00 |
| Eastern Wheel Stuffed Cal, ₱ ℔ | 80@ 1 25 |
| Eastern Bench Stuffed Calf, ₱ ℔ | 1 10@ 1 50 |
| Eastern Calf for Backs, per ℔ | 1 15@ 1 26 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50@ 13 02 |
| Sheep Roans for linings, ₱ doz | 5 50@ 10 07 |
| California Russet Sheep Linings | 1 75@ 5 35 |
| HARNESS LEATHER, ₱ ℔ | 30@ 02 |
| Fair Bridle, ₱ ℔ | 33@ 00 |
| Skirting, ₱ side | 4 50@ 4 50 |
| Welt Leather, ₱ doz | 30 00@ 50 40 |
| Buff Leather, ₱ foot | 22@ 50 |

## List of Societies and Officers.

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VIRGINIA CITY, Nev., March 13, 1871.

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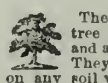

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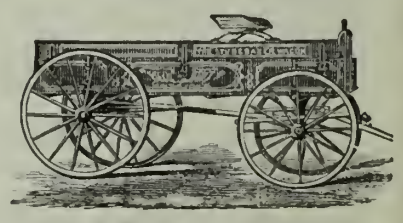

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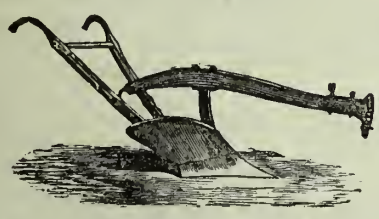

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The following resolution was unanimously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

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At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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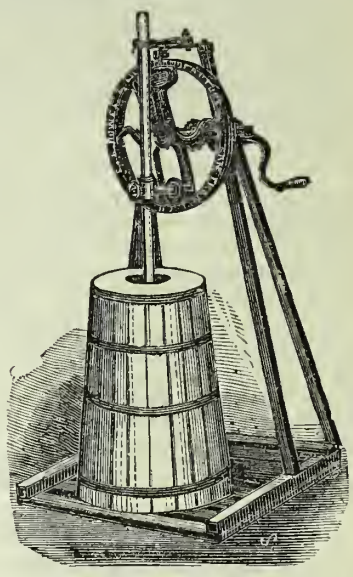

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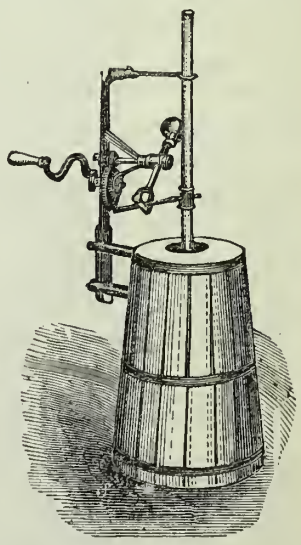

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A. S HALLIDIE, Mechanics' Institute of the city of S. F.
HENRY KIMBALL, Prest. Odd Fellows Library, As'n S.F.

SCIENTIFIC AND RURAL PRESS.—L. P. McCarty, traveling and corresponding agent for the "Scientific" and "Rural Press," papers published by Dewey & Co., San Francisco, was in town this week soliciting subscriptions.....Miners and farmers can get more information from these journals in relation to their special vocations than from any other publications now being issued in the State..... The "Rural" was commenced with the year and promises to become a very popular agricultural paper, having already gained an extensive circulation.—[Sonora Democrat.

RURAL PRESS.—L. P. McCarty, traveling agent for the San Francisco "Rural Press," is now in this town soliciting subscribers and collecting statistics and other information for the paper.....The "Rural" is a large, well-conducted paper, containing a great variety of important information to the farmer, gardener, mechanic, or merchant, and we are pleased to see that it is attaining a large circulation throughout the State.—[San Joaquin Argus, Snelling,

THE "Scientific Press," of San Francisco, is a journal that is in full sympathy and action with the progress of the age; while it notices all the late scientific discoveries and improvements, it does not neglect "the weightier matters of the law," the wonderful agricultural, mechanical, mining, and railroad progress at this time in our great and enterprising Pacific States.—[N. Y. World.

NEW PUBLICATION.—The "Pacific Rural Press" is devoted to the agricultural interests of the State, and from the extensive and reliable means of acquiring information possessed by Dewey & Co., through their correspondents, we have no doubt this paper will be, as its first number promises, a desirable acquisition to the farming public.—[Lower Lake Bulletin.

ALKALINE SOILS.—We have not seen the last number of the "PACIFIC RURAL PRESS" but learn from the Sacramento "UNION" that that journal has a very instructive article on the various methods of relieving alkaline soils from the superabundance of salts which they contain.—[Daily Enterprise, Virginia, Nev.

PACIFIC RURAL PRESS.—The paper will be quarto in form, and contain in each issue sixty-four columns of matter, and be devoted principally to agricultural and horticultural matters. The subscription is $4 per annum: clubs of ten $3. Address Dewey & Co., 414 Clay street, San Francisco.—[Placer Herald.

NEW PAPER.—The "Pacific Rural," published by Dewey & Co., in San Francisco, is devoted to agriculture, and fills a void long felt in its department of literature on the Pacific Coast.....We wish it success.....It should be on the table of every farmer and mechanic in California.—

THE Pacific coast is well represented in the "Scientific Press," a large 16 page quarto, published by Dewey & Co., at $4 per year. It is fully up to its more pretentious compeers of the East, while its information is more reliable than many of them.—[Mechanic & Inventor.

SCIENTIFIC PRESS.—This excellent journal, published at San Francisco, entered upon its 22d volume last Saturday. It should be well supported by the miners and mechanics of the State.—[Amador Dispatch

NEW AGRICULTURAL PAPER.—No. 5 of the "Pacific Rural Press" came to hand this week, fully sustaining its former issues, and "speaking great credit" for the proprietors who have fairly established the "best" agricultural paper on this coast.... The editorials are written by an experienced hand, and can, therefore, be relied upon as correct.....The subject matter each number contains is worth more than the price of subscription.....We hail this advent in the agricultural field, and bespeak for the proprietors success in their enterprise, as the State and Coast has now a paper "fully up to the occasion," and one which cannot fail to become valuable and interesting. Price per year—$4.00.....We especially commend this new agricultural journal to our friends in Sierra Valley, not only as a repository of useful information, but also as a beautiful pictorial for their parlor tables.—[Mt. Messenger, Downieville.

NEWSPAPERS.—The San Francisco "Scientific Press," a journal that has accomplished more for the miners of this coast than all the professors and mining sharps from New Mexico to Dakota, has completed its 21st volume, and promises to continue its good work of instructing miners, mill-men and others, and making known the mineral resources of the mining States and Territories. The "Press" has the best wishes of one Arizona "Miner," for long life and great prosperity.... Its enterprising publishers, Dewey & Co., have just issued the first (sample) number of their new agricultural paper, "The Pacific Rural Press," which promises to be as useful to farmers, gardeners, etc., as their other "Press" has been to miners.—[Arizona Miner

THE second number of the "Pacific Rural Press" is received and evinces much taste in its appearance. This new work is destined to be very useful to the agriculturists of California, and should be well sustained. Four dollars is the subscription price for one year.—[Oakland. Trans

YES, GIVE IT A TRIAL. This new publication is the best agricultural paper on the Pacific Coast. Our farmers will find it a valuable companion. It is issued by the publishers of the Scientific Press.—[Santa Cruz Times.

THE RURAL is an excellent paper for the farmers and orchardists of California, and of this fact they will be convinced by an examination of the paper.—[Grass Valley Union.

PACIFIC RURAL PRESS.—It will be devoted to the interest of agriculture and will be largely illustrated.—[San Bernardino Guardian.

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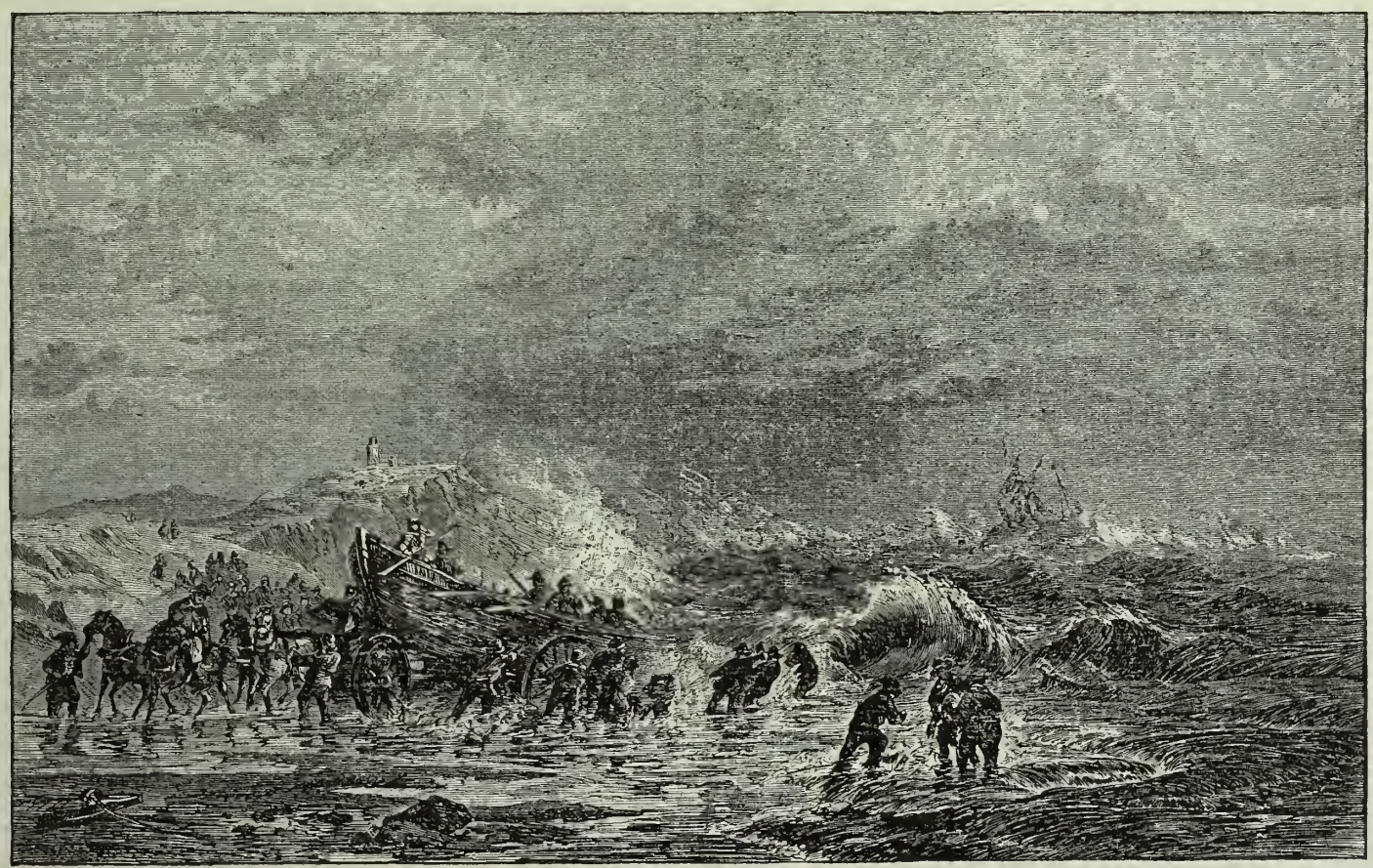
PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, APRIL 1, 1871. [Number 13.

## HOW CHROMOS ARE MADE.

We give this week another fine engraving from one of Prang's excellent chromos. It is entitled "Launching the Life Boat," and is after a painting by Edward Moran of Philadelphia. Our readers will remember the picture of "Sunset on the Coast," by De Haas, which appeared in the PRESS of Feb. 11th. With their success with these two productions the publishers are well content. They do not hesitate to say (we quote) that in the reproduction of these two pictures they have given to the public two master-pieces of American art, such as have never before been approached by the hand of the chromo artist. Although Mr. Moran's picture is in perfect contrast to Mr. De Haas', the two are nevertheless most excellent companion pieces. While the latter is glowing with color, the former is gray and sombre. Here the storm is yet raging in its fury, and the heavens are covered with black clouds. There it has already spent its force, and through the riven cloud-veil a flood of light is bursting upon the destruction which the storm has wrought. There the work of destruction is completed; the vessel which once bore hopeful hearts towards an unknown goal has stranded; the hopeful hearts, mayhap, are no more; the struggle is over; the brig is abandoned, and no sign of life is to be seen, far or near, with the exception of a few sea gulls and some sails showing faintly on the distant horizon. Here the struggle is yet going on. The vessel in distress in the offing, the lifeboat just about to be launched, the crowds of men thronging the shore, and eager to extend a helping hand to their suffering fellowmen,—all these tell a story which, although totally different, is yet a complete counterpart of that told by the "Sunset on the Coast." While one may be called the opening scene of the tragedy, the other illustrates its close.



LAUNCHING THE LIFE BOAT. BY MORAN.

Both of these fine chromos may be seen at the art gallery of Messrs Snow & Roos, at 21 Kearny street in this city.

We have before promised a description of how chromos are made, which promise we now fulfil, using Mr. Prang's "Chromo," therefor.

A lithograph, as our readers are aware, differs from a steel engraving and a wood cut, by the fact that it is printed from a stone, and from a perfectly smooth surface. In a steel engraving the impression is produced from an indented plate. That is, the steel is cut into with a sharp instrument, the incisions are filled up with ink, the paper is pressed into them, and thus an impression is secured. In a wood cut, on the contrary, as with common type, the impression is made by the ink deposited on a raised surface; all the parts that are intended to be blank in the picture having been cut away. An entirely different method obtains in lithography. Here there is neither raised nor sunken surface; everything, as one writer has expressed it, is as smooth as a politician's ante-election promises.

A lithograph is printed on large slabs of stone,—known as lithographic stone,—quarried in Bavaria, containing carbonate of lime, which, as is well known, has a strong affinity for oils. These slabs are three or four inches in thickness; before they are used they are polished to their utmost capacity, and they readily take an exquisite finish. If it is desired to print a portrait, for example, the drawing is made directly on the stone, either with a lithographic crayon or with a pen charged with lithographic ink. A lithographic pencil is simply a hardened piece of fatty matter, colored black in order to show the marks; and lithographic ink is a black fluid charged with oily ingredients. The oil in the ink or pencil forms a chemical union with the lime of the stone, and the application of certain acids fixes it indissolubly. It only remains, now that this result has been reached, to fill up the pores of those parts of the stone which were intended to be blank, with gum, in order to prevent the ink when applied afterwards from adhering to them. This done, which gives a certain enamel to the blank spaces, the stone is placed on a press and wet with a sponge. The ink, or color, is then applied with a roller. Of course, the gummed portions of the stone, having retained the moisture from the sponge, reject the oily color; whereas the drawn or oily portions of the stone, having rejected the water, retain the greasy ink. The paper is then put on, and the impression taken.

In making a plain lithograph, this is the whole process and it is repeated as often as an impression is taken—every time, the stone must be sponged before it is inked. A colored lithograph is first printed as a plain proof, and the colors are printed on the black surface afterwards. This is what Mr. Prang terms a "half-chromo." Such colored lithographs may be, and often are, quite pretty pictures, but they have no depth, and no "feeling of oil" about them—they are good enough for an undeveloped taste, and good only as far as they cultivate a love for something better and more beautiful.

Chromos, on the other hand, "full chromos," are produced by pure color—by carefully printing tint over tint, color over color, here a little, there a little, now deepening, now heightening, now shading, now brightening—following the method although not the tools of the artist with the brush and palette. The first color is commonly a light ground tint which covers all the print, or most of it, excepting, for example, in a figure piece, the spots to be covered by the eyes, or to be rendered in white, which a gray or pinkish ground tint would spoil. The next, and every succeeding stone,—up, sometimes, as high as forty-three stones.—each have a separate color, which is applied, as the subject and stage of progress indicates, either to a minute portion of the picture or to nearly all of it. This process is continued until all the effects of the original have been produced; and no chromo is entitled to be regarded as a masterly one which, viewed at a short distance, could be detected as an imitation. Prang's chromos, seen at a distance of a few feet, have deceived the best artists in the country, who quite as frequently select his work, as the painting, for the original picture.

It may strike the reader as extraordinary that it is possible in a picture which has gone through the press between twenty and forty times to be able to obtain that exactness in "registration,"—to use a technical phrase,—which enables the workmen to print the color in precisely the right place every time. For any one can readily see that if the paper were to shrink a little, or if the pressman were not to hit the exact spot, the eyelashes of the "Barefoot Boy," for instance, might be planted in the center of his pupils, or promoted to the rank of brevet eyebrows. But this difficulty is ingeniously overcome in chromo-lithography.

The first process in making a picture, is to trace a skeleton outline, not of the figure or composition only, but of the shades and colors; and this is transferred to every stone used in the production of a chromo. The artists, therefore, know where to rub in the greasy drawing, in order to print a shade, and where to apply the gum in order to fill the pores of each stone—and know it with an infallible accuracy, in which guessing, or skill of hand has no part whatever. In the same way the pressman, if he is a skillful hand, —and no others are employed,—by simply making sure that he always puts the sheets into the needle-holes of the first impression, is sure to hit the mark in his work; but it depends on his sobriety, evenness of temperament, mechanical skill, knowledge of colors and trained eye whether all the impressions are of equal value. For, if he should lay on the color too thickly or too thinly, the blemish or defect—the excess or lack of tint—would be instantly detected by the practised eye of the master in the completed work. After the picture has gone through the press it is embossed, or has imparted to it that appearance of being painted on canvas which every one must have noticed on Prang's chromos. The "loaded touches" of the brush are excellently imitated, and the effects of such tricks of the artists are well rendered in the chromo. The picture is then gummed to pasteboard, cut, trimmed, varnished, touched up by the brush if defective, and sent to the store-room for sale. By a visit to Messrs. Snow & Roos, one can easily satisfy himself how accurately and excellently chromos are made.

## MECHANICAL PROGRESS.

PNEUMATIC MAIL TUBES.—The following description is from Gardiner Greene Hubbard's late memorial on the subject of postal telegraph: "Twelve of the principal offices in Paris are connected by these tubes. The carrier consists of a brass box, shaped like a clock weight, placed inside a tightly-fitting case of hard leather. After many experiments this form has been found the best adapted for the service. The messages are placed with addressed envelopes in the carrier; together with a list, showing the number and destinations of the messages. The carrier stops at every office on the route, that messages may be taken out and others put in. Each office is furnished with a Morse instrument and line wire. There is one main circuit 21,497 feet in length, two secondary, 17,350 feet and 16,617 feet, and a branch line 3,712 feet, making a total of 59,182 feet, or eleven miles. "The trains" start from the central station every 15 minutes, and make the circuit in about 14 minutes, stopping at five offices. In London two methods have been adopted: one consists of a circuit or continuous tube leading from the central telegraph office to the general post office, and back to the starting place; the other of single tubes leading to separate offices. These tubes are of lead, about one and a half inches in diameter, and are enclosed in iron pipes for protection. The carrier is a small cylinder of gutta percha, covered with cotton. Two, or even three, are sent at the same time. The transit occupies about one half a minute through the longest tube, 3,600 feet in length. A constant movement of the carriers is kept up in the circuit in both directions; they are placed in a loop of the main pipe, which is closed, and a valve opened into the main pipe, and by the same movement a column of compressed air is let in behind the carrier, which propels it through the tube into a similar loop at the other office. Another carrier can at the same time be sent from the other office, the air being exhausted from the tube. The single tubes are operated in the same way. The carriers are sent by pressure, and returned through a vacuum. One engine only is required, which is at the central office."

HIGH SPEED FOR WOOD-WORKING MACHINERY.—The London *Engineer* for February 24th, gives notes of a visit by invitation to the works of Messrs. Allen Ransome & Co., Chelsea. We quote: "Messrs. Ransome & Co. have for some time past adopted a principle of construction which is almost peculiar to themselves. It consists essentially in driving all their wood-shaping machines, and many of their wood-cutting machines, at an excessively high velocity. Thus the fly cutters of the moulding machine, which we illustrated in a former impression, run at not less than 7,000 revolutions per minute when the machine is going at full speed; and the reciprocating screws of a new double deal frame make 450 double strokes per minute. The fact that such high speeds can be maintained for hours at a time without the heating of a bearing, or the failure of any portion of the apparatus is the very best proof that can be produced of excellence of design, material, and workmanship. These excessive speeds are only practicable when the machinery is the best that it is possible to make. The slightest want of truth in the fittings or lack of balance in the rotary portions of the mechanism would very quickly bring the whole machine to grief. It is certain, therefore, that if the cutters of a general joiner or a moulding machine can be run at 5,000 or 7,000 revolutions per minute for even an hour without heating or breaking down, the whole machine must be thoroughly sound and good."

LOCOMOTIVES AND ROAD STEAMERS IN NEW JERSEY.—The *Artisan* of March 15th says the Grant Works, at Patterson, are turning out ten of Thompson's road steamers per month. Of the Rogers' Works, it says:—"At present, the works are in full blast, with a force of over 900. For the last few years from 120 to 150 engines per annum have been turned out, and at the present they are building from 12 to 15 a month." The Danforth works employ between 600 and 700 men, and turn out six or seven locomotives monthly, in addition to a large amount of cotton machinery. For this last they have a large order from Mexico.

TEST OF THE ALLEN ENGINE.—The *American Artisan* for March 15th has advanced sheets of the report of experiments made at the late Fair of the American Institute, to determine the economy and effective power of this engine. We quote the result:—"The coal burned for the Allen engine, divided by 52.36 per cent. of the power exerted by the steam, gives a quotient that is just the mean of those obtained by dividing the coal burned for the Corliss and the Babcock & Wilcox engines by 66 per cent. of the power exerted in them; and the coal burned in each case, divided by the total power exerted, shows a consumption, for the Allen engine, of 1.5 *lbs. per horse-power per hour*, against a consumption of 1.87 lbs. for the Babcock & Wilcox, and of 1.9 lbs. for the Corliss engine. This economy is believed to be without precedent, except in cases where steam has been expanded in two or more cylinders, and reheated on the passage." In speaking of the results as thus reported to them by the superintendent, the judges—comprising Dr. F. A. P. Barnard, Robert Weir, and Thomas J. Sloan—use the following language:—The performance of this engine (the Allen) has exceeded that of the two fine engines which were on trial here last year. The results seem to be without precedent in such engines. The engine ran from eleven to twelve hours repeatedly without showing a sign of a warm bearing, displaying thorough perfection in all its parts. In all respects, the engine is first-class, and from the fact of its presenting weight with speed as a requisite for perfection in steam engines, it has opened a new era in this necessary branch—its economy having been clearly demonstrated in the careful trials, which ought to be published in full."

EXPRESS LOCOMOTIVE FOR THE GREAT NORTHERN RAILWAY.—*Engineering* for Feb. 24th describes an engine with proportionally larger cylinders than ever before constructed, built for the above named road, and now so satisfactorily proved that several more of the same sort are building. We quote:—"This engine has outside cylinders 18 inches in diameter with 28 inch stroke, and the driving wheels are 8 feet 1 inch in diameter. Taking the diameter of the driving wheels with the tyres half worn, as 8 feet, the tractive force which the engine is capable of exerting will be 108 lbs. for each pound of effective pressure per square inch on the pistons, an amount nearly one-third greater than that of the engines formerly described by us. The stroke, namely, 28 inches, is longer than that of any passenger locomotives with which we are acquainted, and this length of stroke enables a high speed of piston to be maintained, notwithstanding the large size of the driving wheels. In fact, when the engine we are describing is running at a speed of 60 miles per hour, the piston speed is as great as that of the 7 feet wheel engines, when running at a speed of 61¼ miles per hour."

IRON TENDER FRAME.—The Chicago *Railroad Gazette* of March 18th describes the iron frame for tenders patented by Mr. Healey of the Rhode Island Locomotive Works. It is of channel iron with lateral braces riveted thereto. Mr. Healey writes that a frame of this kind will weigh about 1,000 lbs. less than an ordinary wooden frame of the same size, and he claims that they are not only lighter but more durable than frames constructed in the ordinary manner, either of wood or iron, but cost less. They have been tested in a number of collisions, and have in all cases, not only sustained little or no damage themselves, but have saved the tank from injury. "Some of the New England roads are replacing their wooden tender frames with iron as fast as they need renewal. Two hundred and fifty of them are now in use."

IRON SMELTING AT OMAHA.—The foreman of the Union Pacific R. R. Co.'s shops has devised a furnace which dispenses with the blower. The Omaha *Herald* says "the new furnace has about half-way up a steam supply-pipe, that introduces into the interior of the flue about a dozen jets of steam. This steam creates a vacuum that draws the blast through the live coal below with tremendous velocity; securing by such simple means the intense heat necessary for smelting the metal. The new furnace has been running now about two weeks, and is so great a success that several more are to be constructed, and the old furnaces entirely abandoned. The iron ore of the Black Hills will be smelted upon the spot. It yields a heavy percentage of superior metal, and coal is abundant."

## SCIENTIFIC PROGRESS.

EFFECT OF LIGHT AT DIFFERENT SEA-DEPTHS.—An instrument for testing the depth to which the actinic rays of light can penetrate, devised by Mr. Siemens, was recently tested in Gibraltar Harbor by Dr. Carpenter. The action of the sea water upon it, however,—increased as it was by the galvanic current arising from the contact of iron and brass in the mechanism,—interfered in some degree with its working, and it is to be reconstructed and again tested. We copy a description of it: "The foundation of the apparatus is a horizontal wheel with three radii, each of them carrying a glass tube in which a piece of sensitised paper is sealed up. The rotation of this wheel round a vertical axis brings each of the tubes in succession out of a dark chamber in which it ordinarily lies, exposes it to light in an uncovered space, and then carries it into darkness again. This movement is produced by a spring; but it is regulated by a detent that projects from the keeper of an electro-magnet, which is made and unmade by the completion or breaking of a circuit that connects it with a galvanic battery. When the magnet is made, it lifts the keeper with its projecting detent; and this allows the wheel to be carried by the spring through one-sixth of its rotation, whereby the first of the tubes is brought out into the open space. There it remains until the circuit is broken, whereby the magnet is unmade; the keeper then falls, and the wheel is allowed to move through another sixth of a rotation, so as to carry on the tube into the dark chamber. A repetition of the making and unmaking of the magnet brings out the second tube, and shuts it up again; and another repetition does the like with the third tube. This apparatus, with a deep sea lead attached to it, is suspended by an insulating cable that contains the wires whereby it is connected with the battery in the vessel. Being lowered down to any desired depth, the circuit is completed, the magnet made, and one of the tubes exposed for as long a time as may be wished; the circuit is then broken, the magnet unmade, and the tube shut up again. The second tube may be exposed for a longer time in the same place, or the apparatus may be lowered to a greater depth, at which the experiment may be repeated; and the third tube may then be dealt with in like manner."

IMPROVEMENTS IN MICROSCOPES.—Dr. Royston Pigott has been experimenting for some years upon this subject, and has during the past year published some account of his researches. We give a paragraph from an article by "E. R. L.," in a late number of *Nature*: "Dr. Pigott found the usual means of testing an object-glass by trying if it gave some particular appearance with a 'test object,' such as the Podura-scale, very unsatisfactory, since we have no certainty to begin with as to what is the true appearance of such an object. He therefore examined minute images of objects of which he knew the true form, such as a watch-face or thermometer-scale, forming these images by aid of mercurial globules, and the condenser properly adjusted below the microscope-field. By this means he has found that object-glasses corrected so as to show dark, sharply marked spines (like ! ! !) on the Podura-scale—a favorite test-object with our microscope-makers—give false, blurred and distorted appearances with his known images, and on making such corrections of the objective as to show the known images in their true form, he finds that the Podura-scale, examined with the corrected objective, is not really marked at all, as supposed, but is beset with a series of bead-markings, which by intersection, when improperly defined, give the curious appearance like notes of exclamation. This important discovery of the falsity of our high powers (one-eighth to one-sixteenth) has led Dr. Royston Pigott to pay more attention to the lower powers, and he finds that though you may not get so much actual amplification, you yet get a truer effect, and greater clearness of detail, by employing very carefully made low powers (one-second to one-fifteenth) and increasing the magnifying power at the other end of the misroscope, *i. e.*, the eye-piece. We have in this way seen the beaded structure of the scales of Podura more satisfactorily than with very high objectives, even when corrected so far as they would admit, and we may say the same of some Diatom-valves *e. g.*, *P'l. formosum.* It would be most important to know how far such a change of combination would be useful in histological work."

NEW FORM OF MAGIC LANTERN.—At a late meeting of the Polytechnic Club of the American Institute, Prof. Morton,—says the N. Y. *Engineering*,—exhibited a new arrangement of the magic lantern, adapted to the exhibition, upon a vertical screen, of horizontal objects, making it possible for large numbers of persons to witness at once phenomena which heretofore it has been impossible to show. The rays from the lime-light pass horizontally through two condensing lenses, then strike a mirror at an angle of 45°, and pass directly up, where they pass through the object, resting immediately upon the last part of the condenser. After passing through the objective they are again reflected by a mirror at an angle of 45°, and pass horizontally to the screen. Heretofore it has been customary to have the first reflection after the rays leave the condensing lenses, the result being that they make a long cone, and by the time they reach the objective, are not in a fit condition to throw an image on the screen. A square prism will not answer for a reflector, for all the rays will not strike it at such an angle as to be totally reflected, and the consequence will be that one side of the field will be in the shade. The lantern being adjusted, Prof. M. illustrated its use. Placing a small magnet upon the condenser, and above it a glass plate, covered with a thin layer of iron filings, by tapping gently upon the glass, the particles were seen to arrange themselves in symmetrical curves around the poles of the magnet. He next showed the motion of the waves. By projecting air through a minute nozzle upon the surface of the water in a circular vessel, the waves were shown to be reflected from the edge of the vessel. Placing the nozzle one side of the center, the interference of the waves from the opposite sides was shown. Substituting for the circular vessel of water one of elliptical form, the effect of the form was shown, forming various caustic curves, and if the point of impulse was at one focus, showing the meeting of the waves at the opposite focus. Various cohesion figures were also shown.

DARWIN ON CONSCIENCE.—To undeceive those who suppose Darwin an atheist, we give an extract from George Ripley's review of his new book in the *Tribune:* "Whatever judgment may be pronounced as to the tendency of Mr. Darwin's views of the origin of man to humble the natural pride of ancestry, we ought not to lose sight of the fact that no philosophical writer of the present day sets forth a more exalted conception of the actual faculties and endowments of the race as developed under the highest forms of moral and religious culture in the progress of civilization. He almost goes out of his way to do justice to the ideas and beliefs which have been regarded by the wisest thinkers in every age as the crowning glory of humanity. In this respect, his system presents a favorable contrast to the shallow, sensualistic, French philosophy of the eighteenth century, which resolves the most refined sentiments of our nature into fleshly illusions. 'The question,' says Mr. Darwin, 'whether there exists a Creator and Ruler of the Universe has been answered in the affirmative by the highest intellects that have ever lived. I fully subscribe to the judgment of those writers who maintain that of all the differences between man and the lower animals, the moral sense or conscience is by far the most important."

THEORY OF GLACIAL MOTION.—Our readers will recollect the notice of Mr. Croll's theory that glaciers descend by the action of heat upon the molecules of the ice, loosening them momentarily from their cohesion, and allowing them to be re-arranged under the influence of gravity; the motion therefore being of molecule by molecule, rather than in mass. Of this Mr. Alfred Wallace remarks in *Nature* for Feb. 16th:—"It seems very doubtful if this theory is more tenable than the one it is intended to supersede. If heat entering the glacier loosens the molecules in its passage and enables them to move insensibly into new positions, it is difficult to understand what causes the numerous longitudinal and transverse fissures of a glacier, the production of which is often attended by loud reports, and which indicate movements of masses, not of molecules. And how could molecular motion lead to that heavy grinding of the ice over its bed, which scores and wears down the hardest rocks, and whitens great rivers with the finely triturated mud?"

# The Snow-Bound, Starved Emigrants of 1846.

### Statement by Mr. Reed, one of the Donner Company.

*"The Donner Tragedy—A Thrilling Chapter in Our Pioneer History."*

[Continued from page 188.]

### Arrive at Capt. Sutter's.

When I arrived, making known my situation to him, asking if he would furnish me horses and saddles to bring the women and children out of the mountains, [I expected to meet them at the head of Bear Valley by the time I could return there], he at once complied with the request; also saying that he would do every thing possible for me and the company. On the evening of my arrival at the Captain's, I found Messrs. Bryant, Lippencott, Grayson, and Jacobs, some of the early voyagers in the Russel company, they having left that company at Fort Laramie, most of them coming on horseback.

During the evening a meeting was held, in which I participated, adopting a memorial to the commander of Sutter's Fort, to permit them to raise one or more companies of volunteers, to proceed to Los Angels, we being at war with Mexico at this time. The companies were to be officered by the petitioners. Being requested to t ke command of one of the companies, I declined, statiug that it would he necessary for the Captain to be with the company; also, that I had to return to the mountains for the emigrants; but that I would take a Lieutenantcy. This was agreed to, and I was on my return to the emigrants to enlist all the men I could between there and Bear Valley. On my way up I enlisted twelve or thirteen.

The second night after my arrival at Captain Sutter's, we had a light rain; next morning we could see snow on the mountains. The Captain stated that it was low down and heavy for the first fall of the season. The next day I started

### On My Return

With what horses and saddles Capt. Sutter had to spare. He furnished us all the flour needed, and a hiud quarter of beef, giving me an order for more horses aud saddles at Mr. Cordway's, near where Marysville is located. In the meantime, Mr. McCutchen joined me, he being prevented from returning with Mr. Stanton, on account of sickness. After leaving Mr. Johnson's ranch we had thirty horses, oue mule, with two Indians to help drive.

Nothing happened until the evening before reaching the head of Bear Valley, wheu commenced a heavy raiu and sleet, continuing all the night. We drove on until a late hour before halting. We secured the flour and horses, the rain preventing us from kindling a fire; next morning proceeding up the valley to where we were to take the mountain, we found a tent coutaiuing a

### Mr. Curtis and Wife.

They hailed us as angels sent for their delivery, stating that they would have persshed had it not heen for our arrival. Mrs. Curtis stated that they had killed their *dog*, and at the time of our arrival had the last piece in the Dutch oven hakiug. We told them not to be alarmed about anythiug to eat, for we had plenty, both of flour and beef: that they were welcome to all they needed. Our appetites were rather keen, not having eaten anything from the morning of the day previous. Mr. Curtis remarked that in the oven was a piece of the *dog*, aud we could have it. Raising the lid of the oven, we found the dog well baked, aud a fine savory smell. I cut out a rib, smelling and tasting, found it to he good; handed the rib over to McCutchen, who, after smelling it some time, tasted it, and pronounced it *very good dog*. *We Partook of Curtis' Dog*. Mrs. Curtis immediately commenced makiug bread, and in a short trme had supper for all.

At the lower end of the valley where we entered, the snow was eighteen iuches in depth, and when we arrived at the tent, it was two feet. Curtis stated that his oxen had taken the back track; that he had followed them by the trail through the snow. In the morning before leaving, Mrs. Curtis got us to promise to take them into the settlement when on our return with the women and children. Before leaving, we gave them flour and beef sufficient to keep them until our return, expecting to do so in a few days.

We started, following the trail made by the oxen, and camped a number of miles up the mountain. In the night, heariug some of the horses going down the trail, we weut to the spot where the Indiaus had lain dowu, and fouud they had gone. McCutchen mounted his horse and rode down the mountain to Curtis' camp; found that the Indians had been there, stopped and warmed themselves, and then started down the valley. He returned to camp about the middle of the night.

Next morning we started, still on the trail of the oxen, but unfortuuately, the trail turned off to the left from our direction. We proceeded on, the suow deepening rapidly, our horses struggling to get through, we pushed them on until they would rear upon their hind feet to breast the snow, and when they would alight, they would sink in it until nothing was seen of them but the nose and a portion of the head. Here we found that it was utterly impossible to proceed further with the horses. Leaving them, we proceeded further on foot, thinking that we could get in to the people, but found *that* impossible, the snow being soft and deep.

I may here state that neither of us knew anything about snow shoes, having always lived in a country where they never were used.

We were here

### Compelled to Return,

And with sorrowful hearts, we arrived that night at the camp of Mr. Curtis, telling them to make their arrangements for leaving with us in the morning. Securing our flour in the wagon of Mr. Curtis, so that we could get it on our return, we packed one horse with articles belonging to Mr. and Mrs. Curtis, and started down the valley to where the snow was light, and where there was considerable underbrush, so that our famished animals could browse, they not having eaten anything for several days.

After packing Mr. Curtis' horse for him the uext morning, we started; in a short time, Mr. and Mrs. Curtis proceeded ahead, leaving the pack-horse behind for us to drive, instead of his leading him; we having our hands full in driving the loose ones, they scatteriug in all directions. The pack turned on the horse. Mr. Curtis was requested to retnrn and help repack, and lead his horse, but he paid no attention to us. We stood this for some time, finally McCutchen became angry, started after him, determined to bring him back; when he got with him he paid no attention to McCutchen's request to return; Mc becoming more exasperated, hit him several times over the shoulders with his riatte. This brought him to his senses. He said that if Mc would not kill him he would come back, and take care of his pack animal, and he did.

As soon as we arrived at Capt. Sutter's, I made a statement of all the circumstances attending our attempt to get into the mountains. He was no way surprised at our defeat. I also gave the Captain the number of head of cattle the company had when I left them. He made an estimate and stated that if the emigrants would kill the cattle, and place the meat in the snow for preservation, there was no fear of starvation until relief could reach them. He further stated that there were no able bodied men in that vicinity, all having gone down the country with and after Fremont, to fight the Mexicans. He advised me to proceed to Yerba Bueno, now San Francisco, and make my case known to the naval officer in command.

I left Capt. Sutter's by way of San Jose, for San Francisco, being unable to come by water. When I arrived at San Jose, I found the San Francisco side of the bay was occupied by the Mexicans. Here I remained and was attached to a company of volunteers, commanded by Capt. Webber, until after the fight at Santa Clara.

The road now beiug clear I proceeded to San Francisco, with a petition from some of the prominent citizens of San Jose, asking the commander of the navy to grant aid to enable me to return to the mountains. Arriving at San Francisco, I presented my petition to Commodore Hull, also making a statement of the condition of the people in the mountains as far as I knew; the number of them, and what would be needed in provisions and help to get them out. He made an estimate of the expense that would attend the expedition, and said that he would do anything within reason to further the object, but was afraid that the department at Washington would not sustain him, if he made the general out-fit. His sympathy was that of a man and gentleman.

I also conferred with several of the citizens of Yerba Bueno, their advice was not to trouble the commodore further. That they would call a meeting of the citizens and see what could be done. At the meeting the situation of the people was made known, and committees were appointed to collect money. Over a thousand dollars was raised in the town, and the sailors of the fleet gave over three hundred dollars. At the meeting, midshipman Woodworth volunteered to go into the mountains. Commodore Hull gave me authority to raise as many men, with horses, as would he required. The citizens purchased all the supplies necessary for the out-fit and placed them on board the schooner ——, for Hardy's Ranch, mouth of Feather river. Midshipman Woodworth took charge of the schooner, and was the financial agent of the government.

I left in a boat for Napa by way of Sonoma, to procure men and horses, and when I arrived at Mr. Gorden's, on Cache creek, I had all the the men and horses needed. From here I proceeded to the mouth of Feather river for the purpose of meeting Mr. Woodworth with the provisions. When we reached the river the boat had not arrived. The water was very high in the river, the tule lands being overflowed. From here I sent a man to a point on the Sacramento river opposite Sutters Fort, to obtain information of the boat with our provisions, he returned and reported the arrival of the boat at the fort.

Before leaving Yerba Bueno, news came of a party of 15 persons having started from the emigrant encampment and only 7 getting in to Johnson's. I was here placed in a quandary—no boat to take us across the river, and no provisions for our party to take into the mountains. We camped a short distance back from the river, where we killed a number of elk, for the purpose of using the skins in covering a skeleton boat. Early next morning we started for the river and to our delight saw a small schooner, belonging to Perry McCan, which had arrived during the night. We immediately crossed, McCutchen and myself, to the opposite bank of the river. I directed the men to cross and follow us to Johnson's ranch. We arrived there early that day. Making known our situation, he drove his cattle up to the house, saying "there are the cattle, take as many as you need." We shot down five head, staid up all night and with the help of Mr. Johnson and his Indians, by the time the men arrived the next morning, we had the meat fire dried, and ready to be placed in bags. Mr. Johnson had a party of Indians making flour by hand mills, they making during the night nearly 200 lbs.

### Start for the Emigrants' Camp.

We packed up immediately aud started. After reaching the snow, the meat and flour was divided in suitable packs for us to carry, we leaving the horses here. At Johnson's, I learned that a relief party had passed in a few days previous, heing sent by Capt Sutter and Mr. Sinclair.

Leaving a man at this camp with all the extra provisions we could not pack, with instructions to prepare a camp for the parties coming out, we passed on and at the head of Bear Valley met the party returning with a party of women and children. Among them was my wife and two of my children. We delayed no time, only a few minutes, and pushed on until the snow became too soft for us to travel on. Then stopping until it froze sufficient to hear us, we traveled all this night, and about the middle of the next day we arrived at the first

### Camp of Emigrants,

Being Mr. Breen's. If he left any provisions here it was a small amount. He and his family not being in want. We then proceeded to the camp of Mrs. Murphy, where Keyshurg and some children were. Here we left provisions and one of our party to cook and attend them. From here we visited the camp of Mrs. Graves some distance further east. A number of the relief party remaining here, while Messrs. Miller, McCutchen and one of the men and myself proceeded to the camp of the Messrs. Donner's. This was a number of miles further east.

We found Mrs. Jacob Donner in a very feeble condition. Her husband had died early in the winter. We removed the tent and placed it in a more comfortable situation. I then visited the tent of Geo. Donner, close by, and found him and his wife. He was helpless. Their children and two of Jacob's having come out with the party we met at the head of Bear valley.

I requested Mrs. Geo. Donner to come out with us as I would leave a man to take care of both Mr. George Donner and Mrs. Jacob Donner. Mrs. Geo. Donner positively refused saying that as her childreu were all out she would not leave her husband in the situation he was in. After repeatedly urging her to come out, and she as positively refusing, I was satisfied in my own miud that Mrs. Geo. Donner remained with her husband from pure love and affection, and not for money, as stated by Mrs. Curtis.

When I found that Mrs. Geo. Donner would not leave her husband, we took the three remaining children of Jacob Donner's, leaving a man to take care of the two camps. Leaving all the provisions we could spare, and expectiug the party from Sutter's Fort would be iu in a few days, we returned to the camp of Mrs. Graves, where all remained during the night, except McCutchen, Miller and myself, we going to the cabin of Mr. Breen where two of my children were. Notice was given in all the camps that we would

### Start on Our Return

To Sutter's early the next day. About the middle of the day we started, taking with us all who were able to travel. In a short time we reached Donner Lake. Traveling on ice a short distance, we made camp on the eastern side. Here were several springs; in the water were many small fish. The next day we traveled up to the head of the Lake on the ice, making camp here for the night. From this camp I sent in advance of us two of our men, Jondrieux and Dofar, good mountaineers, for the purpose of getting the provisions in our last cache aud returning with them, they to meet us on the road the next day.

When coming in we made three caches, or deposits of beef. Two of them were made by taking a bag of dried beef to the top of a pine sapling, then securing it, cutting all the limbs off the tree to prevent animals from getting up and destroying the meat.

The next morning we proceeded up the mountain and in the evening came to one of the camping places of the party we had met in Bear Valley.

### Starved Camp.

With a little repairs everything necessary for building a fire on the snow, which was twenty feet at least in depth, was here. We camped for the night. During all this day the sky had been overcast, threatening a storm. This night a heavy snow storm burst upon us, continuing all this night and the following day and night, and up to the middle of the next day. Our provisions gave out, and one of the children died. I expected the two men, Jondrieux and Dofar, at the latest to be back the morning after we made camp here. But the storm had overtaken them. They found the cache had been destroyed by animals and had proceeded on to the next one, finding that partly destroyed, there they were snow-bound, and were nearly perishing.

As soon as the storm abated we made preparations for leaving. All that were able started, with the exception of Mr. Breen and family. He stated that if he had to die, he would rather die in camp than on the way. A strange proceeding of Mr. Breen, when he and his family were all strong enough to travel. We remonstrated with him, advising him to come with us; that if we perished, let us all die together in the effort to get out. Finding that we could not prevail upon him, I asked some of the men standing by to witness, that I then told Mr. Breen "that if his family died, their blood be upon his head, and not on ours."

We had not proceeded far before the weather became intensely cold and when we stopped for the night many of the party had their feet frozen. The next day our travel was slow, many in pain. When night came on those in advance camped, the next coming straggling in making considerable noise. This gave the camp of Mr. Woodworth the first intimation of our proximity to them. He sent some of his party to us requesting that we would come down to his encampment; but the most of us having laid down for the night, declined going, but would be glad if he would send us something to eat, which he did, and some of the party who had not camped went down. Next morning Mr. Woodworth proceeded on with all haste, and my impression is, that two or three of our party went back with them.

We proceeded slowly and the second night, we reached the encampment at Bear valley, in company with Mr. Woodworth, he returning to Sutter's Fort. From here a majority of the party rode to Sutter's, I stopping at Mr. Sinclair's. JAMES F. REED.

San Jose, Santa Clara Co., Cal.

### Statement of Wm. McCutchen.

F. H. McDougal's "Donner Tragedy" contains the following:—"Reed and McCutchen came to their camp nearly starved, having made a meal of wagon grease and mustard taken from Mr. C——s wagon, which he had left on the mountain, intending to go back for it."

I left the Donner party in company with *Mr. Stanton* some distance west of the Salt Lake desert for California, for the purpose of obtaiuing a supply of provisions, and to return with them to the company. I did not see *Mr. Reed* after leaving the company, until he arrived at Capt. Sutter's, therefore I could not have made a meal of wagon grease and mustard with him. My account of what the writer styles "a strange proceeding" is, Mr. Reed and myself arrived at a camp at the upper end of Bear Valley, in the evening, finding a Mr. and Mrs. Curtis the sole occupants. They exhibited great emotion on our arrival. Mr. Curtis said it was a voice from heaven, and that we were angels sent to them, that they were out of provisions; and the only thing we found in their camp to eat, was a portion of a dog hakiug in a small oven. We supplied them from the provisions we were taking to the Donner party. It was storming when we arrived at Curtis' camp, and continued the uext day.

The following day we started up the mountain following a track made by oxen, and camped about five or six miles from their camp. During the night our two Indians left us returning to the valley. I followed them as far down as Custis camp. Finding they had been there and had left for Ordway's, I returned to our camp reaching there about 12 P. M. Next morning we proceeded still further on until finding it utterly impossible to proceed further, on account of the depth of the snow, we returned and in the evening reached the camp of Mr. Curtis. Here we remained for the night. Next morning after cacheing our provisions, and some of Curtis' goods, we proceeded down the valley to Johnson's, accompanied by Mr. and Mrs. Curtis.

I state that it was utterly impossible for any two men to have done more than we did in striving to get into the people. A company of men might have succeeded.

The statement of Mrs. Curtis in regard to myself is a base falsehood. She never was in the mountains at the emigrant camp, and Mr. Curtis was never there to my knowledge. If Mr. Reed and myself had succeeded in packing into the party all the provisions we could have carried, what relief it would have been to the emigrants. It would not have been a mouthful for them, their being about 80 persons at the emigrants encampment.

"About the middle of February, seven men and women, finding their situation intolerable, left the Donner camp, hoping to reach the valley in safety; and out of the fourteen, only five women and two men came into Johnson's ranch, then the first house on this side of the mountains."

My wife came out with this party, they starting from the emigrants' camp the last of *December* and were 31 *days* in getting through to Johnson's.

"There were left behind to their fate: a Dutchman by the name of Reeshurgh (Keyshurg), old Mrs. Donner and a child that Mrs. McCuthen, one of the fourteen who went out, had left behind. The child died the next day."

There were left behind, when we started on our return Mr. and Mrs. Geo. Donner, Mrs. Jacob Donner, and Keyshurg, with two of our men to take care of them.

My child was dead before the Glover party reached the emigrant camp, and when we succeeded in getting in, Mr. Reed and myself buried the remains.

### Starved Camp.

We arrived at this camp about 3 o'clock in the afternoon; this camp was under the peak at the head of the Yuba river. The Glen party had made it when returning from the Donner party. Everything necessary for building a fire on the snow was here. A storm commenced this night, and continued until about noon of the third day. The second night Mr. Reed became snow blind and chilled through; he had overexerted himself in securing shelter for the party. Now there was only Mr. Miller and myself who were able to do anything, the rest of the men were disheartened, and would not use any exertion; in fact they gave up all hope, and in despair, some of them commenced praying. I d—d them, telling them it was no time to pray but to get up stir th mselves and get wood, for it was a matter of life and death to us in a few minutes. The fire was nearly out; the snow in falling off the trees, had nearly extinguish d it before discovered; it was only rekindled by the exertion of Mr. Miller and myself. After we got the fire started I was so chilled that in getting warm I burned the back out of my shirts, having four on me; only discovering the mishap by the scorching of my skin.

On the third day about noon, the snow ceased falling, and it was agreed that all who were able should leave; all the provisions being consumed the day before. The

day after our arrival at this camp Mr. Reed divided the remaining flour. A spoonful was each persons' share, "young and old," and it was four days in all before we got anything to eat.

Persons may ask why we camped here. Simply, it was a good place to stop; all of us were fatigued with the exertion made in climbing the mountain and packing the children; and the adult portion of the emigrants were so weak, even if we had wished to proceed further, they could not. There was no proposition made to Mr. Reed to stop here or elsewhere, by Mr. Brien or any one else on account of the sickness of himself or daughter. It was the general desire of all.

All who were able started to leave, except Mr. Brien and family. He said that if they had to die, he would sooner die in the camp than on the way; he was repeatedly urged to come, but positively refused. Then Mr. Reed called myself and others to witness, that if any of Mr. Brien's family died, their death be upon him and not upon us. Mr. Brien had only one daughter; she was an infant.

Before leaving, we did everything in our power for those who had to remain, cutting and leaving wood enough to last for several days.

After leaving here, we traveled about five miles, then stopped. During this five miles travel, all of us were frost bitten except Mr. Miller. After traveling all the next day, making about ten miles, we camped on the Yuba river. At this camp Mr. woodworth, hearing the noise made by the party in camping, sent a man to us, requesting that we should come down to his camp, but most of us having lain down, refused, only asking of him to send us something to eat, which he did. From here we made our way into Bear Valley, in company with Mr. Woodworth, he returning; but his party, Mr. Miller and two others of ours, whose names I have forgotten, returned to the Donner camp.

WM. McCUTCHEN.

Gilroy, Santa Clara Co.

# FARMING MISCELLANY.

## MANURES.

(Prize Essay of Ill. Ag'l Soc. for 1870.)

BY R. GIDDINGS, ROCKFORD ILLINOIS.

Engaged, as we have been, in the business of market gardening and seed growing, we long since learned that our net annual income can almost certainly be predicted from the amount of manure secured Knowing so well its importance we have naturally been led to make it the subject of some thought, and not a few experiments, the practical results of which we shall seek to embody in this paper. We shall make no effort to discourse learnedly upon theories, or the teachings of the books but rather to tell simply and briefly the methods we find most profitable in saving, manufacturing and applying manures.

From the moment we come into possession of it we find the chief difficulty with manure, as with riches, is to keep it. If our fields be idle and free from frost, we can at once put it under the surface. But this is possible for only a small portion of the year, and often a long time it must lie out where the hungry atmosphere drinks up its richness the, winds dry up its juices, the fires of fermentation within send up its fragrance in rising clouds, and the leaching rains wash out its strength. Thus our chief losses are to be attributed to evaporation, leaching and "fire fang," and the problem before us, in successful husbandry of manures, is how to defeat these forces.

In the first, the moisture is lost so that not only the manure ceases to decay, but the searching winds and drying sun cause the loss of many valuable elements along with the moisture. In leaching, the finer more available and valuable portions of our manure wash away in a liquid form, and though they go somewhere upon the face of the earth, to the benefit of organic nature, yet it is apt to be in the shape of a good pickerel to the profit of some lazy sporting man instead of being the profit of the industrious but negligent farmer in the shape of corn. In the case of "fire fang" which means simply burnt up by fire—the nitrogen, which is the most costly and most desirable element of our manures, forms a chemical combination with the hydrogen of the moisture or water in the manure, and they become ammonia, an exceedingly volatile substance, which at once passes off and is lost, if not fixed or absorbed, leaving the manure little better than so much ashes. Where horses, whose manure is highly nitrogenous and liable to heat and fire fang, are stabled together, with or near cows or horned cattle, whose manure being less nitrogenous, acts as cooler and absorbent, their droppings can be thrown together, and if well mixed will suffer little if any, loss from this source. In our own stables this course, with the addition of dry earth as an absorbent constantly in use, is entirely successful in resisting all these several sources of loss. But with manures from town, which are usually highly nitrogenous, so simple a process cannot be employed. And yet something must be done, for nothing is more discouraging, after a small mountain of fertility has been accummulated by labor and money, than to thrust in a fork and find it burned till no better than chaff. The most common expedient and the universal advice is, to fork it over repeatedly. This is a considerable expense, oftentimes fails us, almost always in dry weather—and no small amount of ammonia is lost for the want of an absorbent. Having noticed the most satisfactory effects from the use of hot-bed manure which rarely showed traces of fire fang and gave evidence of retaining its ammonia, we were led to seek to bring about the same conditions in our large manure piles. For this purpose the manure was put in long piles four to five feet deep and ten to twelve wide. As soon as thirty or forty loads are put in a pile the water cart is brought into use and the whole pile is thoroughly drenched *i. e*, filled with all the water it will hold without leaching. It is then covered with earth, two to four inches deep, and left eight to ten weeks, or till wanted, when it is found so short and fine and strong as to tickle any good farmer. The past season was so unusually dry for so long a time that we opened the pile and gave a second soaking; but in ordinary seasons this is not necessary. We have a water box to use on a one-horse cart, useful for many purposes in the garden, and with this we hauled the water, raised with a portable pump, from a creek on the premises. From an accurate account kept we find a good soaking costs us two cents, and the covering one cent a load. Of course those not having so good facilities might not be able to do it at this trifling expense, while others having force pump and wind mill favorably situated could do it even less

The water checks the consuming fires, and the covering of earth, if it completely cover it only to the depth of half an inch, will absorb every particle of escaping ammonia, but rather thicker coating is desirable as a provision against washing rains and the like. Thus we not only prevent fire-fang, but secure all the escaping virtues, keep off the winds and shed the rains, vanquishing all our foes. We have no hesitancy in saying we deem this better than a manure cellar or a roof covering, by far.

Let it be understood this is the course we pursue with such manures as we buy of livery and private stables, and it is the course we would recommend for every one to use with manures already on hand or to be bought. But in saving manures from our own stables we follow quite a different course. In buying manures we take it as we find it, usually with much already wasted. But in our own stables we can make such provision as to secure nearly every bit of waste or fertilizing material from animal food. No one need to more than look at an analysis of liquid and solid manures, to have learned that the former is of quite as much, and in case of cattle, of more value than the latter, and is a more available form. But the trouble has been to save this. We have practiced two courses. Formerly in Michigan we were quite satisfied with an experience with a water-tight cement vat at the rear of the stables into which gutters carried all liquids from the stables, and through swing doors the other manures were thrown into it. A drain from the house and privy brought into it all the soap-suds, chamber lye, and privy contents. Into it went also lawn rakings, sod trimmings from the paths, chip manure, garden rubbish, and every unsightly object. Keeping only one cow and a horse this yielded annually no less than 40 loads of such manure as was worth at least 80 of an ordinary pile. We know of a farm of 38 acres having a similar vat covered, from which is annually taken 400 loads of excellent manure, and the owner makes more clear profit from his little 38 acres than any farmer of 300 acres in our acquaintance.

But when he came into our present location, we found a vat to be impracticable, and we had recourse to a system within the reach of every Illinois farmer, without the cash outlay of a cent and one quite as good for general use as a vat. We mean the use of *dry earth*. We have not a muckholenor have many of the farmers of Illinois, but we have what is quite as good, in the heat of summer we have dry loam spread all over our fields and dry dust the length of our highways. If any man doubts the capacity of this dry earth to absorb liquid, let him try to soak up the soil around a favorite plant in a drouth. Or, if he has never noticed its affinities for odors, let him bury in it a garment afflicted with that "most outrageous smell that ever offended nostril," essence of skunk, and see how effectually it cleanses it. Every one who has given any attention to the use of dry earth closets has been struck by the effectiveness with which it absorbs and renders odorless. From noticing such facts we were led to try its use in our stables.

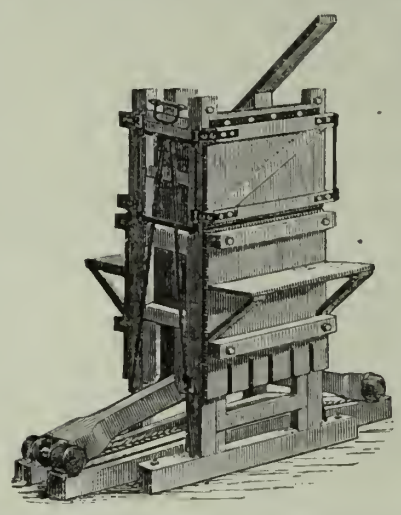
[To be continued.]

A NATIONAL AGRICULTURAL CONVENTION is proposed, to be held at Nashville, Tenn., in October next. The Commissioner of Agriculture is said to be favorable to the project.

## The Eagle Hay Press.

We give herewith a representation of what is claimed to be the most efficient hay press ever introduced to the notice of the public. It is known as the "Eagle Hay Press," the invention of J. A. McGillivral, of Illinois, by whom it was patented in 1865. Its large sale in the Eastern States has induced the proprietors to introduce it into California and the Pacific States.

The power is applied by means of two levers, arranged in such a manner that

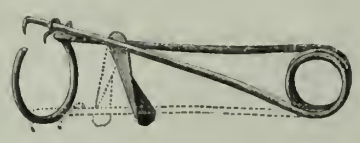


its application increases in ratio to the resistance, as the levers approach a horizontal position. It is not only a powerful press, but it is simple and not liable to easily get out of order; hence it can be afforded cheap. It is said that three men, with one horse can bale from 10 to 15 tons of hay per day, each bale weighing from 250 to 300 pounds. It is also well adapted for pressing hides, rags, wool or cotton. When a bale is pressed and fastened, the follower runs down of its own weight, and the bale can be taken out on either side.

These presses are now manufactured by the Kimball Car and Carriage Manufacturing Co., of this city—the most extensive establishment of the kind, on the Pacific coast, who are the proprietors of the patent for this cost, and who warrant that every press made by them shall give perfect satisfaction, and at prices within the reach of all. The well-known reputation of the company is of itself a good guarantee that whatever they take hold of is valuable and well worthy of general attention.

## Gopher Trap.

We have previously spoken of a simple and effective trap, invented by Mr. D. N. Phelps, of San Leandro, and patented through the SCIENTIFIC PRESS Patent Agency. We now give a small cut show-



ing the construction in which one or two improvements have been made. The trap consists of a stout wire, bent so as to form a spring trap as shown in the drawing. It is sprung by pressure against a broad sheet-iron trigger. The dotted lines show the trap when sprung. It has been tried in a large number of cases with great success.

The trap is made of different sizes, and by a slight change in the adjustment of the trigger, can be used for catching rats. It is, indeed, used for various "small deer," squirrels, rabbits, skunks, badgers, coons, foxes, coyotes, etc., etc. Its effectiveness recommends it highly to our farmers. It is manufactured by Mr. Phelps, who may be addressed as above.

A WHITE-WINGED TEAL DUCK was lately killed in Yolo county, and is now on exhibition, stuffed, at Corbin's saloon, Sacramento.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING MARCH 14TH.

POTATO MASHER.—Charles Adolph Frederick, San Francisco, Cal.

MEDICAL COMPOUND FOR TREATING BRONCHIAL AND LUNG DISEASES.—Shelby Wadan Helm, Bachalor Valley, assignor to Britton Capell and Wm. J. Rose, Little Lake Valley, Cal.

BOOT-JACK.—Joseph Rouard, San Francisco, Cal.

MACHINE FOR BLOCKING RIBBONS, ETC.—George Vincent, Stockton, Cal.

MOLDING MACHINE.—James H. Culver, San Francisco, Cal.

HAIR RESTORATIVE.—William P. Thomas and Joseph F. Boardman, Elko, Nevada.

SAW.—William Kidd, Duncan's Mills, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

PEN-HOLDER.—J. Roth, Virginia City, Nevada. Although the pen, as acknowledged by the general public, is mightier than the sword, notwithstanding its inferior size, yet it has not been subject to as much attention with regard to the facility of carrying it on the person. Mr. Roth proposes, by his invention, to enable every one to have this powerful weapon always ready to the hand. For this purpose, he simply modifies its construction, obviating the necessity of having a more or less cumbersome case. He so constructs the metallic pen-clasp that it can be hinged to the end of the handle or stock of the pen, which, consequently, can be shut down upon the handle. A metallic ferrule is arranged to slide up and down along the handle, and serves to stay the pen and clasp it firmly in place when open for use, as well as to slip over and protect its point when it is closed down on its handle. The device being so handy, it is feared that editorial combats will become very frequent.

WHEEL FOR WHEEL-BARROWS.—G. Withington, Ione City, Cal. Perhaps the Ionians may be able to use this device in carrying through their railroad project. It relates more particularly, however, to wheel-barrow and truck wheels, and the wheels of toy wagons. The spokes consist of metallic bars or rods, bent so that each half will serve as a bracing spoke. The bend of the rod is flattened so as to fit against the inner face of the tire, to which it is secured by a rivet, screw or other fastening device. The end next to the hub or axle is provided with screw-threads upon which a nut is screwed, and the end of the rod or spoke enters a hole in the hub or axle directly under the nut. By screwing this nut up or down on the rod, the spoke can be tightened or loosened as desired, the nut bearing against the hub. In this way a strong and substantial wheel can be made at a slight expense.

APPARATUS FOR SAVING QUICKSILVER.—O. H. Young and J. Vaughn, Wisconsin Hill, Cal. The invention is designed to obviate the usual loss of quicksilver and amalgam in the tailings after amalgamation—an important object. The tailings are led into a box of suitable size, a large part of the floor of which is covered with plates provided with diamond or other recesses or cavities on their upper surfaces. A shower of water is introduced through a perforated plate which extends across the passage way, and is elevated a little above the floor, thus evenly distributing the tailings over the bottom plates. The heavy quicksilver or amalgam is retained in the cavities, while the gangue is washed away. Any quicksilver which may escape the cavities, is caught in a transverse trough at the lower end of the box. A series of small movable gates diverts or guides the stream as desired. A swinging gate, hinged to the middle of the box, diverts the tailings to either side, when it is desired to clean up.

# AGRICULTURAL NOTES.

## CALIFORNIA.

SHEEP-SHEARING, ETC., IN FRESNO.—The *Expositor* of the 15th instant says: The sheep-shearing season for the spring clip has begun. The clip will, on account of the increased number of sheep in the county, be fully one-fourth, if not a half larger than last season. The cattle trade will not, we think, be as good as usual, on account of the severe drought which has prevailed in a portion of the county, and the further fact that the pasture lands are over-stocked with sheep and cattle, and consequently stock is not in as good condition as usual at this season of the year. Our farmers are expecting to realize good crops this season. If rains only follow to sustain the growth of vegetation, we think their hopes will be fully realized. Taking everything into consideration, we may anticipate a reasonably prosperous season.

ALSIKE CLOVER EXPERIMENT.—The Stockton *Independent* has received a package of Alsike clover, which has been handed to Mr. Armington of that city for experimental purposes. Mr. A. will sow it, and test its quality in the Court-house Square. This clover derives its name from the parish of Alsike, in upland Sweden, where it was discovered, and where it grows in great abundance. It was not until the beginning of the present century that this clover was brought into cultivation. It is stated that it was introduced into England in 1834, and since then it has spread into different German States and other parts of Europe and this country. The seed is much finer than that of the ordinary red or white clover; the plant withstands the effects of the drought better, continues its bloom longer than any other known variety, and it is said to be one of the very best honey-producing plants of the clover kind.

MULBERRY CULTURE.—The Vallejo *Chronicle* says that Messrs. Hallin & Ammerup, recently of Vallejo, have made a purchase of land in Brown's Valley, near Napa city, and have this season put out fourteen thousand mulberry cuttings and plants, three thousand of which are rooted. They are doing well, and give promise of a thrifty growth.

FLAX.—Mr. H. F. Haver, says the *Pajaronian*, who resides a few miles from Watsonville, on the Amesti Rancho, has put in this year 100 acres of flax, which is now looking finely.

SONOMA.—During the past year Sonoma Valley sent 32,000 boxes of fruit to the San Francisco market.

CUTTING UP RANCHES.—The Gilroy *Advocate* learns that the great Balsa ranch, a few miles south of that place, is to be cut up into small farms and offered for sale. This is a good movement for that part of the State, and if it could be made general among the large ranch holders in that portion of the State both the land owners and the people would be greatly benefited.

SAN RAFAEL LAND.—It is said around town, says the San Rafael *Journal* of the 25th instant, that Oliver Irwin, Esq., has sold his farm adjoining San Rafael for the sum of $86,000, to W. T. Coleman and others; also, that the same parties have purchased the marsh lands lying south of the tract, together with a portion of the Boss Ranch. Talk of railroads, steamboats, and big schemes generally are mentioned in connection with the purchase. We have learned of nothing definite in connection with the matter, but presume it is all that "rumor" says. At least, we hope so.

EARLY VEGETABLES.—The Vacaville correspondent of the Vallejo *Chronicle* says that tomato plants have been in full bloom for a month at Pleasant valley, about four miles from Vacaville; green peas are also about ready for picking. Pleasant valley is said to produce some of the earliest fruit and vegetables in the State.

ANAHEIM, it is estimated, will make over a million gallons of wine this year for shipment.

TWO CROPS.—A man on King's river, Fresno county, raised two crops on one piece of land, last season—the first being a fine yield of barley, after which the land was plowed and prepared for corn, of which a fine crop was gathered.

TALL BARLEY.—The Antioch (Contra Costa county) *Ledger* of March 11th says: "We have seen a bunch of barley stalks, from Kimball's Island, that are nearly five feet long. Almost anywhere on Sherman Island the volunteer grain is two feet in hight, and in the course of four or five weeks will make fine hay."

THE FENCE QUESTION.—The no-fence law is again agitating some of the counties. The Kern County *Courier* takes strong ground on the question, and argues that unless the stock-owners can be compelled to keep their animals off the growing crops, that section will be retarded in settlement and magnificent capacities remain undeveloped for an indefinite period. In Los Angeles we are having troubles that have threatened to lead to serious results. It is not pleasant for a farmer to plant and tend a crop and just at the point when he congratulates himself that he has secured something for his winter's store, to find that crop eaten up and trampled down by a drove of long-horned cattle or mustang horses. The farming interest is the leading one of this section. Upon its development largely depends our future prosperity and it should be fostered and cared for. It is true that there are many arguments to be urged upon the other side of the question, but they will be found to hinge upon personal interest. Those drawn from a desire to develop the resources of the country and promote the general prosperity, seem to be on the no-fence side.—*Los Angeles News.*

ARTIFICIAL IRRIGATION.—Twenty thousand dollars have been spent in putting locks in Sycamore Slough, Colusa county, for the purpose of securing the control of the water for irrigating purposes.

EARLY CUCUMBERS.—A. Gaffanisch, of Sacramento City, had cucumbers from vines at his hot-house fit for table use, last Tuesday. So far as we have heard, they are the first of the season.

EASTERN BUTTER IN SANTA BARBARA COUNTY.—The PRESS says: "During the past week we were shown a keg of as nice, fresh butter as any epicure could desire, that was shipped to a gentleman in this place, from Wisconsin, the cost of which was, delivered here, 24½ cents per pound."

THE LANGUEDOC ALMOND is said to be the best variety of that fruit for cultivation on this coast. It is later in blooming than the other varities and seedlings, generally, on this coast, by from two to three weeks, thus putting it more out of danger from late frosts in those localities subject to such annoyances.

AN AGED BIDDY.—A gentleman at Port Carbon, Pa., has a hen which he says is 43 years old.

UNRULY COWS.—Visalia cows assault little girls in the street.

ACCIDENT FROM A GRAIN ROLLER.—On Monday last Mr. Nillson, a Dane by birth, while rolling grain in Murray township, Alameda county, fell between the frame and the roller; and was so terribly mangled that his life is despaired of.

## OREGON.

PEARS.—The Willamette *Farmer* urges upon the people of Oregon to plant more pear trees, and calls attention to the fact that pears sold for $15 a barrel in the Eastern market last summer, and that they are growing scarcer there—in fact, they seem to be running out. The pear flourishes exceedingly well in Oregon. It grows thriftily, is subject to no disease, bears fruit steadily, and the trees promise to grow to a great age. The same may be said with regard to this fruit in California.

LARGE ONION YIELD.—Last season Mr. W. P. Watson, of Multonomah county, Oregon, raised a patch of onions on Beaver Dam land, which produced at the rate of 1,100 bushels per acre. In view of this extraordinary yield, the Willamette *Farmer* thinks it very singular that the Portland market should go to California for its supply of this vegetable.

DETERIORATION OF APPLES.—The Willamette *Farmer* calls attention to the fact that several varieties of apples in that market are small, and are losing some of their best qualities. The Swar and Genneting are scarcely half their proper size. We must manure our orchards and take care of them if we would keep the fruit up to the proper standard. The *Farmer* is right.

THE SUBSIDY OBTAINED.—It is stated that the subsidy required to secure the proposed agricultural works at Salem, is so nearly obtained that success is certain, and the erection of the works will soon be commenced. As soon as these works are well under way, Oregon and Washington Territories will be able to manufacture nearly all their own agricultural implements, instead of obtaining them from New York, at the cost of 20,000 miles of transportation.

PLANT POTATOES.—The Willamette *Farmer* urges upon its readers the propriety of making wheat less a specialty, and introducing the culture of potatoes more extensively, both for the table, and as feed for stock, for which that journal holds that the crop will pay. It adds: "Although easily grown, and on proper land, in large quantities, in several parts of our State, the crop was so small last season that this indispensable vegetable for the table had to be brought from a distance, at high prices. It is said that "a burnt child dreads the fire." We hope this will prove true in the present case, and that our farmers, everywhere, the coming season, will rejoice in the possession of a good crop of potatoes.

AN IMPORTANT PROPOSITION.—A plan has been proposed by several papers in Oregon for making a new division of the territory on the Pacific, by which the country on the Sound be annexed to Oregon, and all of Oregon east of the Cascade mountains, all of Washington Territory east of the same, and the Territory of Idaho, should be consolidated into one Territory, with the view of making it immediately into a State. The reasons urged for this arrangement of the territory are, that the country west of the Cascades has generally the same climate,—by railroads will be closely connected,—the people are homogenenus, and that nature has provided for a State thus created distinct boundaries Other reasons are urged not less important.

The consolidation of Eastern Oregon with Idaho and Washington Territory, would make a great and Wealthy State. It would have a climate, soils, pursuits. and people, distinct from those of the western States—and in every point of view would be vastly to the advantage of the country now divided as it is between the State of Oregon and Washington and Idaho Territories.

The subject is one of great importance and deserves the serious attention of all the people concerned. The decision should be upon its merits, uninfluenced by local considerations.—*Williamette Farmer.*

## ATLANTIC.

THEY have a hen in Montgomery county, Ind., which is said to have hatched, during the past season, forty chickens at three settings, raised thirty-seven, and, after dismissing her last brood, laid fifty-two eggs before going into winter quarters.

BEET SUGAR IN WISCONSIN.—There is a sugar beet manufactory at Blackhawk, near Madison, Wisconsin, which last year planted 160 acres of beets. The average yield, per acre, was ten tons. The mill, while in operation, worked up one ton of beets per hour night and day.

EGGS FOR THE NEW YORK MARKET.—Some idea of the amount of eggs consumed in New York may be formed from the fact that for the week ending March 4th, 8,26[illegible] barrels of eggs were received in that city against 6,379 for the same period the last year, and still the season is not over when the largest quantity is consumed. Lime is but little employed as formerly for preserving eggs for that market. Producers are especially enjoined to keep soiled eggs separate from the clean, as they materially reduce the aggregate price.

COTTON IN UTAH.—In response to an inquiry made by J. D. Johnson, Secretary of the California Silk Manufacturing Company, Brigham Young replies that there is no cotton seed for sale in Salt Lake City, and he thinks none in Southern Utah, for the farmers there are importing it from the Southern States.

SHORT HORNS.—It is stated that of all the holiday beef exhibited recently in Chicago, there was not a single animal with less than three-quarter Short Horn blood in its veins.

NAUVOO, Ill., the ancient Mormon capital, is now a great wine center. Last year's yield was 130,000 gallons.

A NEW POTATO, said to beat the "Early Rose" has been produced in Ohio. It is called the "Moltke."

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BIG FISH.—A sturgeon 10 feet long and weighing 300 pounds, was caught in the Mokelumne river, about five miles below Camanche, on Thursday of last week.

A FINE fat buck was killed within the city limits of Los Angeles on the 15th instant.

A COUPLE in Visalia have named their new-born baby Visalia Delta, the name of the newspaper published at that place.

THE OLD STORY.—Recent storms of sleet are said to have destroyed the most of the peach and cherry buds in the southern portion of Iowa.

CANARY BIRDS. — Over 40,000 canary birds are brought to this country every year, and probably 10,000 more are bred here for the purpose of sale.

## AN OREGON POTATO—THE DIMICK.

Mr. David Newsome, an experienced agriculturist of Oregon, recommends through the Willamette *Farmer*, the "Dimick," or as, is sometimes called the "Savage Potato," as one of the very best varieties to cultivate, and superior to the far-famed "Early Rose." Mr. N. writes as follows:—

"I know it is a difficult matter to place any one variety of the potato above all others, and contend for its superiority. There are over fifty varieties of the potato cultivated in the United States, and perhaps half of them are unworthy of attention. Perhaps half of the remainder may have some good qualities, and be worthy, in some localities, of considerable attention. Some of the best fourth part be very early in bearing, and hence profitable for early marketing. Some may be very prolific and hardy, and may do well on thin lands, and shift well with weeds and poor culture. But the farmers and gardeners of Oregon need some one variety of potato, that combines, as nearly as possible, all the excellent points that any variety can contain. And, though the new broom is said to sweep clean, at first, yet that quality may not place it ahead of all others. The Early Rose sold last spring in Salem at fifteen dollars per bushel, and has been tested by this time. How many superior points does it possess! I call upon its patrons to answer. I do not disparage that potato. If it can fill the demand, as a good article for early use, and is ahead of all others for *one month*, all right.

But is there a potato that is early in maturing, of superior quality, hardy, never takes the second year's growth in the fall, keeps well the year round, never sprouts till in the spring, is easily dug, heavy in bulk, small tops, and in demand above all others? And is it fully acclimated, and clear of any disease?

Yes, we have just that potato; and it is known generally as the "Savage Potato." But the true name is the *Dimick Potato*—it having been originated from the ball by the elder Mr. Dimick, before his death. It is a native of Marion county, Oregon. I have been engaged for about seven years in gardening, and selling vegetables in Salem. I have cultivated ten varieties of the potato, in that time, and have experimented upon each. And, last year, I dropped all but the Dimick. And, this year, I assort carefully, and have selected the Dimick from any others, accidentally amongst them, and shall plant seventy-five bushels of them. They bring twenty-five per cent. in price more than others, and I can sell ten times as many of the Dimick as of *all others*. As potatoes are now very high in price, and very scarce, of course many will have "potato on the brain," and a large acreage of that crop will be planted. All right; and let every man plant his favorite potato. If there is a surplus amount raised, and but few of them will bear exportation abroad, and as they cont burn as easily as straw, perhaps there can some be fed to poor, shivering stock, that would be benefitted now in this valley on such food.

No man need plant the Dimick potato on *thin land*, poorly prepared and worse tended. There is much out-cry against that potato, on account of not yielding well. If a producer will prepare a well-drained piece of land, rich, deeply plowed, and well harrowed, in full, midwinter and spring; plant about the 1st of April, and to 25th of May; ground listed off both ways; cover five inches deep; and then plow and hoe the crop, three times each, hilling up the last time; he will be sure of fifty to sixty dollars' worth of fine-sized Dimick potatoes per acre. Corralled land, or well-drained and deeply-pulverized swale lands, and meadow sod, prepared in the same way, or rich fallow land, are all good for this noble potato. Newly-grubbed land, if plowed very deeply and thoroughly pulverized, will bring a fair crop of the Dimick, and the ground be left in fine condition for a future crop. I never failed to be doubly paid for hauling out and mixing in the soil, stable manure, wood ashes, muck, rotten straw, or chip manure, where I raised potatoes. With me, the Dimick potato does not do well on sandy bottom land. The large and fine crop I had last year grew on summer fallow, of rich prairie land, run in grain and grass for eighteen years, and upon newly grubbed land; but let every man plant and cultivate just as he pleases.

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LAKE COUNTY contains a population of about 5,000 souls, and has an immense area of the finest description of agricultural and pastoral land.

# Home and Farm.

## Arboriculture in California.

[Written for the Press.]

### With a Glance at the Writer's Experience with Trees.

The cultivation and care of trees has been a passion, bordering on a mania, with us, since our earliest boyhood days. Born in the woods, nurtured in a primitive log cabin, in a scant "opening" in the primeval forests of Central New York, where the lofty elm, the stately pine, the majestic and beauteous maple, the pyramidal balsam, fir, and the elegant magnolia and their multitudinous forest companions, threw welcome shades and scattered their fragrant blossoms far and near; we seemed to have been inspired with these grand old forest scenes with the spirit of the woods, with those magnificent sylvan beauties, from our very infancy. To plant and protect the trees, whether fruit or forest, has been with us an almost religious duty, for the half century since we were of sufficient age to commence our joyous mission. "Woodman, spare that tree," has been to us a sacred talisman. And, whether coming in possession of the broad acres of a rural home farm, or confined to the narrow limits of a city lot, our first impulse and first act is always to plant trees. We have planted and cultivated the elm, the maple, the chestnut, the beech, the linden, the hickory, the oak, the magnolia, the fir, all and every variety of forest trees, in the soil of our own native New York; and every variety of shrub and fruitful tree that can be reared in that cold clime. We have planted and reared bananas, the laurel, the cork tree, the cedar of Lebanon, the orange, the lemon, the fig, the date, the vine, and our own native fruits, as well upon the sunny shores of the Straits of Gibraltar, in the genial clime of the "Land of the Moor," and in the far Orient,—the Flowery Kingdom,—have we eaten of the orange, pumato, banana, pine apple, laiche, grape, pepa, custard apple, guava, fig, cumquat, as well as the peach, apricot, pomegranite, and pear,—nearly all from trees or plants of our own planting; and have there cultivated the pride of India, the bamboo, the cocoanut, the mimæ, the ailanthus, the camphor tree, the pith or rice paper tree and enjoyed the cooling shades of our own vine and banyan trees, in our island home in that far Orient. And in our own California have we cultivated, more or less extensively, nearly all of the native trees, tropical and semi-tropical, and the Washingtonia gigantea, the Australian gum tree, pepper tree, etc. And we can point to trees of our own planting in the Empire State, that in sturdy bulk and towering majesty will vie with the huge monarchs of the forest.

Whether inspired by some forest genii or Nick of the wild woods, we scarcely know; but certainly it is, that without any particular pre-meditation or design, all of our homes for nearly a half century past, have had a tinge of the woods and of forest life, as evidenced by the names with which we have christened our rural abodes, as for instance: "Elmwood Cottage," our suburban rural gothic home in Rochester, N. Y., built nearly 30 years ago; "Glenwood," another suburban retreat, and "Forestwood Lodge," in the same city; "Willow Cottage," our old ancestral tabernacle, in the town of our nativity; "Bamboo Terrace," our garden and vineyard on a sunny slope of the Straits of Gibraltar; "Villa of the Banyans," our Island home in the Celestial Orient; and in California, we have our "Mount Glenwood," in Yolo; have had our "Villa Rosa," at Redwood, and now our "Jungle-wood," in Solano, and on the Alpine hights above Napa, our "Laurel-Wood Ranch."

Well, the fastidious reader may say, these are mere fancy names, and he may insinuate that they are the ebullitions of vanity. Well, have it so, if you will, but we insist that it is the inspiration of the "Genii of the Woods," while we are only the humble "medium" through whom to communicate these revelations to the outer world.

With all these somewhat diversified experiences, it will not be wondered at, that we should feel a deep interest in all that pertains to the sylvan or arboriculture of California, our chosen, adopted home. And we beg pardon of our readers for detaining them so long by our rambling sketches, from what we sat down to say about

### The Cultivation of Trees in California.

We have just read the award of the Board of Agriculture of our State, for the propagation and planting of the greatest number of forest trees; and note the remarks of the several applicants for premiums, and that the award was made to the party who had 33,000 trees, all of one kind—the Australian gum tree, or *eucalyptus globulus*.

Now this strikes us as a very impolitic decision, to say the least. To encourage the propagation of but one kind of tree, and that of doubtful utility, even if it can be grown successfully, which we very much doubt, as it naturally becomes top-heavy, the limbs growing much faster than the body or the roots; and when the ground becomes wet and soft, they are liable to blow over in the first hard gale of wind that blows, especially in light soils or adobe soil. We have experienced this difficulty ourselves, notwithstanding our precaution in propping them up and staying them with cords and stakes. We have had trees of this kind that were a foot and a half in the circumference of their trunks, blow over with all our precaution, in lightening tops, etc. Their roots do not seem to strike down deep enough to find holding ground, and especially if they do not penetrate the sub-soil or hard pan, which it seems difficult for them to do. And then, for shade trees, they do not compare with some of our own native forest trees; their branches are too loosely set, scraggily, not close and compact as a shade tree should be. It seems to be a fast-growing tree in our soil and climate; and as giving variety to the lawn and landscape garden, a few of these trees judiciously interspersed, and carefully trained and guarded, are ornamental, and may be properly introduced; but we doubt the propriety of encouraging the growing of forests of these trees, until they have been more successfully tested than they have yet been in California. It strikes us that the award should have been to the party producing the greatest variety of forest trees that can be most successfully cultivated. One of the claimants to the prize had 39,000 trees of the following varieties: Lombardy poplar and balm of gilead, 5 000; morus multicaulis, 7500; modus alba, 5,000; California black walnut, 10,000; American white maple, 4,000; American white elm, 5,000; English elm, 2,000; Spanish chestnut, 400; American chestnut, 500. This, we think, would be far better than to bestow the premium upon one kind of tree, and that, as yet, a sort of hybrid in this country.

If the restrictions of the Board did not allow of awarding the prize, because these trees were only planted in nursery, then their restriction should have been removed, and a liberal prize awarded to all the parties competing. The sum of $50 is but a paltry affair, any way, for the encouragement of such an important enterprise, not half as much as is sometimes awarded to some old broken-winded nag at a horse race.

If the prize offered had been $1,000, instead of $50, the State, if not the Society, would have been the gainers by it. Our State Government has, we believe, a standing bounty, to encourage the planting and cultivating of forest trees along our public highways. It is a noble enterprise, and we hope to see it generally carried into effect, until every roadside in our State shall be adorned by these forest sentinels.

Cultivate trees, then, beautify your homes, is our injunction to old and young, to rich and poor—it pays financially. We have rarely, if ever, spent $10 for trees, that we did not receive $100 in the increased value of our place when we sold; and you will receive twice that in satisfaction and healthful pleasure, while cultivating them and watching their growth, and the development of their floral charms, if it be in beautifying a permanent home, that you never wish to sell, but to leave as a legacy to your family and offspring. What monument can be more noble and praiseworthy, and satisfactory, than to enable your descendants, in after generations, to point with pride and say, that fine, lofty maple, and that group of orange trees, were planted by my father when I was an infant; that magnificent, towering linden, and these fine old apple trees, were planted where they stand by my grandfather; that huge old oak, and that cluster of venerable pear trees, were planted by my great grandfather; that young forest, that wooded hill-side, those groves of growing forest trees that adorn yon landscape, those groves of oranges, almonds, figs, apples, cherries, etc., where planted by my own hand, and I hope to leave them as an heir-loom, a legacy to my children, or children's children. Verily, your children will rise up and called you blessed to the remotest generations. T. H. H.

Jungle-wood, March, 1871.

## UP COUNTRY LETTERS.—NO. 6.

[Written for the Press.]

BY JEWELL.

Dear Reader.—Nell and I have made a discovery. Amelia is in love! This is how it happened. About half a mile from the farm-house there is a charming little spot I have named "Dingly Dell." A huge pile of rocks, with overhanging trees and clinging vines forms our cave. A clear, babbling brook, tumbling carelessly among and over big stones, comes dashing down a miniature precipice just here, which awakens echoes and makes the "Dell" a spot of rare beauty.

I have noticed, of late, Amelia's prolonged absence from home, her deepened color, brilliant eye, lightness of step and heightening beauty without comment or thought until now. In my quiet walks and rambles Nell is often my companion, unless needed at home. To-day we sauntered to the "Dell;" the noise of the brook quite overpowering our voices and footsteps, until lifting aside the vines to enter the cave, we started at finding the place already occupied. A young man, portfolio in hand, was eagerly gazing upon the handsome face of Amelia and earnestly talking. I need not speak of the confusion of all parties, nor of Amelia's evident dislike to introduce her new friend to us. But now, as I sit on the wide porch to rest, I can but recall the whole scene, and wonder, as we invalids do, how it will end.

In the first place, what do such children know of love? holy, pure, deep, abiding love? I fear, nothing; except what they read about in novels and works of fiction, which is usually a species of hot-house love—very poor and unsatisfactory to live by, and worse to bear life's trials with. Ah, young man and woman, if you would only take the warning older and wiser heads and hearts would give. And I fell to moralizing thus:—

What makes our youth so perverse in love matters? We all know they are so, and yet nobody seems willing to study the cause. Can it be, we can do or say nothing against the force of example? May not the fault be in the home education? In the emotional natures of our young folks, they seldom, if ever, find that unrestrained sympathy with parents their nature craves and so much needs for its pure growth. Many a girl is actually ashamed to own to father or mother her new found joy, in the deep, pure, holy love that fills her heart with blessings and praise. It is too sacred to be lightly spoken of, or ridiculed, as is so often done. And even the business part of the matter, which is certainly quite proper to consider, in a measure shocks her sensitive nature at first. So she keeps her own confidence, until secrecy is a burden, and the opportunity forever lost for binding mother and daughter closer in love and sympathy.

This might be remedied if parents would but manifest that love and tenderness which they doubtless feel towards their children, as they begin to try their newly-found wings, which are to bear them away from home, and on through life's untried journey. Let past memories of their own courting days flood their lives anew; and let them speak tender words of counsel mingled with sympathy, and make their children feel that they are their best friends.

To my mind, every sentiment or propensity of the human organism is good in its place and needed for the perfect development of the individual. That of amativeness, whose normal language is the love of the opposite sex, is perhaps the most necessary, and of the greatest value to the race; a two-fold reason why it should be guarded and kept pure. But as we find it situated at the base of the brain, behind the moral organs, so should it be led by them. And in our attractions towards the opposite sex, always be sure they come from the frontal brain *first;* for if guided by reason it will certainly outlive the attraction of animal magnetism, which forms the basis of so many of the marriages terminating in divorces, after a few years of strife and harmony.

## A New Fire Escape.

Editors Press:—We—that is, our little family—are much pleased with your paper, the more as it takes in such a wide scope of information, so much wider than its title, and the usages of agricultural papers, would lead us to expect. My husband, a retired physician, is so much engaged with his horticultural pursuits, that he cannot *now* find time to write, to contribute his dues to the general stock of knowledge, in return for the much valuable information received through your journal.

Although the grand object of your paper is to furnish knowledge, whereby to promote the means of sustaining and rendering pleasant human life, yet anything that may be calculated to aid in its preservation, I am satisfied will be acceptable to your readers.

A few months since, I was much shocked by the account of the destruction of the Spotswood House at Richmond, Va., and the sad and unnecessary loss of life at that disaster. You will remember that egress by the stair-ways was cut off by the flames, and that ladders of a sufficient length could not be erected for the escape of the doomed ones from the upper story windows.

Upon reading this heart-rending account, an expedient at once suggested itself to my mind, which, I think, would prevent all such loss of life in future, and which can be cheaply applied as a precautionary measure to all buildings. My plan, or suggestion is, that all windows above the ground floor; but especially those at the ends of halls in hotels and public buildings should have strong hooks projecting from the base or sill, upon which a ladder can be securely suspended, and reaching to the bottom of the window below. A succession of such ladders, as you will readily perceive, would give egresss from the uppermost rooms of the highest house, as well as from the lower floors; practically, an outside stairway from roof to ground, from the end of each hall at least. The ladders—light but strong—should be kept in the halls, in sufficient numbers, and could be easily, and at once hung on the outer wall by even a feeble woman like myself. The hooks need not disfigure the face of the building; they can be made to represent ornamental brackets or escutcheons, and thus really beautify the wall.

Although my plan would not have saved the Spotswood—one of the best hotels at which it was my fortune to stop, in a tour through the East, South and West, last year—yet such an appliance would doubtless have saved every life lost in the conflagration! and possibly by enabling firemen to gain ready access to all floors of the house, the building might have been saved.

Should these crude ideas of a woman be deemed worthy of note, they are at the services of you and your readers of the Press, and I shall feel excused for thus intruding upon the rights of the architect.

Virginia C. Rule.

St. Helena, March, 1871.

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Woman on the Farm.—In Wisconsin there are probably not fewer than 20,000 women at work in the field. They are not only Germans, Irish and Scandinavians, but Yankees; not only the poor, but thousands of the fair and intelligent classes. When the pinch comes, it is common for girls to hang up the rolling pin, shut up the piano, and go to the field and help their fathers. They ride a reaper as skillfully as any man; they rake and bind dexterously; they direct the cultivator; they run the threshing machine; they pitch bundles; in extreme need, they even give their arms and ingenuity to that bucolic architecture, building the load and stack. A blue-eyed girl in Central Wisconsin last year sheared 40 sheep in a day and received $4 for it. A hundred thousand Western women are working in the field this season.

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Horns on Cattle.—These appendages are not necessary for comfort, health, or anything tending to the well-being of the animals, to the profit of the owner, or the convenience of those who feed and care for cattle. Doubtless many a life has been lost, which would have survived an infuriated attack, had it not been for the horns. The next original breed of cows, having all the good qualities of present races, and some of superior merit, and which may have a great run, will, I hope, be hornless; for sheep have not degenerated by losing the horns, nor have flock-masters any desire to see them ornamented (?) like cows. *Cor. Country Gentleman.*

# Popular Lectures.

## Chemistry and its Applications.

[Prof. Ezra S. Carr before the Mechanic Arts College, Mechanics' Institute Hall, S. F. Reporte expressly for the Press.]

### Earth and Man.

Owing to some mis-connection the apparatus for the usual chemical lecture was not in readiness on Saturday evening, and Prof. Carr accordingly treated the students and visitors to an original written lecture on Earth and Man—to use Guyot's brief and expressive title for that broad and rich field,—though neither the title nor the matter of the Professor's lecture was from Guyot or any other one author.

Man was in the beginning commanded to subdue the earth. He has learned very many of Nature's great laws, like that of the eclipses. A wise conception of the ancients considered him as a microcosm, and he was indeed the true Jacob's ladder on which the angels ascend and descend—the Lord at the top and the earth at the foot; man intercommunicating with and benefiting from all.

Climate, as furnishing the key to man's development, was then enlarged upon with copious illustrations drawn from the generalizations of physical geography and the history of the civilization of races.

The average annual temperature of the great northern planes of British America and Siberia, the table lands of Asia, the heated plains and plateaus of Africa, with their respective populations, were contrasted with those of Europe and China. The population of one small island, even, had acquired more power and wealth and had done more for the dissemination of civilization, than the scores of nations covering many millions of square miles not favored in this particular essential to the growth of race into power.

The first and chief superiority of America and Europe lay in their uniformity of climate. He cited conquests of southern by northern people, the East Indies, Africa, and even Rome, explaining the fact by observing that the organic functions in favored climates were expended rather in mental and moral growth than in mere physical adaptation to conditions of life. The chests of inhabitants of the warmer latitudes were narrow, those of the more northern broad. Whenever natives of the higher latitudes went south, they were subject, from their accustomed more respiratory food, to an excess of animal heat, and consequently to fevers; while natives of the south going north were subject to rheumatism and consumption from not generating a sufficiency of animal heat. Accordingly the highest physical perfection had developed itself in the temperate zone: oval faces and well marked features, *vs.* flat face, small eyes, ill-defined features in Asiatics, advancing jaws and woolly hair in Africans, etc., and diminutive stature in general in either cold or hot countries, Patagonia not excepted.

A mean annual temperature of 60°, and where the variations are small, seemed to be the conditions that were the most favorable; where the winter is not more than 10° below and the summer not more than 10° above the average.

Brazil and Peru were contrasted as to climate and progress; the former unconquered and wild, because man is overawed by nature; the latter the cradle of an ancient civilization, which, being the earliest and foremost civilization of the new world, somewhat singularly compared with that of Egypt, the first in the old, as both having originated in rainless countries.

Hindostan, a most favored land as to tropical richness and situation, yet conquered by the Mistress of the Seas, was referred to as a case of the natural weakness inherent without the proper tone that is given only by a favorable climate.

The results of the felling of forest had shown, however, conclusively, that man has it in his power, to a great extent, to regulate the circumstances of heat and moisture.

Races, like individuals, could die young or wear out. Of what use was the extension of civilization if dying at the center we find greenness and vigor only at the outer borders? Were we, the Americans of to-day, but the outer circulation of European life, or was there a new center forming here of a permanent race?

If any land was ever destined to grandest ends, he ventured to believe it was this most favored land of ours, where there are no higher nor lower orders save those who do nothing for the improvement of mankind, where there is no despot save ignorance. And was it not enough to stimulate us to the noblest efforts of humanity, to be set in the 19th century, with Europe behind us and Asia before us, while we are ourselves enacting the completion of the circle of civilization that shall girdle the earth? Was it too much to hope that here Nature would find her grandest secrets revealed and her highest types fulfilled?

The lecturer concluded his eloquent peroration with some verses so appropriate to the theme that we regret we are not able to quote them in full, nor even to name the inspired author. The attendance of students and the evident interest in, and utility of, this practical department of the State University continue unabated.

Saturday, April 1st, will conclude the chemical course, and Prof. Swinton follows on Literature and Language.

## Steam-Power vs. Electricity.

Prof. Morton, of the Stevens Institute, Hoboken, N. J., gives in a New York paper the following statement of the relative economy of steam and electricity for motive power:—

"The doctrine of conservation of force (now as well established as that of gravitation) teaches us that a certain maximum of force can be developed by the use of a given quantity of any material—as, for example, coal in a steam engine, or zinc in a galvanic battery—which may be more or less completely utilized, but cannot be exceeded. Thus, a pound of coal burned in one minute, if applied without any loss whatever, would develop 332 horse-power for that time; as applied in practice in our ordinary engines, it develops but about 12 horse-power, all the rest being lost. We see here what a margin for improvement exists. We are getting but from three to five per cent. of the 'good' out of our fuel, and we might suppose that some other way of developing force, if less wasteful, might be economical, even if a more costly material than coal were consumed.

"All galvanic engines derive their power from the zinc consumed in the battery. Now, a pound of zinc consumed under the most favorable conditions (*i.e.* without any loss of effect whatever), could yield 35 horse-power for one minute, or say about one horse-power for an hour, if applied to a machine in which there was no loss of effect.

"An absolutely perfect galvanic engine, actuated by a perfect battery, could then, at the best, develop but one horse-power per hour from each pound of zinc consumed in that time (strictly, ·917 of a horse-power). Or to develop 2½ horse-power for 10 hours would demand the consumption of about 27 pounds of zinc, and this, be it remembered, without allowance for any loss in the battery, which we know to be very great, or in the galvanic engine, which we may be sure is something. A common steam engine would require for the same work about 125 pounds of coal, or about four times the weight, but then coal is between 50 and 60 times cheaper than zinc. The weak point of the galvanic motor is, then, not only the high cost of zinc, but the low efficiency of that material, being but about one-sixth that of coal, weight for weight."

Reported Gold Discovery.—The utmost secrecy prevails among the knowing ones, regarding the developments from the auriferous regions on the Santa Cruz range. The mines are situated a short distance from the town of Felton, the great lumbering district, but a short distance from the coast. Some ten or twelve years ago, rich placer diggings were discovered in close proximity to these new quartz mines, and for a while paid at the rate of $7 or $8 a day. The ore finally gave out, and without further prospecting the party at work left for fresh fields. The old mill yet remains, and the indications in that vicinity are said to be very good for a paying lead. Instead of a pocket, which, when washed out, leaves no further developments, the new mines seem to contain an inexhaustible amount of gold-bearing rock, that is, as far as heard from. The rock that has thus far been taken out, assays at a high figure, and if the hopes of the discoverers are verified, there is a fortune for somebody. We hope to hear in a few days whether the mine is as rich as has been reported.—*San Jose Patriot.*

# Good Health.

## Catarrh.

[Written for the Press.]

As much of the general information upon this subject has been furnished by the "patent medicine man," some errors are generally entertained which public welfare dictates should be corrected.

### What It Is.

Catarrh, from the two Greek words *kata*, down, and *rein*, to flow, is the name given to a mucous discharge from the nose, head and throat. Any mucous membrane may become diseased, so that it will secrete and discharge an unusual amount of mucous, consequently we have nasal and bronchial catarrh, ophthalmic catarrh, leucorrhœa catarrh of the stomach, intestines, bladder, etc. Catarrh of every form may be either acute or chronic, according to the length of time, since its invasion, and the changes which have taken place in the mucous surfaces. There are also some forms of specific catarrh, communicated by contact, but they need not necessarily be described at this time. It will, however, be understood that any unusual flow of mucous, from any mucous surface as a result of disease, is catarrhal in its character.

### Symptoms of Catarrh.

The discharge generally first makes its appearance upon "taking cold in the head." There is always a feeling of heat and swelling of the face, the head aches, the eyes are red and watery, there is a sense of tightness or constriction across the forehead and root of the nose, with a feverish sensation, with thirst, alternate heat and chillness, and an extreme sensitiveness to cold. The nose becomes "stopped" and discharges an acrid mucous. This may continue several days, but if the general health is good and no more cold is taken the acute catarrh "gets well itself." On the other hand, if there is a catarrhal diathesis, a constitutional predisposition to it, the cold does not get well itself, but more is taken and repeated till an acute catarrh becomes chronic when the whole lining mucous membrane of the nose and sinuses of the head and face become deeply diseased and "perfectly rotten." At this stage it is either difficult or impossible to breath through the nose, the discharge is thick, and sometimes very offensive, and runs down into the throat.

Ozena from the Greek *ozein*, to smell, or *oze*, a stench, is a form of catarrhal disease of the nose characterized by a deep redness, a thin acrid discharge, sometimes scabs inside the nose, a tendency to ulceration, not only of the soft tissues, but also of the cartilages and bones of the nose, and in its well developed stages, by a very offensive odor. Its constitutional dyscrasia seems to be more deeply laid than that of ordinary nasal catarrh, so much so that it does not necessarily depend upon a "cold in the head" to arouse it into activity. Ozena inclines to penetrate—eat into the tissue—while ordinary catarrh spreads more easily over a larger surface. Ozena may *destroy* the nose, while catarrh extends to the head, throat and bronchial tubes when it is called bronchial catarrh or bronchitis.

In the advanced stages of either catarrh, leucorrhœa or ozena, the blood is generally poor and dark colored, the countenance is pale, the appetite is capricious, the stomach is deranged, the bowels are irregular, and there is a feeling of weakness and languor, a sensitiveness to cold, with cold feet, and heat of the head. The poor patient "feels sick all over." In view of these facts, it must be admitted that chronic catarrhal affections are not local in their character, but on the contrary, the whole system is deranged and every organ and tissue is in a diseased condition. If the blood was rich and healthy and the patient was strong and vigorous, the catarrh would soon get well itself. On the other hand as long as those irritating causes exist, they are capable of not only sustaining but producing local catarrhs.

### Mal-practice.

In view of the above facts how utterly foolish it is to rely upon snuffs, washes, or any other patent local application to cure a disease of such a general character. Local applications may be found to smother over any old ulcer, yet it will break out again as bad as ever and so it is with catarrh,—temporary relief is only afforded—the disease is only suppressed to break out again with greater energy. This is so uniformily true, that it may be safely asserted that no case of catarrh was ever cured by the use of local applications only. If this subject was properly understood, people would not ruin their prospects for a cure and squander their money for preparations which are gotten up for the express purpose of enriching their manufacturers, but are utterly useless for the purposes employed. Instances are so abundant in the experience of every intelligent physician, of persons seeking his aid after having gone the rounds of quack nostrums and patent medicines without benefit, that no one having a sense of justice and a desire for the welfare of the community in which he lives, can refrain from condemning such wholesale deception in the strongest terms.

### How to Prevent and Cure Catarrh.

In order to do this the first and most essential rule to be observed is to avoid taking cold. To do this, the feet should be kept clean, dry and warm. Bathing every day is not good, but dry friction over the whole surface of the body till a healthy glow is produced, once a day, with a flesh brush or hair mitten should be practiced.

The clothing should be sufficient to keep the body comfortable but not too warm, and should be changed throughout as often as twice a week. It is generally best to wear flannel next the skin.

The sleeping apartments should be kept well ventilated and dry. To do this a good fire in the room once or twice a week is proper, and essentially necessary in all damp localities. This is true of every portion of the city of San Francisco, and every other place near a large body of water, when the atmosphere is loaded with vapor. The food should be light, nutritious and easily dtgested, and the drink should be pure cold water.

### Medical Treatment.

This I would gladly give if I could, yet, the influence of age, constitution, form and stage of disease and its complications are so numerous, that any attempt of that kind would only prove a positive failure, as far as benefit from self-treatment by the people themselves is concerned.

It is therefore advisable in this, as in all other forms of disease, for the people not to *dose themselves*, but to use every sanitary measure possible to keep well; but if medicine is necessary, to procure it from those who have made the application of medicine to the cure of disease a special study and practice and are thereby able to give permanent relief without producing medicinal complications which are more aggravating and difficult to cure than the original disease itself. E. J. Fraser, M. D.

San Francisco, March 26, 1871.

New Remedies for Burns.—Two new remedies for burns are added to the long list. The first is charcoal. A piece of vegetable charcoal laid on a burn at once soothes the pain, says the *Gazette Medicale*, and if kept applied for an hour cures it completly. The second one is sulphate of iron. This was tried by M. Joel in the Children's Hospital, Louisiana. In this case a child, four years of age, had been extensively burnt, suppuration was abundant and so offensive that they ordered the child a tepid bath, containing a couple of pinches of sulphate of iron. This gave immediate relief to the pain, and being repeated twice a day—twenty minutes each bath—the suppuration lost its odor, and the child was convalescent.—*Medical Press and Circular.*

The Skin a Breathing Organ.—Some animals breathe more through the skin than they do through the lungs; and in some animals the whole process of aeration of the blood is performed through the skin. In the human being the skin is, to a large extent, a breathing organ. Fatal disease of the lungs is often caused by an obstructed skin. In one of the ceremonial processions at Rome, attendant on the installation of a new Pope, a child, having the whole surface of the body gilt, was paraded. The consequence was the death of the child. This melancholy fact may serve better than a long lecture, to convince people of the importance of "keeping the pores open" of which there are more than three thousand on every square inch of surface.

An Important Caution.—Books which have been handled during recovery from scarlet fever should be burned after they have served their purpose for the patient. A writer in the *Athenæum* says that in the stages of recovery such books frequently become charged with germs of the disease.

The Chinese relieve neuralgia and gout by appying oil of peppermint over the affected part with a camel's hair pencil.

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SAN FRANCISCO:

Saturday, April 1, 1871.

## OUR WEEKLY CROP.

Our farm fronts this week on the sea-coast, and from the entrance we see a busy scene of stout-hearted men Launching the Life Boat in their brave endeavor to save the lives of fellow beings. But we see this scene by looking though one of the windows of Prang's Art Establishment, and we learn at the same time thereby How Chromos are Made.

We turn for a moment from this view to see what has been done for the farmer in the way of Mechanical and Scientific Progress, but on leaving the refreshing coolness of the library see another tragedy, that of the Snow-Bound Starved Emigrants of '46, which is put in a different light from that in which we previously viewed it.

Another turn and we come upon something infinitely less exciting although practically no less interesting,—a Manure Heap. By the side of the heap is a Hay Press, and near at hand are other valuable Inventions. All these are capable of being turned to profitable account. The Agricultural Notes of the coast pass in review in quadruple columns.

Strolling about our grove, we learn concerning Tree Culture in California, and sitting in a grotto, we listen to an Up-Country Letter, and to a suggestion for a New Fire Escape made according to Rule. The Professor meets us here and, although he has misplaced his regular manuscript, is at no loss for an interesting lecture about Earth and Man. Another professor tells us a little about the much misunderstood subject of Electricity, and the Doctor instructs us concerning the unpleasant Catarrh.

Leaving the grove, we visit the manufactory and watch the Progress of Domestic Sugar Making. After hearing the Reply to Information Wanted and having a Chat with some of our Correspondents, we visit the grain fields to examine the Insects injurious to Vegetation and witness the performance of a new Steam Wagon which has just been introduced on this coast.

Joining the ladies of the Home Circle, we listen to their story of Love Mightier than Fear, and to a Chapter on the Month. That chapter was written by a lady, although an ungallant printer has sought to make it appear otherwise by spelling *Mrs.* without the *s*. Domestic Economy next claims our attention. Then we are carried, by mail, to the Valleys of the Humboldt and to Vermont, whence we return to get the Market Report and to separate for another week.

THE WILLAMETTE FARMER.—This paper has recently been enlarged and otherwise materially improved. It has mounted a new head and robed itself generally in a new dress. The paper, good heretofore, has now become a really valuable representative of the agricultural resources of the important and growing section of the country where it is published. We always find its columns well filled with valuable matter, of which we make a liberal use, as will be readily seen by a glance at the page in the RURAL PRESS devoted to matters of local agricultural interest.

EX-GOVERNOR COX has been elected President of the new Agricultural and Mechanical College of Ohio.

E. S. RITCHIE, of Boston, has lately made the most powerful induction coil now existing.

## DOMESTIC SUGAR CULTURE.

Though the Alvarado Sugarie has proved so successful, and some movements are recorded at Sacramento and San José, nothing seems likely to be done this year, beyond Alvarado, except raising beets for next year's seeding. We regret to learn that Mr. Wadsworth's efforts to secure the subscription of a capital of $25,000 for putting up works to make sugar from watermelons have thus far been unsuccessful; but it is not yet too late to initiate the enterprise. The undertaking has no risk, because if only syrup be made, its delicious flavor will secure an eager market, as in Italy. It requires only very simple works, such as can be put up in two months; and by additions, beets can be added next year, for the sugar of each is alike when refined. There is very great economy in the co-working of beets and melons. Between them the sugarie can be kept in work the year round; and melon refuse makes a palatable variation in the feed of stock.

Beets give no syrup for family use, while melons will supply any demand that may be made. There is no oil from the olive which is more tasteful than the table oil made from melon seed. We commend this enterprise to our friends; and we trust that Mr. Wadsworth will yet succeed in forming the company.

COOKING FOOD FOR ANIMALS is denounced by Prof. Smith in the *Rural New Yorker*. He contends that it is against Nature, which has fitted their organs for raw food; and the meat is unwholesome. We are sorry to say we think the Professor is learned overmuch. Our domestic animals are taken from Nature and put into artificial life. Much rest is required for the digestion of raw food, which animals, in their native condition, can command; but that rest is denied them when trained to the service of man; hence cooking their root food and their corn is a kindly consideration for their deprivation of liberty.

SEEDS RECEIVED.—We acknowledge the reception, through Hon. Eugene Casserly, of several packages of seeds from the Agricultural Department at Washington, as follows:—Extra Narragansett sweet corn; Adam's early corn; Beck's prize taker peas; Negro long-podded French beans, grown in Europe especially for the U. S. Agricultural Department; McLean's Princess Royal peas; excelsior oats and white Schonen oats.

SANTA CRUZ FARMER'S CLUB.—Our correspondent has sent us quite a full report of the proceedings of this association at its last regular meeting, on the 18th instant. As the discussion was confined mainly to matters relating to its organization, and of no interest to the general reader, we omit its publication. It is to be hoped the club will soon be able to settle the matter upon which it is now at variance, and again take up subjects connected with the farming interests of the country, for which object it was originally organized.

VITALITY OF REDWOOD TREES.—Redwood forests, says Mr. Bolander, are not destroyed by fire, which may burn up all the leaves and branches, but the tree will send forth new shoots from its charred trunk and limbs. Trees which have been cut down and allowed to remain on the ground, have formed, after a few years, new growths of young trees, which have grown into forests; anything left of a redwood tree will sprout again; it is therefore a difficult task to clear land overgrown with this timber. This tree is now largely cultivated by the Italian government on account of its many good qualities.

AN INTERNATIONAL EXHIBITION will be held in London, commencing on the first of May.

## REPLIES TO "INFORMATION WANTED."

A subscriber states in reply to "Information Wanted," in our issue of March 4th, that if our New Haven querist would obtain from Prof. Brewer the species of grass called "Kangaroo," a better judgment could be formed of its fitness or unfitness as a forage or pasture plant for California; he further states he has not heard of any trial having been made of it in this State. On other points he remarks that lucerne has not been grown on a business scale, but alfalfa has, and has generally given satisfaction; but a good or high farmer could find superior substitutes by adopting the Belgian proverb which he quotes. Italian rye grass has only been sown sparsely. Its qualities are overrated, both in Europe and America; its best points consist in affording early spring feed, especially under irrigation; but for feeding, and especially fattening, it is not of much account.

We may here remark, that, according to the experiments of Sinclair, under the superintendence of Sir H. Davy, the nutritive qualities of rye-grass as compared with Cocks-foot (orchard grass), are inferior in the proportion of nearly 5 to 18; to meadow foxtail, as 5 to 12; and to meadow fescue as 5 to 17. Rye grass when allowed to seed, becomes an exhausting plant.

Sorghum has been tried here on a small scale, but too small to be of any great value as examples. It has been more extensively cultivated in the States and Territories between California and the Rocky Mountains, than in this State.

Indian corn is but sparsely planted for green food, and generally only in small patches. Its more extensive cultivation for such purpose would, no doubt, be attended with excellent results.

Sorghum, however, is no doubt preferable to corn for forage; and may be advantageously used either green or dry. It is extensively cultivated in many parts of the Western States. Its value for green food can scarcely be over estimated; while for dry, its economy may be seen in the fact that stock eat it readily in that condition, while the yield per acre is three times that of grass. Its food value is, of course, less than hay; but its superiority in that respect is far more than compensated by its increased yield. When cultivated for fodder, it should be planted in drills, about four feet apart, with the stalks from four to five inches asunder in the rows.

The cultivation of especial forage plants has hitherto scarcely been attempted on this coast, and it is with the view of drawing attention more largely to the cultivation of such plants, as well as grasses, that we are now publishing a series of articles on the history and importance of that branch of agriculture.

MANURES.—The *Prairie Farmer* publishers a prize essay of the Illinois Agricultural Society on this subject. The essay was written by R. Giddings, of that State, and it contains so much practical good sense, and is so applicable to this latitude, that we have transferred it to our columns. If the farmers of California would save and use the manures now annually allowed to go to waste, or destroyed by them, such saving would increase the annual products of the State by millions. We ask them to read this essay, and lay it away for future reference; also, to practice upon its suggestions.

THE EXHIBITION of the New Orleans Agricultural and Mechanical Association has been postponed from April to November, in consequence of the destruction of their building by fire.

DECLINED.—Ex-Governor Chamberlain, of Maine, has declined the presidency of the State College of Agriculture and Mechanic Arts.

## TO CORRESPONDENTS.

"Our Sugar Supply," by "W. W.," will appear next week; also "Farm House Chats," No. 3, and "Short Papers on Agriculture," No. 6. "Nell Van" sends us another excellent story for the Home Circle, and a short story for the little folks.

"J. W."—Descriptions of lands in your district are of no value to our readers, unless accompanied by the market value of the same. It is also important to know at what price emigrants can buy land of the best quality. What do they get besides naked lands? Speak of the houses and fences, the wood and water, the orchards, vineyards, etc. This is a dear country to prospect in; and emigrants can't afford to go and examine unless such details are first presented.

EXPERIMENT WITH EGGS.—A correspondent sends us the result of his experience in raising chickens from eggs reported to be of imported blooded fowls. His experience shows that he was "badly sold" in his egg purchase. Better deal with people of established reputation—such, for instance, as advertise in the RURAL PRESS.

"JUST WHAT IS NEEDED."—An esteemed correspondent, and a well known agriculturist, "T. H. H." writes as follows: "I am much pleased with the contents and appearance of your valuable paper. It is *just what is needed* on the Pacific coast at this time, and being the only journal of its character published in the State, every culturist and horticulturist ought to take it. If you go on as you have commenced, I do not doubt it will prove a success."

A HAPPY EVENT.—That the following announcement did not appear in our last issue was not due to any neglect on the part of the editors:

MARRIED.—In Santa Cruz, March 16th, by Rev. Duncan G. Ingraham, S. Harris Herring, of San Francisco, and L. Perkins Jewell, M. D., of Santa Cruz.

We are confident that our readers will join with us in hearty congratulations to the happy couple who are both known through their excellent contributions to this paper. We had thought it a little suspicious that the sly fish should cruise so long in that vicinity, although we did not suspect him of being after so precious a gem. Our unmarried editor (who didn't get any of the cake sent) seems a little inclined to reflect on his lonely condition, but when all our contributors are nicely disposed of perhaps his turn may come.

ORCHILLA.—A friend has left at this office some samples of the Orchilla plant, which is now being gathered in Lower California, for shipment to Europe, where it is used for dyeing purposes. In our notice of the Orchilla pickers in last week's PRESS, the printer made us say "pick and *plant*," when we wrote "pick and *pack*. The Orchilla is never cultivated.

THE great demand for our new paper has entirely exhausted our copies of the early numbers; we have constantly to inform new subscribers that we cannot furnish the full numbers now without breaking up our regular files, a limited number of which we have for bound volumes.

OIL IN BULK BY RAIL.—It is mentioned among the recent novelties in railroad traffic across the continent, that several "tank cars," loaded with whale oil, have recently been sent from this city to New York, and during the past week a car load of lard oil has been received here in bulk from the East.

THE AMERICAN WHALING FLEET now numbers but 285 vessels, with an average measurement of 85,000 tons, against 670 vessels, aggregating 220,000 tons in 1857. Of the number now afloat, New Bedford owns 174; and one-half of those to arrive this year, will be withdrawn from the business.

## Insects Injurious to Vegetation.

Quite a handful of dark, plump cut-worms or grubs, as they are called by some, were exhibited to us yesterday, having been taken out of a young cabbage patch, where they had done much mischief, having in the night eaten the young plants off near the surface of the ground. They troubled tomatoes also and other vegetables. There is likewise a small wire worm, sometimes white and sometimes yellow, that is found in beans and corn soon after being planted, perforating the kernel through and through. Will the RURAL PRESS at San Francisco, or some other paper, give gardeners some remedy against these nuisances.

We take the above from the *Sacramento Union* of March 23d, and as this is the time of year when insects of various kinds do great damage in the gardens, orchards and fields we will devote a little space to those most injurious.

### The Cut-Worm.

This is the American name of one of the most destructive insects in the country. It is sometimes called the corn grub, from the fact that it is so destructive to young corn. In English Agricultural works these worms are called surface grubs or caterpillers, from the fact that they are always found near the surface of the ground.

The American name seems very appropriate from their habit of cutting off young and tender plants, upon which they feed, as smoothly as if done with a keen-edged knife. There are many varieties of this worm each varying slightly from the other in appearance and each diffusing a little from the other in its habits and modes of depredation on growing vegetables. The most common and the most destructive variety is called the

### Striped Cut-Worm.

It is particularly described by Dr. Asa Fitch, Entomologist, to the New York State Agricultural Society, as a cylindrical worm, usually about an inch in length when disinterred beside the several plants in our gardens and corn fields, and upwards of an inch and a quarter when it is fully grown. Its ground color is dirty white or ash gray, occasionally slightly tinged with yellowish; the top of its neck shining black, with three white or pale longitudinal stripes, a whitish line along the middle of its back between two dark ones. On each side three dark stripes separated by two pale ones, whereof the lower one is broader, often a somewhat glucous white stripe below the lower dark one, and all the underside below this, dull white.

### Their Habit of Cutting Young Plants.

Some of this family of worms cut the young corn or other plants, such as tomatoes, cucumbers, melons, wheat, barley and oats just below, and some just above the surface. But all alike, lay covered in the earth during the day time, and only come forth to seek their food and do damage in the night. Owing to this habit they are comparatively safe from being devoured by fowls and birds; as also from being caught and destroyed by man. In seasons when these worms are plenty they do great damage, often destroying the crops of the garden, and corn in the fields, so that it becomes necessary to replant several times before a good start for a crop can be made. Sometimes their depredations are so extensive and persistant as to render it necessary to abandon one kind of crop, and plow and plant some other kind not so liable to be injured by them.

### Remedies.

In cold countries, one of the most effectual modes for destroying these pests has been found to be plowing them out during the freezing season, when in a torpid condition and unable to seek protection under the earth until the frost has done its work. By thus exposing them suddenly to the cold and freezing weather many of them are destroyed and the ground rendered comparatively free from them the following season. Gradual freezing, however, in the ground and in the places selected and prepared by these worms, it has been found does them no injury. Like many other insects and reptiles, if allowed to freeze gradually with the ground and thaw out gradually undisturbed, they come forth unharmed.

This remedy, however, cannot be rendered effectual in but few of the cultivated portions of California or the Pacific coast, for the reason that we do not have weather sufficiently cold. When their field of operation is limited, as in small gardens these worms may be caught and destroyed, by digging from one to two inches deep around the hills of corn, cucumbers or other vegetables upon which they are feeding. The best time for this operation is early in the morning before they have gone far, after obtaining their night's meal.

This remedy is slow and too expensive to be resorted to for field crops. It has been recommended that corn or other seed be soaked in copperas water before planting; but it is doubtful if this is of any avail on account of the rapidity with which the earth absorbs and dispenses the properties of the sulphate. If any application can be made effectual to prevent the ravages of the cut-worm, it is evident it should be something applied to the parts of the plants upon which they feed—as the tender stem—and that should be applied at the time they are committing their depredations.

### Whale Oil Soap

Has been found a most excellent remedy for all kinds of plant and tree lice, including the woolly aphis so frequently infesting our apple trees. It is used in solution or suds, made by dissolving about a pound of soap to seven gallons of water and applied by a syringe.

The efficacy or value of this application is owing in part to the peculiar offensiveness of the smell. Why would not this application, made in the same way, prove equally efficacious to keep away the cut-worm from the young corn, tomatoes, beans, cabbages, etc.? We hope some or many of our readers will try this experiment. One thing is certain—the application will do any young plant good as a fertilizer, and with a bucket of suds and a syringe it can be applied so rapidly as to render it practical in the fields as well as in the gardens.

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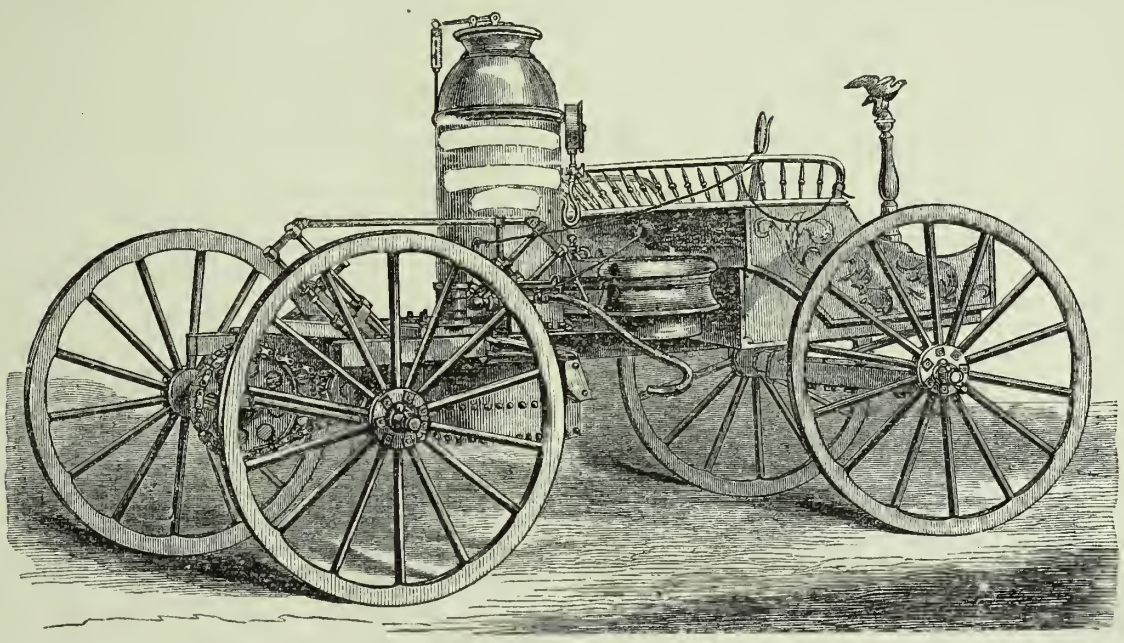
TWELVE thousand pounds of buffalo meat and 100 antelopes were lately received in Boston.

## Ware's Traction Engine.

The object of the builder of the engine, represented in our engraving, has been to produce a self-propelling steam carriage for running on common roads, or on ice, and an engine which can be adapted to the work of the farm, to driving thrashing or other machinery, pumping, watering gardens, and other purposes.

One form of the machine is shown in the accompanying engraving, and presents a very neat appearance. The boiler is held between two forks of a steel frame, which meet on the forward axle and diverge towards the rear. The engines work on an incline, and drive a shaft which actuates the rear wheels by means of a chain. The engine is intended to give three revolutions of the first shaft to one revolution of the driving wheels. The difference can be multiplied to nine times. A lever in front of the driver's seat serves to guide the machine when used as a carriage, and a rod with handle connected to the engine shaft readily reverses the motion of the engine.



WARE'S COMBINED STEAM CARRIAGE AND ENGINE.

The engine can be easily guided when traveling at the speed of a fast horse. The relative speed and power of the wagon can be readily changed without stopping the machine, which is of great advantage when ascending heavy grades and passing over rough and uneven roads with the steam wagon. A link motion is not thought sufficient, and it is certainly inconvenient to be obliged to stop now and then to change the gearing.

The engine has some peculiar features. The cylinders are set at right angles to each other, both being bolted to one casting and working on one crank. One eccentric works both valves, in backing and in going ahead. Steel and gun metal are largely used in the construction to insure strength with the least possible weight. The boiler is made to stand a high pressure, as it should be able to do in all such machines.

The cut represents a comparatively small steam wagon. A larger one would be no longer or wider, but the boiler and machinery would occupy more space inside the wheels. The inventor, who has been in this State for some time, thinks that rubber tires would be unnecessary here, but he uses a corrugated tire or some similar device to prevent slipping. In one case he tried successfully smooth tires with pieces which were readily adjusted in a few minutes, when the engine was used for drawing loads or plowing.

The machine is a complete engine of itself, capable of doing the work ordinarily performed by the portable or stationary engine, and also adapted for locomotion. The inventor is confident that his machine will give satisfaction, and all hitherto made are reported successes. Further particulars may be obtained by addressing Elijah Ware, San Francisco.

## Herbage and Forage Plants.

It must have been observed by those who read the article published under the above head last week, that the earlier cultivators sought with much avidity for herbage and forage "grasses," as they termed them, among the leguminous and similar plants, eschewing with seeming care the true grasses. The reason for this practice, as given in the work from which we are enabled to collate these interesting facts, was that the true grasses "produced many small, hair-like roots which filled the soil, and therefore, could not but be impoverishing and hurtful thereto." The necessity of a rotation of crops was unknown in those days, and the only method of recuperating an overcropped field was to let it remain a few years—a practice and result which of itself was a contradiction to their false theory.

The only mode of collecting grass seeds, up to about 1760, was by shaking them out of the hay made from natural grasses; without considering that as the different species matured their seeds at different times, many of the species would be neglected. At the time above named the growing of grasses, separately for obtaining their seeds, was commenced, and from that time was initiated an improved system of cultivating the most useful grasses, among which were soon after counted the two imported American varieties—Timothy and Orchard grass. Different terms were also introduced to distinguish between the clovers and true grasses. The introduction of artificial grasses into Scotland was much later than their introduction into England.

The discovery and introduction of new and valuable grasses has followed in constant and rapid succession since the commencement of the present century. Among the more prominent may be noticed the following which have been introduced in the order in which they are named.

Red clover was introduced early in the century. Rye-grass, trefoil, white clover and rib-grass were noticed about the same time—sanfoin, red and sheep's fescue a little later. Crimson clover in 1821, Italian rye-grass in 1831, Alsike clover from Sweden in '34, blachish foxtail-grass in '39, wood millet or pheasant grass, for wood lands, in '40, tussac-grass from Falkland Islands in '42. The bulbous barley grass, *hordeum bulbosum*, and the villus wheat grass was introduced about 1845, and in 1848 the pampas grass, previously described by Humboldt, was introduced chiefly for ornamental purposes. Numerous other varieties have been introduced within the last 25 years, and there is no doubt but that the explorations now going on upon the Pacific coast and throughout the vast and, until recently, but little known interior of this continent, will soon add large numbers to the already well known and valuable new varieties, which have been found in these localities.

The number of herbage plants is now very large and well worthy the study of the intelligent farmer. The work before us gives a description of no less than 196 plants which are more or less used for herbage or forage. The difficulty attendant upon the introducton of new species of such plants to any other country or climate than that of their nativity, as well as their change from an uncultivated to a cultivated state, renders it a matter of much importance that careful comparative experiments should be made in that direction in all new countries or untried localities. In our next we propose to throw out some hints in reference as to how such an end may be be readily attained in this State, to the manifest advantage of the promoters and the public generally.

BY OUR LADY EDITORS.

## LOVE IS MIGHTIER THAN FEAR.

BY NELL VAN.

[Written for the PRESS.]

It was breakfast time in the home of the Mortons. The second bell had been rung, and the maid had just brought in the smoking steak and fried potatoes, when Robert, the eldest son, entered the room with cautious step and downcast look. Mr. Morton stood with his back to the fire, apparently waiting for something or somebody, for his wife and daughters were already there, taking their seats at the table.

As the boy slowly walked across the room to his accustomed place, the father spoke his name in a stern voice, and enquired where he was at supper-time of the preceding day, and at what time he came home. Robert, accustomed to harshness from his father, was prepared for a scene, and immediately began by stating that he had passed the night with Ned Austin, with whom he had gone to skate after school. Ned coaxed him to go home with him, afterwards, that they might study their lessons together, and it being late when they finished their examples, Mrs. Austin had persuaded him to stay over night.

"Did you not consider the consequences of such conduct," said the enraged father in a loud voice; "and how dare you subject your parents to the anxiety which your prolonged absence must necessarily cause? After you have finished your breakfast, sir," he added, "I wish to see you alone in the library." With that he took his seat at the table, and mechanically waited upon the family, sipping his coffee in silence, without venturing to look at the truant boy or exchanging a word with the other members of the household.

Mr. Morton was a passionate man, and expected everything to go on just to his mind without any particular effort on his own part. If his wishes were not complied with, he would upon all occasions render himself and others perfectly miserable by allowing his passion to control him; and in the punishment of his children he was often cruel and unjust. He believed that children should be governed by fear, which grieved his wife to the heart. She strove to impress upon their friends the necessity of perfect truthfulness, obedience, and a desire to do right, not through fear but for an instructive love of well doing, which always gives a glow of satisfaction. She was a tender, loving wife and mother, whose early training had taught her that Love is a more powerful master than Fear.

In her experience as a mother, she had seen this exemplified, and realized that she could accomplish a higher good in the spirit of kindness, than by harsh dealing with the immortal beings committed to her care. She considered that children have certain rights which should be respected, and by treating them as if they were responsible beings, capable of judging for themselves upon occasions, they would grow to merit a degree of respect, not developed if governed by brute force.

In the present instance, her course would have been, to say nothing to the boy in the presence of the family, but to lead him apart, and enquire his reasons for being absent, and why he had remained over night with his friend, without permission. Then, in a few touching words of tender entreaty, and anxious solicitude for his future good, she would awaken in him a deep penitence for his misconduct, and a hearty resolve never again to do anything to grieve the heart of one who manifested such love for him.

How differently the father finished the offence, by inspiring him with fear, at the same time gratifying the passion of his nature. Did he consider the example he was setting to this boy? And would such tyranny prevent a similar occurrence in future? Would it not rather awaken a desire for revenge, and allow no room for penitential feelings?

Robert hastily swallowed a portion of the food placed before him, and sullenly left the room to await his father in the library. As Mr. Morton left the dining room a hand was gently laid upon his shoulder, and a voice softly whispered:—"Do not be harsh with Robert, my dear, remember your own boyhood, and the strong temptation such boys have to contend with. Promise that you will not whip the child, and thus drive him from you forever."

With clenched fist and set teeth he entered the library and confronted the little culprit. Frightened at the furious expression of his father's countenance, Robert sought forgiveness on the score of thoughtlessness, promising, if pardoned, never to be guilty again of a similar offence. Instead of softening his father's heart by this confession, he found it produced a contrary effect, and before he was fully aware of what his punishment was to be, he found himself seized by the arm and his face being smeared with black ball.

Not a word was spoken; but actions are more eloquent than words, and never before had his father inspired him with such a degree of fear. The feeling of sorrow for his fault which had prompted him to sue for pardon, was now exchanged for one of virtuous indignation, and a desire for revenge took possession of his heart. The lion in his nature was fully aroused, and springing away from his enemy he seized a chair which he hurled at him and hastened out of the room and from the house. Meeting his little sister in the entry, she ran crying to her mother that Robert's face was all covered with black blood.

Down to the spring he ran, where he thought he could easily remove all traces of his disgusting punishment. He cared not if his father followed him to continue his persecution, for he considered himself justified in getting angry and protecting himself from further injury. Poor Robert was not aware of the peculiar properties of black ball, and was unprepared for the serious difficulty he found in removing it from his delicate flesh. Angry and defiant he sat on the cold ground rubbing his poor face with a handful of wet paper when he was joined by his mother and little sister. "Oh, Robert, what has happened to you. Come in out of the cold, raw air. Is that ink upon your face, my son?" "No, mother, *he* has tried to make a devil of me, and I feel just like one. Perhaps I have killed him, for in my anger I threw a chair at his head."

"My child, my child," exclaimed the half frantic mother, turning from him to return to the house. Entering the library, she found her husband standing with an expression of utter despair upon his countenance. "Have you seen Robert," he asked. "He has dared to raise his hand in anger against his father. This is for hearkening to you, and sparing the rod which would have kept down his passion."

"The boy is sufficiently punished without the rod, my husband, and if in *his* case the rod is so essential for controlling passion, are there not others who need it as much as he? Come, let us say no more about it till night. Perhaps then I can show you wherein your noble nature is perverted by indulgence in a weakness, doubtless inherited, and which you take no means to prevent being entailed upon offspring. We must both consider that our lives should be as near what we have our children become as possible." With an affectionate kiss she soothed his spirit, by her gentleness, and her deep, tender love manifested itself in her pleading voice and tearful eyes.

Intensely strong in his feelings, Mr. Morton's affection for his wife was unbounded, and forgetting everything in the sorrow he had caused her, he threw his arms about her and said:—"My darling, you are right, and always come to me like a second thought, which should ever be my guide. Henceforth *you* shall be the controlling influence in the household, for I now see clearly that Love is a mightier power in the universe than Fear. 'God is love,' and He has said, 'perfect love casteth out all fear;' hence it is all powerful.

"Let us go to our boy at once and teach him this new lesson which I have learned at this late day; hoping that he may profit by my experience, and become better and nobler in the future, and more worthy of the mother who bore him.

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WHAT is said from the feeling of the moment should excite but the feeling of the moment.

FOR BOYS.—It is not necessary that a boy who learns a trade is compelled to follow it all his life. Governor Palmer, of Illinois was a country blacksmith once, and begun his political career as a Constable in Macnupin county. A circuit Judge in the central part of Illinois was once a tailor. Hon. Tomas Hoyne, a rich and prominent lawyer of Illinois, was a book-binder. Erastus Corning, of New York, too lame to do hard labor, commenced life a shop boy in Albany. When he applied for employment first he was asked: "Why, what can you do, little boy?" "I can do as I am bid, was the answer that secured him a place. Senator Wilson, of Massachusetts, was a shoemaker; Thurlow Weed a canal boat driver, ex-Governor Stone, of Iowa, was a cabinet maker, which trade the late Hon. Stephen Douglas also worked in his youth. Many men of prominence, now living, have risen from humble life by dint of industry, without which talent is as useless as gold coin on a barren island. Work, work alone, makes men bright, and it does not depend on the *kind* of work you have to do whether you will rise or not. It depends on *how* you do it.

## A CHAPTER FOR THE MONTH.

### April.

[Written for the PRESS by Mr. McD.]

A true child of sensibility art thou, gentle and pleasant April! Thy soft, pearly tears are so soon charmed away by a gleam of blessed sunshine, that we know not whether to call thee a weeping, or a smiling deity. Refreshing showers are thy benison; and thou comest so like the presence of a kind, familiar friend, that the heart is even open to bid thee welcome. Iris hath lent thee her robes of shadowy light; and her crescent is bending above thy gentle forehead.

Not with their gladdest songs do the thrush and robin greet thee; for thy own spirit is infused into the soul of Nature, and every chord of her thousand stringed lyre vibrates with a tone of thrilling sweetness, as if the bosom of Joy, herself, were touched with the gentlest thought of sorrow. Is not thy presence clothed with a mission to the human heart, touching its selfishness as with a dissolving wand, until the fountains of benevolence gush within; and it begins to dream of a more expansive pleasure—a higher and holier joy—than that which converges toward the little center—self?

The plowman has already gone forth, mellowing the soil, and preparing it to receive the seed, in full faith of reaping the future harvest. With this homely fact what a beautiful allegory may be wrought. As the husbandman goes forth to prepare the ground, so should we prepare the young heart and the tender mind, to receive the seeds of truth and wisdom, that the mental and moral harvest may be abundant, and the joy of the laborers full.

The plumed wanderers from the South, true to their undeviating instinct, that finds a path in the trackless air, have come, or are coming, hitherward, to their well remembered homes of love; and they are now planting their little colonies by wood and copse, where every swelling bud looks forth with an eye of hope, and every stirring wind whispers an intelligible word of welcome.

The squirrel is abroad, playing his antics along the grey walls; now leaping from post to post of the fences, as if a soul of gladness had penetrated his agile limbs; now he is trying races with his elastic fellows, over the smooth boughs of the young nut-pines, or among the gnarled branches of the oak; for well he knows them as his best friends, and that their promise for the future shall be nobly redeemed.

The rabbit is awake; she is jumping gaily over the fresh moss; and now her meek eye is turned to a lucid beam of sunlight, which is glancing like a line of silver over the grey lichens, making even *their* dry hearts glad. The ferns are waking, gentle one, and there is fresh grass for thee in the sunny nooks of yonder southern hillside. Even the care-worn brow loses something of its austerity amid such influences, and the heart of sorrow, herself, is touched, as at the presence of Sympathy.

The flower-buds are slyly peeping out, as if expecting the summons to open their eyes of beauty; and the folded gems of the forest are listening for thy voice, that when thou comest, they may bless thee for the refreshing dew, and invigorating rain. Even as the husbandman in the vineyard of Truth, thou reapest not the fruit of thine own labors. Thou workest for posterity; and thy reward is in the future. Then let the sorrowful heart of him who labors for the blessing of others, receiving no blessing in return, look to thee and be comforted; for as the seed-time is duly followed by the harvest, so shall the works of Truth always produce their effect and bestow their rewards; and if the present gives not even hope, still the future, true to its trust shall render back to the faithful striving spirit all that an ungrateful Present may withhold.

### Canzonet for April.

Come out, for the snow is all melted away,
And bright dew-drops are spangling the crown of the day.
Sweet cords ring out through the long forest arch,
And among the departed is numbered old March.
The birch trees are budding, and fast by the streams
The ozier waves soft as the shadow of dreams.
And she welcomes the spring, with her festival hours,
In the beautiful pride of her rich golden bowers;
And through the wild wood-paths the rosy buds ope,
As fair as the light on the forehead of Hope.
The south-wind is breathing through green little nooks,
And the robin responds to the song of the brooks;
In a rosier light the horizon appears,
And April is here, with her smiles and her tears—
The fresh little gypsey—we'll sing her a song,
And praise her wild beauty now, all the day long;
We'll tell her, her cheek is as blooming as May,
That her breath is as fragrant as newly mown hay;
That her lips are as bright as the roses of June,
And her voice with sweet music is ever in tune;
That her motion is grace, and the light of her eye
Looks forth as intensely as beams of July;
Then she'll call the anemone forth from her rest,
And the clustering violets wear on her breast.

Behold how her white arms the fountain spray toss,
As she binds with her gold-thread the roots of the moss,
And weaves on its summit the delicate flower,
That modestly peeps from the dun forest bower.
Now along the fair brook-side, in shadowless white,
The bells of the blood-root look forth to the light.
Through the depths of the valley are floating along
The plowman's gay shint, and the shepherd boy's song;
And the whispering winds, over hill-side and brae,
Are calling the infant leaves forth to the day.

Hark! the voices of children are echoing wide,
As merrily they through the wood-paths glide,
Where the trailing arbutus sweet incense may fling
From her roseate cups on the alter of spring,
When they find the fair treasure, they shout, and their joy
Is the gold of the heart, without any alloy,
And a melody lives in their musical words,
As full, and as free, as the singing of birds.
The bloom and the freshness, the light and the love,
That gather around us, and beam from above,
Let us take to our hearts, with unquestioning truth;
So our spirits shall bloom in perennial youth.

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HOME MIRTH.—Don't be afraid of a little fun at home, good people! Don't shut up your houses lest the sun fade your carpets and your hearts, lest a hearty laugh should shake down some of the musty old cobwebs there. If you want to ruin your sons, let them think that all mirth and social enjoyment must be left on the threshold without, when they come home at night. When once a home is regarded as only a place to eat, drink and sleep in, the work is begun that ends in gambling houses and reckless degredation. Young people must have fun and relaxtion somewhere; if they do not find it at their own hearth stones, it will be sought at other and less profitable places. Therefore, let the fire burn brightly at night, and make the homestead delightful with all those little arts that parents so perfectly understand. Don't repress the buoyant spirits of your children. Half an hour of merriment round the lamp and fire-light of a home, blots out the remembrance of many a care and annoyance during the day; and the best safeguard they can take with them into the world is the unseen influence of a bright little domestic sanctum.

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BEECHER ON WOMEN.—Henry Ward Beecher, in a recent sermon, discoursed thus in regard to the fair sex: Maidens, look to the God of your fathers. If there be any one in this world who can not afford not to be a christian, it is a woman. If there be any one whose beauty fades as a flower, and whose grace needs sustenance of the Ineffable; if there be any one whose power is in beauty, in purity, it is a woman. If there be any one more than another upon whom blight falls more rudely; if there be one more than another who is burdened with grief or wrung with sorrow, it is a woman that is not a christian. The ladder between her soul and God is not half so long as that between our souls and God. God made woman to be better than man; and the perversion is in proportion when she is worse.

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MANNERS.—Fine manners show themselves formidable to the uncultivated man. They are a subtle science of defence to parry, and intimidate, but once matched by the skill of the other party they drop the point of the sword, points and fences disappear, and the youth finds himself in a more transparent atmosphere, wherein life is a less troublesome game, and not a misunderstanding arises between the players. Manners aim to facilitate life, to get rid of impediments, and bring the men pure in energies. They aid in our dealing and conversation as a railway aids traveling, by getting rid of all avoidable obstructions of the road, and leave nothing to be conquered but pure space. Defect in manners is usually the defect of fine perception *Ralph Waldo Emerson.*

# DOMESTIC ECONOMY.

## The Use of Putrid Food.

Most civilized people prefer meat that is fresh and sweet, to that which has become more or less tender by partial decomposition; still there is a large portion of the enlightened world that prefer the latter.

Some barbarous nations prefer it after it has become quite putrid; as the Tartar and Siberian tribes and many others. The native New Zealanders, who eat large quantities of soaked and boiled corn, will not eat of it until after active pntrefaction has set in from soaking. A decayed egg is said to be preferred by the Siamese to one just laid; and it is all the more esteemed if accompanied with an incipient chick.

In England, especially among the *gourmands*, fresh meat of any kind is not considered fit to eat nntil it has become repugnant to the refined olfactory organ. Venison especially is never put upon the table by them until the signs of its having been long killed are nneqnivocal.

This pecnliarity of taste is nothing new in the world, for we are told that the highly polished Greeks and Romans were more given to such taste than any modern civilized people. They even songht out modes of slanghter which wonld hasten decomposition. The former strangled their swine and other animals so as to eat them with their coagulated blood, and early incipient decomposition. The latter people sometimes killed their animals by transfixing them with a red-hot spit or spear—an instrnment which would canse death quickly and prevent the flow of blood. The Jews were a most remarkable exception to these practices—they were especially enjoined to "abstain from things strangled."

It is worthy of note in this connection that wherever a people have professed to be directed in their course of life by the Most High, they have always been led into excellent ways, and into dietetic habits which, even in the light of the present high state of science, are pronounced the very best which wisdom can devise.

A false impression has been quite prevalent among many that meat long kept is more easily digested and *therefore* more healthy. But the truth is, that when food of any kind is taken into the stomach in a state of incipient pntrefaction, that process is rapidly accelerated by the warmth and fluids of that organ, and at the expense of healthy digestion. This is true, no matter how slight a commencement has been made; even the incipient putrefaction so generally employed in "raising" bread seriously effects most stomachs, though the fact is not generally acknowledged.

Pntrefactive matter is *poison*, and entirely inconsistent with healthy digestion. The human system accommodates itself to such poison, only by slow degrees, just as it does to the use of arsenic or any other poison; but evil effects are jnst as sure to follow its use. Can any one believe that any quantity of poison, however small, can be taken into the blood—as it mnst be when it enters the stomach—with impnnity?

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How to Save your Shoe Soles.—Melt together tallow and common resin, in the proportion of two parts of the former to one of the latter, and apply the preparation hot to the soles of the boots or shoes—as much of it as the leather will absorb. One farmer declares that this little recipe alone has been worth more to him than the cost of five years subcription to the newspaper publishing it.

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To Make Boiled Onions Look White.—Take a white or yellow-skinned kind. Skin them thoroughly. Pnt them to boil. When they have boiled a few minutes, ponr off the water, and add clean, cold water, and set them to boil again. Pour this away, and add more cold water, when they may boil till done. They will be white and clear.

Ley Hominy.—To a gallon of shelled corn, add a quart of strong ley. Boile together until the husks begin to come off the corn; rub the grains of corn between the hands, to entirely remove the husk; wash it well, and boil in plenty of water nntil the grains are soft. It requires long boiling. As water may be needed, replenish with *hot* water. Boil in it sufficient salt to season. When nearly done, stir it from the bottom to prevent its burning. Before nsing it, mash it slightly with a wooden mallet, and fry in a small quantity of lard or bntter. It will keep several days in cold weather. Put it in a covered earthen bowl or jar.

Very fine hominy is made by moistening cracked corn with a little warm water to facilitate the removal of the hnsk, and fanning dnring the process. When the grains are sufficiently free of husk, wash well and boil until soft. When wanted for the table, mash and fry in lard or butter until the side next the pan has formed a good crust; lay a plate upon it and invert the frying-pan, or it may be seasoned with butter and only kept on the fire until hot. The large hominies are used principally in cold weather, grits or small hominy all the year round, being fresh-boiled every day.

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Tanning Sheep Skins with the Wool On.—Nice white sheep skins make handsome door mats, cushions, a warm spread to put on the floor for baby to sit on in winter time, and serve many other useful purposes. They would no doubt be much oftener found in the farmer's home, especially if he knew how to properly prepare them; hence we offer the following description of the manner in which they may be prepared: —Tack the skin upon a board with the flesh side out, and then scrape with a blunt knife; next rub it over hard with pulverized chalk until it will absorb no more. Then take the skin from the board and cover it with pulverized alnm. donble half way over with flesh side in contact, then roll tight together and keep dry for three days, after which unfold it and stretch it again on a board or door, and dry in the air and it will be ready for use.

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Number of Occupants to a House.—The average nnmber of persons to each dwelling in London is eight; in Paris, thirty-five; in Berlin, thirty-two; in Vienna, fifty-five; and in St. Petersburg, fifty two. Thns it seems that the English are the most isolated dwellers of the European nations. It is usual with French and German families, upon the marriage of their sons, to assign them a portion of the family dwelling, so that three generations often occupy one hotel. In England every head of a family seeks a separate establishment, from the cottager to the lord. Such is also the custom in our own country.

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Moths.—The following simple precaution against moths is represented to be qnite as sure as any of the popular antidotes: Safety from moths for furs consists in having them undisturbed through summer in a snug place. Muff boxes are not secure. Taking them out to the air occasionally exposes them to the moth. No pepper, camphor or tobacco is needed. After you have worn them for the last time in the spring put them into a linen pillow case, tie up the end in a tight knot, and shut them up in a drawer which will not be often opened.

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To Protect the Sleeves of a Dress.—It is often necessary to make biscuit for tea, or to wash snpper-dishes in a very nice dress. Some protect their sleves at snch times, as follows: Take a pair of worn-out stockings. Cut them off at the ankle. Hem them, if you wish. When you want to use them, draw them on to the arms, top end first. They are so elastic that, if care is used in drawing them on, they will not crush the sleeves.

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To Fry Sweetbreads.—Let them soak a few minutes in water. Take them out, and wipe them perfectly dry. Do not cut them or split them. Pnt on pepper and salt. Let the pan get hot, with a very little bntter or perfectly sweet lard in it. Now lay in the sweetbread. Don't be in a hurry to turn them. If in danger of burning, remove from the front of stove. When cooked nearly through, tnrn them, and let them cook as long again. They must be *well* cooked.

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Cracker Custard.—Make a rich lemonade with two lemons and one pint of water; sugar to taste. Add four grated Boston crackers, one tablespoonful of butter, and a little mace. Bake in paste.

## Domestic Receipts.

"L. S. B.," Sacramento.—We can give only the receipts which you send. *To Make Corn Bread*:—Take one qnart ol meal, after sifting, put in two tablespoonfuls of brown sngar, half a teaspoonful of salt—too much salt in corn bread makes it hard—pour on boiling water until the meal is of the consistency of thick mush; when it is cool enough to work withont bnrning your hand, put in half a cnp of yeast, then a coffee cupfnll of flonr, mix well and put in a well-buttered pan for baking; allow it to stand in a warm place for one hour, to rise; it must not rise as much as wheat bread, else it will fall in baking. Put it in the steamer, and steam for three honrs; then in the oven, and bake one honr. You will find this bread light and healthy. Corn bread should be made when other cooking is going on, to save fire and extra labor.

*To Make Wheat Bread.*—The same correspondent sends the following: It is better to make four small loaves than one large one. becanse a cut loaf dries faster than one uncnt. Take a teacupfull of salt, mix in flonr enough to knead well, and stand away to rise. When light, pour the dough out on the mixing board and knead well. Now cut the dough into four equal parts; bntter the baking tins, mold your loaves, and place them in the tins. When light, place in oven and bake. If the crust is too hard, wet it a little when cold.

Cottage Cheese.—Pour boiling water into a pan of "loppard" milk; it will curd at once; stir it and turn into a colander, pour a little cold water over it, salt it and break it up. A better way is to put equal parts of butter-milk and thick milk in a kettle over the fire, heat it almost boiling hot; pour into a linen bag and let it drain till next day, then take it out, salt it, put in a little cream or butter, as it may be, thick or not, and make it up into balls the size of an orange.

Sweet Biscuit.—Make a dough of buttermilk and the best Graham flour, adding a teacup of sugar to two quarts of wetting, and just as little soda as will overcome the acidity of the buttermilk. Mold the dough as soft as it can be handled, roll it out to the thickness of three-fourths of an inch, cnt round with a cookie-cntter, and bake in a quick oven. A teacup of chopped raisins is an agrecable addition.

Scorched Goods.—Boil them in milk and turpentine, with half a pound of soap, half a gallon of milk. Lay in the sun.

## Mechanical Hints.

Precautions in Making Varnish.—As heat is often used in dissolving gums for making varnish, there is always more or less danger of the mixtures taking fire from boiling over, npsetting or by some other accident. To avoid danger it is well to always have a piece of board close at hand to cover the top of the vessel, in case the spirits or other mixtnre takes fire within the vessel, as it sometimes does. A fnrther precaution, and the only effectual one to use if the liquid boils over, is to have a piece of wet blanket always at hand, sufficiently large to cover both the vessel and the stove or fire. This should be instantly thrown over in case of fire to, smother it. Water will be of little use; loose earth or sand is much better. These precautions should always be taken.

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To Bronze on Wood.—Having stained those parts intending for bronzing black, by any of the usual methods, take japanners' gold size and mix with a small portion of Roman ochre and Prussian blne; go over the blacked parts lightly; then suffer it to dry till it feels sticky to the fingers, but not to come off; then with a hard ball of cotton dipped in any of the bronze powder, rub those places that are prominent, and, if you think proper, give it a thin coat of japanners' gold size, thinned with spirits of turpentine: or you may alter the color of your bronze by mixing either more or less blue, as also other colors, as verditer green by itself; but do not put your color on thick over the black stain, but rather glaze it on, for it is not wanted in a body, but shonld be rather transparent, as it gives it more of a metallic appearance.

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To Imitate Black Walnut.—There are two ways of doing it. One is by staining pine or other light colored wood with Vandyke brown or bnrnt nmber mixed with oil, and afterward varnishing. The other is by painting first a light ochre color, in oil, staining when dry with water-color made up of Vandyke brown, umber, or any other snitable pigment. When this is again dry, varnish with damar, copal, amber, or some other resinous tnrpentine varnish.

## Life Thoughts.

Self-Reliance.—For that thou canst do thyself, rely not on another.

The happiest man is the benevolent one for he owns stock in the happiness of all mankind.

No man is master of himself so long as he is a slave to anything else.

A Wise man makes more opportunies than he finds.

Shakespeare defines charity: "Gently hear, kindly judge."

Don't give up trying to do right. Whatsoever your trials may be, look above for strength to do your dnty, and leave the resnlt with God.

If the highest life is that which is inspired by faith in God, the most efficient is that which is energized by a spirit of faithful labor.

The aim of an honest man's life is not the happiness which serves only himself, bnt the virtue which is useful to others.

Sorrow comes soon enough withont despondency; it does a man no good to carry around a lightning-rod to attract trouble.

The man who feels remorse for the evil he has done is to be pitied; but there is one being still more unfortunate, he who feels his guilt beforehand, and still commits it.

Mankind has been learning for six thousand years, and yet how few have learned that their fellow-beings are as trne as themselves.

The more a man knows, the less he is apt to talk; discretion allays his heat, and makes him coolly deliberate what and where to speak.

The worthiest people are most injured by slanders; as we usually find that to be the best fruit which the birds have been picking at.

Poverty and pride are inconvenient companions; but when idleness unites with them, the depth of wretchedness is attained.

What stubbing, plonghing, digging and harrowing are to land, thinking, reflecting and examining are to the mind.

## How to be a Man.

A few woods of advice to such young men as wish to *be anything* or to *achieve anything* in this great, bnsy, bnstling world, is given in the *Spectator* of this city as, follows:—

1st. Wonld you be a man! When Diogenes went through the city of Athens, with a lighted candle, in open daylihgt, being asked what he was looking for, he answered, "A *man*." Wonld you be a man, in the sense of Diogenes, in this famous laconic reply. If so, consider what it is to be "a man." Stndy the truest models of manhood. Make your ideal, and keeping it steadily in the mind, make a persistent, unremitting effort to grow up to this standard.

Inquire, diligently, what are the elements upon which men of this pattern have snbsisted and grown up to their noble proportions. Your having before your minds a grand ideal will stimnlate and snstain yonr energies and by a mysterious law of yonr mental natnre will operate a gradnal conformity and approximation to this lofty standard, which habitually attracts your mental gaze.

If the best models, being well stndied, improve the taste in fine arts, and inspire genius with the power of high execution; if the reading of the best books, with attention, elevate the taste and the style of composition; it is also, that a careful study of the highest style of mandood, will gradually lift up the student to the same lofty standard in all of its essential clements. To say the least yon will be much more of a man, for having aspired to the noblest type of true manhood. In another paper, we will record some reasons for setting before yonr mind an object, to be aimed at, a noble, worthy object in order to high achievement, and in orde to avoid the odium of having life a failnre.

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Angry Words win nothing but contempt. Have you ever chanced to catch a glance at yonrself in a mirror when in a violent rage? Did yon not make a ridiculons picture? The distortion which anger occasions to the countenance renders it a striking exponent of mental character. Tho lines become fixed in time, and alas! so does the habit, until we hear people complain that they cannot restrain their temper. They can if they like.

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There are eyes which need only to look up to touch every chord of a breast choked by the stifling atmosphere of stiff and stagnant society, and to call forth tones which might become the accompanying music of a life. —*Jean Paul.*

## CORRESPONDENCE.

### THE AGRICULTURAL VALLEYS OF HUMBOLDT CO., NO. 2.

#### Eel River Valley.

Eel river empties into the ocean about eight miles south of Humboldt Bay. The scenery in the vicinity of the mouth of the river, is bold and beautiful. Towering headlands project into the sea; Cape Mendocino on one side, and abrupt hills on the other. The valley widens out rapidly as we progress inland, until it swells and undulates for miles in extensive fertile meadow land, broad, productive basins, and fertile hillsides. This valley is the best settled portion of Humboldt County; the settlers are an unusually excellent class of people; their farms are under good cultivation; they have fine schools and school-houses all through the valley, several churches, good homesteads, some fine residences, ornamental grounds, thrifty orchards, and an abundance of life's comforts.

Well into the heart of the valley, we find the town of Rohnerville, a thriving place about four miles ride from Eureka. Three miles farther is Hydeville, situated in the very heart of the grazing lands, and having a reputation for the best dairy products of the county. Each of these towns have fine schools, churches, hotels, blacksmith shops, stores and saloons; but of the latter few, and not over stocked with custom, a fact creditable to the good taste of the moral people of the valley.

The very best grain ever garnered is grown in this valley. Potatoes is the chief vegetable grown. Humboldt potatoes have enjoyed a great reputation, and have been the favorite potato in San Francisco markets, commanding always the best prices. The farmers felt secure in the potato trade, consequently have grown careless in the care of growing during the last year. The ground has not been as well prepared as in previous seasons; the seed was thrown in, the potato sacked when dug, with damp soil clinging to the vegetable, and the result is, by the time these potatoes reach San Francisco, the rot has already commenced, and the value diminishes at once; Again, farmers have grown careless about preparing the seed; eyes are cut from potatoes that are gummed over with the sticky soil, and thrown into the hill, which is a mere hollow formed by the foot, then hastily covered by boys, who pay more attention to rapidity than properly covering the seed. Humboldt County is capable of producing the best potatoes brought to market, but they have within a year taken a secondary place. This hint to the enterprising farmers of this valley is given with all deference to their superior capacities for potato culture, and with a view to bringing to market again "Good Humboldts."

#### Butter and Cheese.

The dairy-products of this valley are remarkable, and better than those of any other county in California. The grazing is plentiful, and the very best quality—even the hillsides are covered with sweet grass and abundant clover; pure streams of water refresh the meadow lands; and good stock gradually improving every year, all combined, account for the yellow butter and excellent cheese made in this section, added, we may say, to experienced butter maker's skill, who can suit the most fastidious epicure; but the *cream* that is almost "half an inch thick," is entirely due to the cows and their feed, and while we admit the handiwork of the good housewife, we will not deprive the animal and the prolific soil of the credit due.

If the farming population of Hydesville could place their fresh butter upon our market tables without losing all the profits in transportation, it would command the highest prices and ready sales.

#### Salmon Fishery.

At the mouth of Eel river is the finest and most prolific salmon fishery in the State; the yearly catch is from twelve hundred to three and four thousand barrels—and with a better opportunity for shipping to San Francisco market, it would be greatly increased—but the home consumption is small, and no inducements are held out by the shipping monopolies to increase the trade. The fish are the best flavored in the world. This trade should be productive of revenue and business to the county and the fisherman.

The greatest advantage the farmers have to contend against is the transporting of their productions to Eureka, the only port of trade on Humboldt Bay. Small boats run up the different creeks and rivers for the potatoes, but this is generally attended by much greater expense than is profitable to the owners.

There are still hundreds of excellent farms uncultivated in Eel and Mattole valleys; fine opportunities for enterprising men, who with a little patience and steady labor could make for themselves comfortable homes and an independence, such an independence as only the farmer can experience. Hundreds of men are out of employment and starving as it were in our streets, and twice as many acres of productive soil, waiting the plow and the seed, to produce a hundred bushels of oats to the acre, and fifteen and sixteen tons of potatoes to the acre—where flax will yield two crops a year, and the best butter, milk and cheese can be had in return for harvest industry.

#### Ferndale.

Nearer to the sea, about twelve miles west of Rohnerville, we find Ferndale, situated in a nest of hills, surrounded by a splendid farming country, and one of the most comfortable places to dwell in "rural felicity" in all the county. Already there are some really elegant homes here—the residence of Mr. Shaw, well known in San Francisco in former years, as an artist, is one of the most desirable homesteads in the county—taste and refinement are evident in the well arranged grounds, and variety of flowers, and upon the walls of the "inner court" of this delightful place one may gaze upon rare paintings, and exquisite objects of the engraver's art.

Every one around Ferndale grows potatoes—it is the chief staple, although a deficiency of all grain, fruit and other vegetables are cultivated for home use. Some rare views of distant mountain scenery obtained from the streets of Ferndale—abrupt wierd-looking spurs of mountains, dense forests of evergreens, and the "fields of waving grain" all bless the eye from this hamlet nestled cosily in the embrace of gently sloping hills. The climate seems to be always bordering upon Indian Summer—yet a few miles westward, and the strong ocean breezes shake the tree-tops and brace one's nerves with new vigor.

When Humboldt county shall have its length traversed by a railroad, bringing it in nearer contact to Sacramento valley and San Francisco, its advantages and beauties will be better known and better appreciated. It is the "iron-horse," that carries magic in its proud tread through wild, uncultivated regions, and sets the seal of progressive civilization upon the once desolate places. Humboldt county needs a railroad—needs it for many reasons, and their name is legion. L.

Francisco, Cal., March, 1871.

### CATTLE AND FISH CULTURE IN VERMONT.

EDITORS PRESS:—Having lately made a short trip through parts of the four States of Vermont, New Hampshire, Massachusetts and Connecticut, it occurred to me that some of your readers might be interested in a short account of some of those matters that came under my observation. I know that there is many a New England boy now tilling the fields of California who would like to take a look at his native State, and see the changes that have taken place since '49. Perhaps to such my letter will not be unwelcome.

We will begin in Vermont, at the old town of Rockingham, Windham county. The hills are steep and the valleys are narrow, but the pastures are good and the hay is sweet, and many a drove of fat oxen and sheep go from here to the city markets. Those who farm on correct principles seem to be doing well, in spite of the whining of the shiftless ones. By correct principles in farming, I mean rotating crops on tilled fields; keeping animals to turn a large part of the farm produce into good shape for the markets, besides leaving a big manure pile; manuring both tilled and grass lands; growing timber on that part of the farm that is too rough to pay under tillage or in grass; and lastly, attending to one's legitimate business, generally, and not putting all the spare cash into bonds and mortgages, instead of needed farm improvements, good buildings, labor saving machines and the like.

#### The Cattle of Vermont

are, I think, improving—the Durham being the favorite, on account of its fine beef-making qualities. Among the mass of the farmers, the very fine-wooled Merinoes, for which the State is famous, are at a discount. They say that the lambs are too small to sell to the butchers, and the fleeces are light and very dirty.

The horses, I am told, are rather degenerating; the reason given is, that if a farmer has a fine mare he sends her to the city and gets a handsome price for her, while his colts are raised from inferior stock. Of course, under such management, each generation shows a smaller number of superior animals. My informant, a young farmer, said his best horses came from Canada, where they take great pains to secure fine breeding mares.

#### Timber.

Besides firewood, this part of the country furnishes a considerable amount of timber for other purposes, principally pine, hemlock, chestnut for railroad ties; white birch for spools; and poplar for coarse paper.

#### Fish Culture—Interesting Particulars.

I had read of two establishments for raising trout, just over the line in New Hampshire, and I determined to see them. The first belongs to a Mr. Bridgeman, a lawyer, who lives at Bellows Falls. It is less than a mile from the town, by the side of the railroad. The ponds do not cover a large area; but one of them, at least, was swarming with beautiful trout. I missed the proprietor and so could not get all the information that I wished to.

A short ride on the cars brought me to Charlestown, where the Cold Spring trout ponds are located. The proprietor, Rev. Livingston Stone, has been one of the most persevering and successful fish culturists in the United States.

The supply of water is good, but no better than that at the command of thousands of farmers in all parts of the country. The hatching house is within a few feet of the spring and is quite complete in its furniture. It is 60 feet long by 27 wide, one story high, and all in one room. The hatching troughs are 20 feet long, a few inches deep, and of a convenient width to work over. There are cross-pieces on the bottom, dividing the troughs into "nests," breaking the force of the current, and making ripples for young fish to play in. The bottom of each trough has a layer of clean coarse gravel, on which the eggs are spread out.

The water that supplies the troughs is strained through flannel screens, as it comes into the building. Mr. Stone said that at that time, December 27th, there were about a quarter of a million of eggs in the troughs. He took some up in a phial of water, and they were so far developed that the eyes and some of the other organs could be easily distinguished.

Mr. Stone thinks trout-raising a very easy matter now, though he had some unpleasant experience when beginning the business. The time when trouble is most likely to occur is when the fry are three or four weeks old. At that period they sometimes die in large numbers. Most of the works on fish culture say that the cause of this mortality is not known, but Mr. Stone says he has discovered the cause and the remedy, or rather,

#### Means of Prevention.

To begin with, there are three principal causes of the mischief:—1st. A fungous growth on the wood of the troughs. This is prevented by charring the interior of the troughs. 2d. Want of some food besides the yolk of hard-boiled eggs, curds, etc., which are fed to them at that age. As soon as the fry begin to show signs of weakness a bit of turf or some muck from the woods should be crumbled fine in the water. The trout will eagerly swallow particles of some sort that occur in the muck, and an improvement in their condition will be apparent in 15 or 20 minutes. Although all impurities must be carefully excluded from the troughs before the eggs hatch, it seems that when the fry are fairly started there is such a thing as having the water too clean. 3d. Some of the food given the fry is not eaten, but sinks to the bottom and decays. The muck does good service here also, covering the refuse and acting as a disinfectant.

#### Raising Fish for Market.

In raising fish for the market, Mr. Stone would advise making the ponds narrow and not very deep, so that the fish could be reached with a dip-net at any time. He thinks the most profitable age for marketing the brook trout is three years. They should then average about one pound. The wholesale price in Boston and New York, for trout, is from 75 cents to $1 per pound, while they cost Mr. Stone for raising about 20 cents. Many are sold at a few months old, for stocking ponds, at five or six cents each.

Besides trout, Mr. Stone has raised large numbers of salmon, bass, perch, mullet, pouts, suckers, etc. The salmon were sold to the Fish Commissioners. Some were put in the Merrimac and some in the Connecticut.

A common reason given by farmers for not raising fish is that they could not protect themselves against thieves. Mr. Stone says he has no trouble on *that* score; but his greatest enemies are snakes, birds, mink and muskrats. These latter often burrow through his embankments and let the water off. To guard against this, he would advise any one starting in the business, in localities liable to such annoyance, to make all his ponds and water-courses artificial, and line them with two-inch plank.

Fish-raising is becoming such an important business in the Eastern and Middle States, that those engaged in it lately held a meeting for consultation in regard to the best means of protecting their interests.

I am glad to see, in a late number of the PRESS, an account of trout-raising on the Truckee, and hope that others will follow the example set them.

#### Miscellaneous.

The best book with which I am acquainted for one beginning the business is Thaddeus Norris's "American Fish Culture," but I am told that Mr. Bertram's "Harvest of the Sea" is very fine, but more expensive. Seth Green has also published a small work on the subject, which ought to be good, as the author has had much experience.

At Mr. Bridgeman's farm I saw a black bear that was caught when a cub, back in the mountains. I was several times told that the bears were increasing in some parts of Vermont and New Hampshire, as many of the poorer farms on the mountains have been abandoned, their owners going west, where farming is easier, or else taking up some new business in town or city. I see that the census shows that New Hampshire has lost during the past ten years.

I fear that this letter has already grown to a length that will exhaust the patience of any one who may attempt to read it, therefore I will close, hoping that while your readers do not forget the New England homesteads, they still appreciate the blessing which they enjoy in California. I hear that the winter there is a very fine one. Here it is detestable, one pleasant day against two or three that are disgusting. One day the mercury may stand at 40° or more above zero, next day at 6° or 7° below, with sunshine, wind, snow, hail, sleet, fog and rain mixed up without any regard for order or decency.

Yours, etc., * * *

New Haven, February 15, 1871.

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SEVENTY-NINTH BIRTHDAY.—A very interesting gathering took place last evening in Washington, at the residence of I. N. Hoag. The occasion was the seventy-ninth birthday of Anna Durfee, the mother of the well-known citizens of Yolo county, I. N. and B. H. Hoag. The party consisted of some thirty or forty of the relatives and intimate friends of the family, including the families of H. G. Smith and W. S. Cothrin of this city. Mrs. Durfee is a Quakeress of the strictest sect, and exemplifies the peculiar customs of those plain people by her plainness of dress and conversation. She is unusually active and self-dependent for her age. She started by railroad from Illinois last July for California unattended by any acquaintance, but soon enlisted the sympathy and care of many of her fellow-passengers, so that before arriving here she was surrounded by a host of friends, who will be pleased to learn of her continued good health. One of the most interesting ceremonies of the evening was the reading of the following extract from an old family record: "Anna Smith was born the 24th of 3d month, 1792," and the hearty thanks returned by the subject of the record to her children and friends who had shown her so many kindnesses on this and other occasions.—*Sacramento Union.*

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UNIVERSITY OF CALIFORNIA.—At the special meeting of the Regents, this week, President Durant reported that there was a fifth class organized at Stockton, under the charge of B. H. Weston, A. M.; and that he had received letters from teachers in San José, Santa Cruz and Grass Valley, requesting that a fifth class be organized at each of these places. He recommended that the Superintendent of Public Instruction and Professor Tait give the necessary information, and assist in organizing the classes.

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121° 29′44″ W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF | | | | | THER* | | | WIND. | | R'N† |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Barometer Corrected. | Temp. Air. | Rel. Hmdty. Saturat'n 100. | Force of Vapor. | Amount of Cloudiness. | Maximum. | Minimum. | Range. | General direction f'm which it moves, and the Forces. | | Gauge 50 ft. ab've surf'ce |
| MARCH. | INHS. | DEG. | ° C. | INHS. | 0–10 | DEG. | DEG. | DEG. | DIR-TION. | F'CE. 0–10 | INHS |
| Sunday..19 | 30.204 | 53 | 81 | .332 | 10 | 57 | 43 | 14 | S. E. | 1 | 0.240 |
| Monday..20 | 30.084 | 53 | 76 | .308 | 7 | 56 | 50 | 06 | S. E. | 2 | 0.040 |
| Tuesday .21 | 30.057 | 51 | 58 | .208 | 0 | 61 | 38 | 23 | N. | 2 | .... |
| Wedns. 22 | 29.983 | 52 | 69 | 271 | 2 | 61 | 37 | 24 | S. E. | 2 | .... |
| Thurs....23 | 30.030 | 5 | 70 | .292 | 10 | 58 | 38 | 20 | S. E. | 2 | 0.305 |
| Friday. .24 | 30.086 | 7 | 69 | 327 | 5 | 6 | 6 | 21 | S. E. | 2 | .... |
| Satu'day.25 | 30.163 | 55 | 47 | .198 | 0 | 63 | 6 | 19 | N. W. | 3 | 0.045 |

* Thermometograph. † Rain.

REMARKS —We have, it will be seen in this week's table, an installment of 0.630 inches more of rain towards making up the complement due this month. Besides the chances of getting a larger proportion of the average rain-fall for March, we have still to expect a further contribution from April; which, if it amounts to an approximation of the mean, will prove sufficient for maturing the present crop.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., March 30th.

FLOUR—Has been in only moderate demand for either export or milling.

We quote local brands, superfine, $5.75@6.00; extra, $7.00@7.25. Oregon brands, superfine, $5.50@$5.75. Extra, $6.75@7.25.

Transactions include 5,500 bbls. Cal. extra, 2,000 bbls. Oregon extra, and 8,500 do. California and Oregon superfine, for export and private.

WHEAT—The market still continues very dull, but firm. Two cargoes have been shipped but the receipts have been very light, and the rain-fall has not been sufficient to prompt any more activity in sales. The foreign demand is likely to be good. The wheat crop of Belgium has been badly injured by the severe winter, and the fall sown wheat fields are being plowed up for spring crops. The stocks in German ports are small with a good demand for wheat for future and present for France and Belgium.

Sales during the week have averaged some 6,000 sacks, from $2.40@$2.50. At the close we quote good shipping at $2.45@$2.50.

The Liverpool market which early in the week dropped a penny, has again advanced and now stands, as last quoted, at 12s. New York rates are still continued at $1.70@1.75.

BARLEY—Has been in better demand and prices have advanced. We quote, feed, $1,37½@$1,45. Sales embrace 8,000 sacks.

OATS—We note still a limited demand for oats. Extremes may be quoted at $1.55@1.70. Sales about 2,500 sacks.

CORN—Has improved. And may be quoted at $1.60@$1.70. A good article will readily command the latter figure.

CORNMEAL—Quotable at 2@3c per lb. from the mills.

BUCKWHEAT—Nominal at $3.25@3.50.

RYE—In limited demand. Quotable at $2.25.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $28.50@29.00; MIDDLINGS, $35 for feed; OIL CAKE MEAL $33.

HAY—Is in steady demand. We quote ordinary to choice at $11.00@15.00 ₱ ton. We note sales of 250 bales at $12.50, 200 do at $14.50.

HONEY—Los Angeles, 5-gall. cans, $12@16, and Porter's, 2 lb do, at $4 ₱ dozen.

POTATOES—Still rule in good demand, with light receipts. The present range of good quality of California is from $1.70@$2.00. We note a sale of 200 sacks Bodega at $1.80.

HOPS—Demand light—prices nominal at 8@12½c. for California crop of 1870.

HIDES—We quote Dry, slaughterer's stock, 17@18 c; Salted, 8@8½c. Sales during the week 2,900 Cal. dry.

WOOL—The receipts have been quite free during the past week, and sales by two of the leading houses aggregate 145,000 lbs. We quote good to choice, shipping at 22½@26c ₱ lb. It is questionable, however, whether these present high prices can be maintained for any length of time, as Eastern buyers are not disposed to operate extensively at the rates now ruling.

A meeting of Wool dealers was held in this city on Wednesday, at the Wool Exchange, to discuss the question of tare on bales. An ordinary wool bag weighs three pounds. The custom has been to divide the tare, the buyer losing half and the seller half. Recently there was a lot of Bags imported weighing four pounds each. It is also claimed that the weight of the bag is increased from one to two pounds by the oil and dirt absorbed from the wool. Hence it is desired that the ratio of tare should be increased in proportion. The subject was referred to a committee, to report next Wednesday. A change in the usage which has prevailed here for years is opposed by the leading commission houses on account of the universal complaint which will result therefrom on the part of growers. It is questionable whether for the sake of a difference of half a pound in the weight of a bale, it is desirable to reform the practice which has so long prevailed here, on account of the confusion which would follow, though it is but just that the increased tare should be divided as nearly equal as possible.

TALLOW—The extremes may still be quoted from 7@8c.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

FRESH MEAT—In good supply with but little change. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11½c ₱ lb.
Do 2d do 8@ 9c ₱ lb.
Do 3d do 7@ 8c ₱ lb.

VEAL—Is steady at 12½c for strictly choice.

MUTTON—Steady at 8@9c. ₱ lb.

LAMB—Not very plentiful though the price has fallen to 12½c.

PORK—Undressed is quotable at 7½@8½c. for grain fed; dressed, 11½@12½.

POULTRY, ETC.—In good supply, and prices but little changed. Young Chickens $7@9; Hens $7.50@8; Roosters $7.50@8.00; Ducks, tame, $8@9 ₱ doz; geese, tame, $2.50@$3.50 ₱ pair; live turkeys, 18@20c ₱ lb; Hare, $1.50@2.00 per doz.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 22½@27½c. Eastern firkin 20@30c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California new, 10@14c., Eastern, 16@17c.

EGGS—California fresh, 28@30c.

LARD—California Lard, 11-lb tins, 15@16c; Oregon, 15@14½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $2.50@$3.00; Oregon, $1.75@$3.00; Pears, per box, $2.50@$4.00; Oranges, per 1,000, $25@$45; Tahiti oranges $30 per M.; Lemons, per box, $12; Cal. Lemons, $3@4 per 100; Pears scarce, choice Apples scarce.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—There is at the present time a good demand for Mowers, and if the crop prospects continue favorable, Harvesters, Threshers, Reapers and other seasonable implements will be in active demand as the season advances. Stocks are said to be liberal, and prices rule low for all kinds of goods in this department of trade.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ₱ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 6½c; Oregon do, 7c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12@13c, for old and new respectively, ₱ lb; Raisins, layer, $4.25@5.00; Currants, Zante, 10½@11½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13½@4½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 15@15½c.

### WHOLESALE PRICES.—MISCELLANEOUS.

| | | | | | | |
|---|---|---|---|---|---|---|
| Sugar, crsh'd, lb | $14 | @$14½ | Hemp Seed, lb, $ | 7 | @ | 9 |
| Hawaiian, do. | 9 | @ 12 | Castor Beans, lb. | 4 | @ | 4½ |
| Coffee, Cos. R, lb | 14½ | 15 | Castor Oil, gal.. | 1 75 | @2 | 00 |
| Rio, do ..... | 17 | @ | Linseed Oil, gal. | 05 | @1 | 10 |
| Tea, Japan, ₱ lb. | 55 | @ 90 | Broom Corn, ₱ lb | 3 | @ | 5 |
| Green, do .... | 50 | @1 00 | Beeswax, ₱ lb... | 27 | @ | 30 |
| Rice, Haw'n, ₱ lb | 8½ | @ 9 | Peanuts, ₱ lb.... | 5 | @ | 7 |
| China, do ..... | 6 | @ 7½ | Corn Meal, cwt.. | 2 50 | @3 | 00 |
| Coal Oil, ₱ gal.. | 50 | @ 60 | Onions, cwt..... | 1 50 | @2 | 00 |
| Candles, ₱ lb.... | 14 | @ 18 | | | | |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, March 30.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

| | | |
|---|---|---|
| City Tanned | 26 | @30 |
| Santa Cruz | 26 | @30 |
| Country | 25 | @28 |

CALF AND KIP SKINS.—The close of the war has made no difference in the price of French stock as yet, and probably will not. Domestic skins rule the same as heretofore.

| | | |
|---|---|---|
| Best French Calf Skins, ₱ doz | 75 00@100 | 57 |
| Common French Calf Skins, ₱ doz | 35 00@ 75 | 00 |
| French Kips, ₱ lb | 1 00@ 1 | 00 |
| California Kip, ₱ doz | 60 00@ 75 | 80 |
| California Calf, ₱ lb | 1 00@ 1 | 00 |
| Eastern Wheel Stuffed Cal, ₱ lb | 80@ 1 | 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ 1 | 50 |
| Eastern Calf for Backs, per lb | 1 15@ 1 | 26 |
| Sheep Roans for topping, all colors, ₱ doz | 8 50@ 13 | 02 |
| Sheep Roans for linings, ₱ doz | 5 50@ 10 | 07 |
| California Russet Sheep Linings | 1 75@ 5 | 35 |
| HARNESS LEATHER, ₱ lb | 30@ | 02 |
| Fair Bridle, ₱ lb | 33@ | 00 |
| Skirting, ₱ side | 4 50@ 4 | 50 |
| Welt Leather, ₱ doz | 30 00@ 50 | 40 |
| Buff Leather, ₱ foot | 22@ | 50 |

A FLORENCE SEWING MACHINE, but slightly used, and good as new, for sale at 10 per cent. less than its cost—$67.50. Part of the money may be paid in installments by a person who gives good recommendations—in the city, or in the country near San Francisco. To be seen at this office. ap1-hp-tf

TRAVIS & WAGNER, 41 First St.-Mill Stones, Bolting Cloths and general Mill Furnishing, Portable Mills of all sizes from 16 to 36 in. None superior manf'd for farmers & ranchmen.

## San Francisco Retail Market Rates.

FRIDAY, March 31, 1871

### MISCELLANEOUS.

| | | | | | | |
|---|---|---|---|---|---|---|
| Butter, Cal fr. lb | 30 | @ 40 | Wool Sacks, new | | | |
| Pickled, Cal. lb | | @ | Second-hnd do | | | |
| do Oregon, lb . | | @ | Wheat-sks, 22x36 | 13½@ | | 14 |
| Honey, ₱ lb..... | 25 | @ 30 | Potato G'y Bags. | | | |
| Cheese, ₱ lb.... | 20 | @ 25 | Deer Skins, each | 15 | @ | 20 |
| Eggs, per doz... | 35 | @ 40 | Sheep sks, wl on | 50 | @ | 75 |
| Lard, ₱ lb..... | 15 | @ 20 | Sheep sks, plain. | 12½@ | | 25 |
| Sugar, cr., 7 lb...1 | 00 | @ | Goat skins, each. | 25 | @ | 35 |
| Brown, do, ₱ lb | 10 | @ 13 | Plums, dried, lb. | 15 | @ | 20 |
| Beet, do, 7 lbs.1 | 00 | @ | Peaches, dried,* | 15 | @ | 20 |
| Sugar, Map. lb. | 37½@ | 35 | | | | |

### PRODUCE, ETC.

| | | | | | | |
|---|---|---|---|---|---|---|
| Codfish, dry, lb..6 | 00 | @ 10 | Barley, cwt.....1 | 35 | @1 | 42½ |
| Flour, ex, ₱ bbl..5 | 50 | @7 25 | Beans, cwt .....2 | 00 | @3 | 00 |
| Superfine, do 5 | 50 | @6 00 | Potatoes, cwt...1 | 75 | @2 | 10 |
| Corn Meal, 100 lb. 2 | 15 | @2 35 | Hay, ₱ ton.....15 | 00 | @18 | 00 |
| Wheat, ₱ 100 lbs. 2 | 25 | @2 40 | Live Oak Wood. 10 | 00 | @12 | 00 |
| Oats, ₱ 100 lbs...1 | 60 | @1 75 | | | | |

### FRUITS, VEGETABLES, ETC.

| | | | | | | |
|---|---|---|---|---|---|---|
| Pine Apples, †...5 | 00 | @9 00 | Egg Plant ..... | | @ | |
| Bananas, ₱ lb... | 3 00 | @5 00 | Garlics ..... | 5 | @ | 8 |
| Cal. Walnuts, lb. | | @ 20 | Green Peas, ₱ lb | 10 | @ | 12½ |
| Cranberries, ₱ g | 75 | @1 00 | Green Corn, doz. | | @ | |
| Cranberries, O.¶ | | @1 00 | Sugar Peas, ₱ lb | | @ | |
| Apples, No. 1, lb. | 4 | @ 5 | Lettuce, ₱ doz.. | 12 | @ | 25 |
| Pears, table, ₱ lb | | @ 12½ | Mushrooms, ₱ lb | 8 | @ | 15 |
| Oranges, ₱ doz.. | 50 | @ 75 | Horseradish, ₱ lb | | @ | 20 |
| Lemons, ₱ doz.. | 75 | @1 00 | Okra, dried, ₱ lb | 37 | @ | 50 |
| Figs, dried, ₱ lb | 15 | @ 20 | Okra, green, ₱ lb | | @ | |
| Asparagus, wh.* | 12 | @ 15 | Pumpkins, ₱ lb. | 3 | @ | 4 |
| Green, do . | 10 | @ 25 | Parsnips, † bnchs | | @ | 25 |
| Artichokes, doz. | 75 | @1 00 | Parsley ..... | | @ | 25 |
| Brussel's sprts, * | 12 | @ 15 | Picklcs, ₱ gal... | 50 | @ | 75 |
| Beets, ₱ doz. ... | 20 | @ 25 | Rhubarb, ₱ lb.. | 12 | @ | 15 |
| Potatoes, ₱ lb .. | 2 | @ 3 | Radishes, † buns | | @ | 25 |
| Potatoes, sweet,* | | @ 5 | Green Peppers,* | | | |
| Potatoes, new... | | @ 06 | Red, do ..... | | @ | 25 |
| Tomatoes, ₱ lb.. | | | Summer Squash | | | |
| Broccoli, ₱ doz..1 | 50 | @2 00 | Marrowfat, do. | 4 | @ | 6 |
| Cauliflower, † .. 2 | 50 | @1 25 | Hubbard, do.. | | @ | 5 |
| Cabbage, ₱ doz..3 | 00 | @1 50 | String Beans, lb. | | @ | |
| Carots, ₱ doz... | 10 | @ 25 | Dry Lima, shl... | | @ | 8 |
| Celery, ₱ doz ... | 75 | @1 00 | Spinage, ₱ bskt. | 25 | @ | 50 |
| Cress, ₱ doz bun | 20 | @ 25 | Salsify, ₱ buncb | 25 | @ | 12 |
| Dried Herbs, b'h | 25 | @ 50 | Turnips, ₱ doz.. | | @ | 25 |

### POULTRY, GAME, MEATS, ETC.

| | | | | | | |
|---|---|---|---|---|---|---|
| Chickens, apiece | 75 | @1 00 | Tongues, pig, ea | | @ | 15 |
| Turkeys, ₱ lb... | 20 | @ 25 | Bacon, Cal., ₱ lb | 18 | @ | 20 |
| Ducks, wild, ₱ p | | | Oregon, do | 18 | @ | 20 |
| Tame, do ....1 | 50 | @2 00 | Hams, Cal, ₱ lb. | 18 | @ | 20 |
| Teal, ₱ doz.... | | | Hams, Cross' s c | | @ | 25 |
| Geese, wild, each | 37½@ | 50 | Choice D'field | | @ | 25 |
| Tame, ₱ pair..3 | 50 | @4 00 | Whittaker's .. | | @ | 25 |
| From Chicago. | | @ | Johnson's Or.. | | @ | 25 |
| Hens, each ..... | 75 | @1 00 | Salmon, ₱ lb ... | 10 | @ | 12 |
| Snipe, ₱ doz ...1 | 25 | @1 50 | Smoked, new,* | 10 | @ | 12 |
| English, do ...2 | 50 | @3 00 | Pickled, ₱ lb.. | 6 | @ | 8 |
| Venison, ₱ lb ... | | @ | Rock Cod, ₱ lb.. | 12½ | @ | 15 |
| Quails, ₱ doz ... | | | Perch, s water, lb | 10 | @ | 12½ |
| Pigeons, dom. do3 | 00 | @3 50 | Lake Big. Trout* | 20 | @ | 25 |
| Wild, do.....1 | 50 | @2 00 | Smelts, ₱ lb..... | 6 | @ | 8 |
| Hares, each ... | 40 | @ 50 | Herring, fresh.. | | | |
| Rabbits, tame.. | 50 | @1 00 | Sm'kd, 100 lbs. | | @ | 75 |
| Wild, do, ₱ dz.1 | 75 | @2 00 | Tomcod, ₱ lb.... | | @ | 25 |
| Squirrel, ₱ pair. | 25 | @ 38 | Terrapin, ₱ doz.5 | 00 | @6 | 00 |
| Beef, tend, ₱ lb. | 20 | @ 25 | Mackerel, p'k, ea | | @ | 20 |
| Sirloin and rib | 18 | @ 20 | Fresh, do ... | | | |
| Corned, ₱ lb.. | 10 | @ 12 | Sea Bass, ₱ lb... | | @ | |
| Smoked, ₱ lb . | 15 | @ 18 | Halibut. ... .... | 62 | @ | 75 |
| Pork, rib, etc.. lb | 12½ | @ 15 | Sturgeon, ₱ lb.. | 4 | @ | 5 |
| Chops, do, ₱ lb | 12 | @ 15 | Oysters, ₱ 100...1 | 00 | @1 | 25 |
| Veal, ₱ lb. .... | 15 | @ 20 | Chesp. ₱ doz.. | | @1 | 00 |
| Cutlet, do..... | | @ 20 | Turbot ..... | | @ | 40 |
| Mutton chops,* | 12½ | @ 15 | Crabs ₱ doz.... | | @1 | 00 |
| Leg, ₱ lb ..... | 12½ | @ | Soft Shell..... | 37 | @ | 50 |
| Lamb, ₱ lb ..... | | @ 12½ | Shrimps ..... | 10 | @ | 12 |
| Tongues, beef, ea | | @ 75 | | | | |

* Per lb. † Per dozen. ¶ Per gallon.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations*

FRIDAY, March 31, 1871

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb | | |
| Scotch and English Pig Iron, ₱ ton.....$34 00 | @$3 | 00 |
| White Pig, ₱ ton..... | — 32 | @ 33 00 |
| Refined Bar, bad assortment, ₱ lb..... | — 03 | @ — — |
| Refined Bar, good assortment, ₱ lb..... | — 04 | @ — — |
| Boiler, No. 1 to 4 .. ..... | — 04½ | @ — — |
| Plate, No. 5 to 9..... | — — | @ — 04½ |
| Sheet, No. 10 to 13... ..... | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 ..... | — 05 | @ — 05½ |
| Sheet, No. 24 to 27..... | — 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | |
| Sheathing, ₱ lb..... | — — | @ — 26 |
| Sheathing, Yellow ..... | — 20 | @ — 21 |
| Sheathing, Old Yellow..... | — 10 | @ — 11 |
| Composition Nails..... | — 21 | — 22 |
| Composition Bolts..... | — 21 | — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX ₱ box..... | 12 00 | — — |
| Plates, I C Charcoal ..... | 10 00 | 10 50 |
| Roofing Plates .... ..... | 10 00 | 10 50 |
| Banca Tin, Slabs, ₱ lb..... | — — | — 42 |
| STEEL.—English Cast Steel, ₱ lb..... | — — | — 15 |
| QUICKSILVER.—₱ lb..... | — — | — 80 |
| LEAD.—Pig, ₱ lb..... | — 06 | — 07 |
| Sheet..... | — 09 | — |
| Pipe ..... | — 10 | — 11 |
| Bar..... | — 08 | — 09 |
| ZINC.—Sheets, ₱ lb..... | — 10½ | — 11 |
| BORAX.—..... | — 25 | — 35 |

## List of Societies and Officers.

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VIRGINIA CITY, Nev., March 13, 1871.

MESSRS. DEWEY & Co.—Gentlemen: I hereby acknowledge the receipt of letters patent for Sulphuret Saving Machine, procured through your Agency. At the same time, allow me to thank you for your care and skill in drawing up application, and promptness in procuring letters patent on the same. Hoping again soon to profit by your valuable Agency, I have the honor to remain, very respectfully yours, C. C. COLEMAN.

## CENTRAL PACIFIC RAILROAD.

| Pass'ger Sunday except'd | Express Train Daily. | APRIL 1, 1871. | Express Train Daily. | Pass'ger Sundays excepted |
|---|---|---|---|---|
| | | EASTWARD. | | |
| 4.00 P M | 8.00 A M | ....San Francisco. .. | 5.45 P M | 12.30 P M |
| 4.42 P M | 8.40 A M | ....Oakland ..... ... | 5.12 P M | 11.58 P M |
| | 7.30 A M | .. San Jose..... ... | 5.40 P M | |
| 7.58 P M | 12.10 P M | ....Stockton ..... | 1.46 P M | 8.35 P M |
| 9.35 P M | 2.10 P M | ... Sacramento ..... | 11.1 A M | 7.00 A M |
| | 4.10 P M | ...Marysville ..... | 9.10 A M | |
| | 9.00 P M | . Sesma .. .... | 4.20 A M | |
| | | WESTWARD. | | |
| | 2.20 P M | ....Sacramento..... | 11.45 A M | |
| | 5.25 P M | .. Colfax ..... ..... | 8.45 A M | |
| | 1.15 A M | ....Reno ..... ..... | 1.00 A M | |
| | 9.10 A M | .. Winnemucca..... | 4.05 A M | |
| | 12.00 M | ....Battle Mountain. | 1.25 P M | |
| | 4.40 P M | ....Elko..... | 8.45 A M | |
| | 6.10 P M | .. Ogden ..... | 5.15 P M | |

OAKLAND BRANCH.—LEAVE SAN FRANCISCO, *6 50, 8 00, 9 10, 10 20 and 11 10, a. m. 12 00, 1 50, 3 00, 4 00, 5 15, 6 45 and *11 30 p. m. (10 20, 11 10 and 3 00 to Oakland only).

LEAVE BROOKLYN, *5 15, *6 30, 7 40, 8 50 and 10 00 a. m., 1 30, 2 40, 4 55 and 6 25 p. m.

LEAVE OAKLAND, *5 25, *6 40, 7 50, 9 00, 10 10, 11 00 and 11 50 a. m., 1 40, 2 50, 3 50, 5 05 and 6 35 p. m.

ALAMEDA BRANCH.—LEAVE SAN FRANCISCO, 7 30, 9 00, and 11 15 a. m., 1 30, 4 00, 5 30 and 7 00 p. m. (7 30, 11 15 and 5 30 to Fruit Vale only).

LEAVE HAYWARDS, *4 30, 7 00 and 10 45 a. m., and 3 30 p. m.

LEAVE FRUIT VALE, *5 25, 7 35, 9 00 and 11 20 a. m., 1 30, 4 05 and 5 30 p. m.

* Trains do not run Sundays.

T. H. GOODMAN, Gen'l Pass'gr and Ticket Agt. A. N. TOWNE, Gen'l Supt.

## Our Printed Mail List.

Subscribers will notice that their names are printed on colored paper and pasted upon each copy of the PRESS. This is done by machinery, to expedite the issue of our paper, the regular edition of which has become too large to be convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriber has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4jl70, to the 4th of July, 1870. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction.

## Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.

**Traveling Agents.**

W. H. MURRAY—Eastern States.
M. B. STARR—Pacific Coast.
THOS. POYZER—California.
WM. J. CLARK—California.
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A. C. KNOX, City Soliciting and Collecting Agent.

**Send us Communications.**—They will be respected. If you have not time or the experience to write finished articles, send us facts brief and plain. We will take care of them. Remember that writers improve themselves with others by use of the pen. Officers of societies, clubs and meetings, please report.

**Our General Agent at Sacramento.**

Mr. I. N. HOAG, at the office of the State Agricultural Society, in the Pavilion, corner of Sixth and M streets, in the capital city, is our duly authorized agent for receiving subscriptions, advertisements, and receipting for the same.

**Mr. S. Herring,**

Our valuable agricultural correspondent during the past year, will continue to travel, and will report for the PACIFIC RURAL PRESS.

**Thursday Noon** our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

FOUR MONTHS' SUBSCRIPTION FOR $1.—Subscribers to the PRESS who remit direct to this office $5 coin, in advance, hereafter, will be credited four months over a year for the extra dollar received above our regular rates. This will render it both convenient and profitable to enclose a $5 piece in a registered letter, in which case we will be responsible for its safety.

SUBSCRIBERS should send former address, when ordering the paper sent to a new place. Returning a newspaper, or blank slip, WITHOUT the name and residence of the subscriber is a thoughtless act, and useless both to subscriber and publisher.

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**In Los Angeles County,**

For Cotton, Wheat, Corn, Grapes, Oranges, etc. The "Abel Stearns Rancho," 200 square miles in sections, quarter sections, etc., on Government system of survey, forming blocks one mile square, with road on each side, fronting on the ocean, the railroad to San Francisco to pass through them, the unsold portions subdivided, for sale on long credit, or rent. The famous Anaheim is on this tract. For Maps Circulars, etc., apply to E. F. NORTHAM, 432 Montgomery st., San Francisco, or TIMO. LYNCH, at Anaheim and Los Angeles. 1v22-sms

EVERY MECHANIC should read and familarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, $1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

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Send to the American Publishing Company, Rutland, Vt., for their beautiful Specimen Book, and make ten dollars the first day you show the book. Read their advertisement in another column, concerning the Parlor Album, and you will get full particulars. The Parlor Album contains more beautiful embellishments than any other work extant. The Specimen Book is sent free on receipt of postage.

CAL. FILE MANUFACTURING CO., 437 Brannan street, are now making Reaper and Mower Sections; also, Knives complete, suitable for all Machinery. Prices greatly reduced.

## KNOX FRUIT FARM

AND

## NURSERIES.

GRAPES,
STRAWBERRIES,
RASPBERRIES,
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GOOSEBERRIES,
CURRANTS,
ROSES,
EVERGREENS,
SHRUBS, ETC.

Our stock of Vines, Plants, Shrubs, Flowers, etc., is much the Largest and Best ever offered by this well known establishment.

Our Catalogue of Small Fruits, with Price List, will be sent to all applicants enclosing 10 cents.

Our Catalogue (No. 2) of Flowers, sent for 5 cents.

R. CUMMING & CO.,

ma11-3m Successors to J. KNOX, Pittsburgh, Pa.

## Trees for Silk and Trees for Shade.

I am thinning out my MULBERRY PLANTATIONS and will sell my surplus trees

VERY CHEAP.

1 year old Mutticaulcis $20 per thousand.

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Liberal discount on large orders or to the trade.

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The large WHITE AND BLACK Mulberry's are the best shade trees in the State. I will sell well grown trees of these kinds from 12 to 20 feet high, at 25 and 50 cents each.

**Silk Worm Eggs and Silk Manual Free**

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Having a large quantity of fine large two year old

**MULBERRY TREES**

on hand more than for my own use, I will sell on satisfactory terms as to price and time of payment. The trees are of a

Good Thrifty Growth,

and well adapted for shade or ornamental purposes or for feeding worms.

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Three miles North of OAKLAND on the Temascal Creek.

5,000 Orange and Lemon Trees for sale this season! Flue Japanese Tea Plant; Encolyptus, or Australian Gum Trees of all the best varieties. Native Evergreen trees and shrubs, superior collection. A large assortment of choice varieties of

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CURRANTS OF ALL GOOD SORTS.

ROSES AND CLIMBING PLANTS.

Gardens and Grounds laid out, and planting superintended. Address, A. D. PRYAL,

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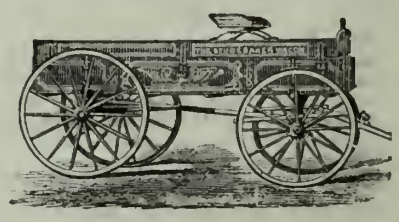

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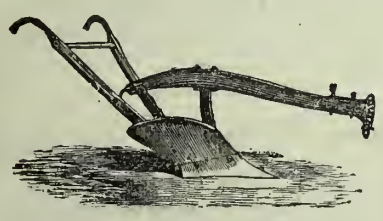

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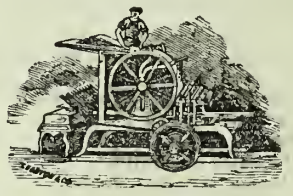

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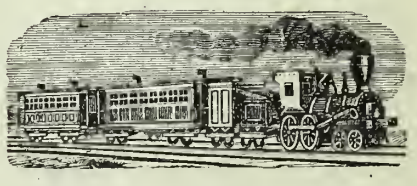

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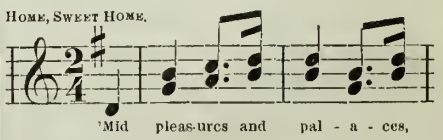


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We invite the acquaintance of all parties connected with inventions and patent right business, believing that the mutual conference of legitimate business and professional men is mutual gain. Parties in doubt in regard to their rights as assignees of patents, or purchasers of patented articles, can often receive advice of importance to them from a short call at our office.

Remittances of money, made by individual inventors to the Government, sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency.

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PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, APRIL 8, 1871. [Number 14.

## STEAM PLOW FOR TULE LANDS.

We have seen the drawings of a new steam plow designed by Mr. George L. Pierce of this city. It is intended for use on tule lands and has a number of peculiarities which, it is believed, will render it particularly serviceable for its intended purpose. The engino and boiler are made of a peculiar construction, with the purpose of obtaining the minimum of weight with the greatest stability and power. The device is not intended as a locomotive, but is to be drawn by horses, all the power of the engine being devoted to driving the cutters. The revolving cutters are driven by chain gearing. They consist of thin saw-blades mounted on a shaft in such a way as to be stiff while they can easily be replaced when necessary. These cut parallel furrows. Bolted on to these are curved cross-cutters, also of thin metal, arranged so as to cut in a spiral, there being threo, or perhaps four, rows of these last. The cutters are driven at a high rato of speed and canuot well clog, while they must apparently chop up the tule into fine pieces. They can be raised or lowered so as to cut as deep or as shallow as may be desired. From the drawings and the description given us, we are disposed to view the machine with favor, and would advise those interested in such matters to visit the Miners' Foundry, on First street, and examine the plans. Mr. Pierce is desirous of securing some aid in order to enable him to put a machiue on the market. He is a gentleman of large experience as mechanical engineer, has worked for years at his profession, and appears very well informed. We are unable to devote to his invention the space which it deserves, but would desire to call attention to it. We need greatly some machine of the kind, and may have a very effective one in this, which certainly is worth examining.

## DIVERSIFIED AGRICULTURE.

The agricultural editor of the Washington *Chronicle*, in referring to some remarks recently made in this paper in favor of a more diversified system of agriculture for California, adds the following pertinent and pungent remarks:—

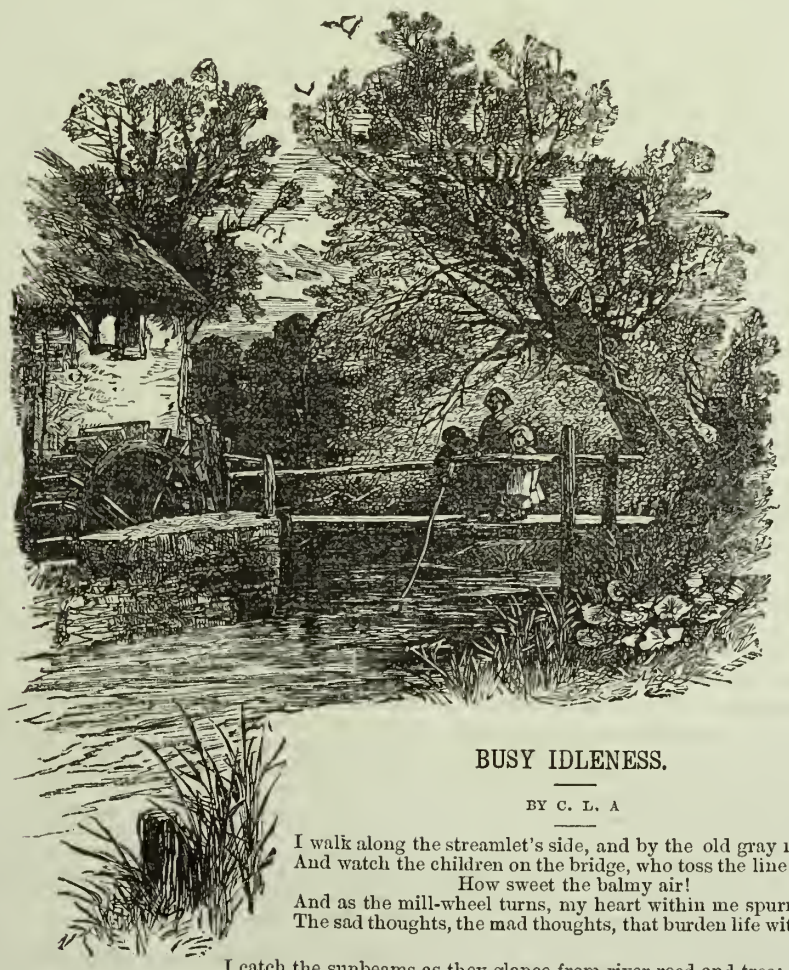
"The vice of superficial agriculture—reliance on a few great staples—seems to have developed itself in this new region. The enormous wheat crops of California are evidenco of the same rapid exhaustion of tho soil that has cursed our pioneer agriculture from the first. As the PRESS truly argues, two or three bad seasons in succession will leave California farmers, very poor, if not bankrupt. Even a series of favorable crops will but postpone this issue. The habit of buying all the minor necessaries of life from uncertain proceeds of great staples, will keep any agricultural community poor. It seems that the Pacific slope is destined to pass through the usual stage of exhaustive and superficial culture before science and skill can come into play. But when the present improvident class of farmers will be compelled to sell out their depleted acres, scientific agriculturists will take them up and restore their fertility."

## OUR ILLUSTRATION.

In a young country like ours, where one has but time to grapple with the stern and urgent necessities of the present, where wealth is accumulating but not accumulated to any very general extent, there is but little opportunity for sentiment. Yet every now and then in the rare intervals which occur, a little scene, a token, a casual likeness to something known before, will set the memory at work and carry one back to the old times spent in what is even now called "home" by a majority of those resident on our coast.

The picture given on this page will undoubtedly present a familiar face to many of our readers, although years may have elapsed since they have seen its like. Yet the old mill, the rustic bridge, the shady brook, all have had a place in our younger days, when there was no care nor anxiety for the morrow. Was there ever a place like the old homestead?

A little sentiment, a few moments absence from the practical, wearying exertions of life, can do no harm; nor is it unmanly to soften and gild the bare sharp outlines of the present with the rich bright hues of the past.



### BUSY IDLENESS.

BY C. L. A

I walk along the streamlet's side, and by the old gray mill,
And watch the children on the bridge, who toss the line at will.
How sweet the balmy air!
And as the mill-wheel turns, my heart within me spurns
The sad thoughts, the mad thoughts, that burden life with care!

I catch the sunbeams as they glance from river-reed and tree;
I catch the bird's chirp as it comes along the air to me!
No idle hand am I!
The silver clouds that dream upon the quiet stream
Are sweeter than the blue clouds that lean against the sky!

ANOTHER CAR LOAD of salmon and vegetables was sent East from Sacramento on Saturday last.

BONES AND HOW TO MANAGE THEM.—Our readers will fiud some excellent and original hints in reference to this important subject in the conclusion of the Prize Essay on Manures, which is published on page 212 of the present issue. That article, as a whole, is one of the most valuable, for the space it occupies, of any which we have ever seen on that subject, and should be read and heeded by every man on the Pacific Coast, who cultivates an acre of ground or more.

MECHANICS' INSTITUTE INDUSTRIAL EXHIBITION.—We have received the catalogue of the Eighth Industrial Exhibition, the substance of the greater part of which we have already published. The catalogue contains the rules and regulations with regard to articles for exhibition, the classification of exhibits, and the varlous premiums. The following grade of premiums will be awarded:—1st premium, gold medal; 2d premium, silver medal; 3d premium, society's diploma; 4th premium, honorable mention. The medals will be accompanied by certificates of award. Further aud special premiums may be awarded. The special cash premiums we have already given in full. The catalogues and particular information may be obtained of Mr. J. H. Gilmore, Special Agent, Eighth Industrial Exhibition, San Francisco.

## ANOTHER SHAKE—A SUGGESTION.

Last Sunday, the earthquake returned from its trip to the East, and favored us with a couple of shakes which did no further injury than to frighten a number of people. The shocks were felt more severely on the other side of the Bay, it is stated, and were experienced along the peninsula south; and also to the north.

We have for several years tried to make up a tabular form of the times at which the various shocks have been felt in different places, so as to determine the center of disturbance, the rate at which the shocks travel, etc. But this is impossible on account of the great variation in the times as given. We think that it would be an excellent idea to have the times of various localities corrected to a standard by telegraph, which can easily be done, and thus we might be able to deduce many facts of interest and importauce on the subject. There is no country subject to the shocks which has such telegraphic advantages as we have, and it is a pity that California should not benefit by its opportunities to teach the world something in this respect. We commend the matter to the consideration of intelligent men on the coast.

A GOOD MOVE.—Don Juan Forster, a large land owner near San Diego, has resolved to fence in his extensive grounds and keep his stock from tresspassing. He thinks if other large ranch owners would do likewise, both they and the public would be greatly benefitted by the encouragement which it would give small farmers to come iu, and buy and improve small farms. The increase which such a course would give to the land, and the less trouble attending the care of stock, and the less losses of cattle would far more than repay for all the cost of fencing.

A COMMENCEMENT.—We have, from time to time, spoken of the destruction of fish in our streams, and the necessity of steps being taken to preserve a supply of the finny tribe. We see, however, that the work of getting rid of them has been going bravely on, aud now the effect is being felt in at least one instauce. According to the Reno *Crescent* the Truckee river is being cleaned out of the delicious trout for which that stream is famous. Owing to the obstructions in the river, few, if any, fish succeed in making their annual trip to tho head of navigation. Though this is the regular spawning time, no fish are to be seen in the upper portion of the river, while below the dam of the Pyramid Lake reservation they are being caught by tho wagon load.

THE FRUIT PROSPECT ABOUT PLACERVILLE is very encouraging, and increased attention is being paid to the cultivation of the soil generally in that vicinity. Permanent improvements of that kind will prove of vast benefit to our mountain counties.

IN BLOOM.—Peach trees are in bloom in Nevada, and the *Transcript* is fearful lest Jack Frost will nip the early buds, and greatly diminish the crop in that vicinity.

## MECHANICAL PROGRESS.

TILGHMAN'S STONE CUTTING PROCESS.—The *Journal of the Franklin Institute* for March says that Mr. B. C. Tilghman of Philadelphia shows that a jet of quartz sand, thrown by means of steam at high pressure, will bore an inch and a half hole through a block of corundum, (nearly as hard as the diamond) an inch and a half thick, in 25 minutes. He has applied the discovery to grinding or depolishing glass for ornamental purposes; using a moderate air-blast, instead of steam,—the spent sand being reconveyed to the upper part of the apparatus, and the resulting dust being drawn back into the fan and again forming part of the sand shower. Ten or fifteen seconds is time enough to completely grind the surface of ordinary glass. By covering parts of the glass surface by a stencil or pattern of any tough or elastic material, such as paper, lace, caoutchouc, or oil paint, designs of any kind may be engraved. There is a kind of colored glass made by having a thin stratum of colored glass melted or "flashed" on one side of an ordinary sheet of clear glass. If a stencil of sufficient toughness is placed on the colored side, and exposed to the sand blast, the pattern can be cut through the colored stratum in from four to twenty minutes, according to its thickness. The theoretical velocity of a current of air of the pressure of 4 inches of water, he calculates, is (neglecting friction) about 135 feet per second; the actual velocity of the sand is doubtless much less. If a current of air of less velocity is used, say about one inch of water, very delicate materials, such as the green leaves of the fern, will resist a stream of fine sand long enough to allow their outlines to be engraved on glass. By graduating the time of exposure with sufficient nicety, so as to allow the thin parts of the leaves to be partly cut through by the sand, while the thicker central ribs and their branches still resist, the effect of a shaded engraving may be produced. The grinding of such a hard substance as glass by an agent which is resisted by such a fragile material as a green leaf, seems at first rather singular. The probable explanation is, that each grain of sand which strikes with its sharp angle on the glass pulverizes an infinitesimal portion which is blown away as dust, while the grains which strike the leaf rebound from its soft elastic surface. The film of bichromatized gelatin, used as a photographic negative, may be sufficiently thick to allow a picture to be engraved on glass by fine sand, driven by a gentle blast of air. For cutting stone the inventor uses steam as the impelling jet; the higher the pressure, the greater is the velocity imparted to the sand, and the more rapid its cutting effect. In using steam of about 100 pounds pressure, the sand is introduced by a central iron tube, about 3-16 inch bore, while the steam is made to issue from an annular passage surrounding the sand tube. A certain amount of suction of air is thus produced, which draws the sand through the sand tube into the steam jet, and both are then driven together through a tube 6 inches long, in which the steam imparts its velocity to the sand, and finally strike on the stone, which is held about an inch distant from the end of the tube. Under favorable conditions, using steam which he estimated as equal to about 1½ horse-power, at a pressure of 125 pounds, the cutting effect per minute was 1½ cubic inches of granite, or 3 cubic inches of marble, or 10 cubic inches of soft brown sand stone. By means of flexible or jointed connecting tubes, the blast pipe is made movable in any direction; grooves and moulding of almost any shape can thus be made, or by means of stencil plates, letters or ornaments can be cut either in relief or intaglio, with great rapidity in the hardest stone. At a high velocity quartz sand will cut substances much harder than itself as before stated. A hole 1 inch long and ¼ inch wide was cut through a hard steel file, ¼ inch thick, in 10 minutes, with a jet of 100 pounds steam. A stream of small lead shot, driven by 50 pounds steam, wore a small hole in a piece of hard quartz; the shot were found to be only very slightly flattened by the blow, showing their velocity to have been moderate. Among the urious examples of glass cut by this sand blast was shown a piece of ordinary window glass, which, having been partially protected by a covering of wire gauze, had been cut entirely through, thus producing a glass sieve, with openings of about 1-12th of an inch, the intervening glass meshes being only 1-16th of an inch wide.

IMPROVEMENT IN HEAVY ORDNANCE.—The following description of Col. Terrell's perforated reinforce gun, for the manufacture of which a joint-stock company is now organizing in Washington, is from the *Scientific American* of March 25th: "The part which contains the bore is a steel cylinder, cast with walls of a uniform thickness of two inches, which secures homogeneousness in the casting, and provides against cooling strains and flaws. To receive this steel barrel, an iron reinforce of great thickness is cast, with a caliber a little less than the entire diameter of the barrel. In the walls of the reinforce are eight rows of perforations, having the outlines of truncated cones, disposed in equilateral triangles, the small end of the openings, two inches in diameter, being upon the internal surface of the reinforce. These perforations and the bore are formed by cores, fixed on the flask or pit when the metal is cast. By thus multiplying the cooling surface, the requisite tensile strength may be obtained with less danger of flaws and neutralizing strains, when the mass of metal "sets," as all foundrymen know. To receive the steel barrel, the reinforce is expanded by heat. It may be cast in sections, thus saving the great inconvenience attending the handling of the same if cast entire, and, in case of flaws in the casting, involving only the loss of the section in which they occur. The barrel, when inserted, is firmly compressed as the iron cools, but since it is not otherwise secured, its longitudinal expansion, from the heat of discharges, is not so cramped as to cause a rupture. The radial expansion of heat is partly provided for by the elasticity resulting from the internal support received from the reinforce; but in this regard the main reliance is upon the immense radiating surface, penetrating to the very core of the gun, and preventing the accumulation of heat, at the dangerous points within the walls. A gun thus constructed will, it is claimed, stand the rapid and continuous firing of solid shot indefinitely, without danger of bursting. The theory is, that the rapid firing of a thick-walled gun, made after any of the present models, must produce a degree of heat sufficient to cause unequal expansion in the mass of metal, and thus create cracks, or at least, strains that will result in rupture by the pressure of subsequent discharges. The inventor believes that durability can be obtained by providing for the escape of this force, and that his perforated reinforce supplies this provision."

PETROLEUM AS FUEL. — This problem seems in a fair way of solution,—says the Chicago *Mail*. The new apparatus "consists of a cylinder, like a small locomotive boiler set on end, with a smaller cylinder within it, the intervening space being filled with petroleum. The smaller cylinder is filled with six hundred small copper tubes, and through these the superheated steam passes, producing vapor from the oil that fills the interstices between the tubes. This vaporized oil rises through a layer of prepared sponge, and just at the point of exit is mixed with superheated steam in any required proportion, thus producing hydrocarbon gas. This gas passes through iron tubes to the point where the fuel is needed, and is there burned, very much like common gas. In the case which was shown, the kiln was filled with stone, and in a very short time after the fire was lighted the heat was more intense than can be expressed by comparison. All this time the fire was under perfect control, and by a simple turn of a screw the combustion was made more or less intense."

TEST OF THE 35-TON GUN.—This monster has been fired with an elongated shot of 700 lbs. weight. Says the *Mechanics' Magazine*:—"The highest velocity attained, 1,370 feet per second, was produced by 120 lbs. of powder, and this will no doubt be fixed upon as the regular service charge. The new gun has (at the time we write) fired eight rounds of high charges, ranging from 75 lbs. up to 130 lbs. The velocities attained with charges of 75 lbs. and 100 lbs. of powder were respectively 1,160 feet and 1,250 feet, the penetrating power of the projectiles with the latter being so great that an armor-plate of 13 inches in thickness would only just arrest them at close quarters."

## SCIENTIFIC PROGRESS.

A CONSTANT FORM OF DANIELL'S BATTERY.—Sir W. Thomson has devised a form of this battery which will last for years—the only limit being the falling to pieces of the zinc. A late number of *Nature* copies the paper in which he described it to the Royal Society. We give an extract:—"The cell is of glass, in order that the condition of the solutions and metals which it contains may be easily seen at any time. It is simply a cylindrical or rectangular jar with a flat bottom. It need not be more than ten centimetres deep; but it may be much deeper, with advantage in respect to permanence and ease of management, when very small internal resistance is not desired. A disc of thin sheet copper is laid at its bottom. A properly shaped mass of zinc is supported in the upper part of the jar. A glass tube (which for brevity will be called the charging-tube) of a centimetre or more internal diameter, ending in a wide saucer or funnel above, passes through the center of the zinc, and is supported so as to rest with its lower open end about a centimetre above the copper. A glass siphon with cotton-wick core is placed so as to draw liquid gradually from a level about a centimeter and a half above the copper. The jar is then filled with semi-saturated sulphate of zinc solution. A copper wire or stout ribbon of copper coated with india-rubber or gutta percha passes vertically down through the liquid to the copper plate below, to which it is riveted or soldered to secure metallic communication. Another suitable electrode is kept in metallic communication with the zinc above. To put the cell in action, fragments of sulphate of copper, small enough to fall down through the charging tube, are placed in the funnel above. In the course of a very short time the whole liquid below the lower end of the charging tube becomes saturated with sulphate of copper, and the cell is ready for use. It may be kept always ready by occasionally (once a week for instance) pouring in enough of fresh water, or of water quarter saturated with sulphate of zinc at the top of the cell, to replace the liquid drawn off by the syphon from near the bottom. A cover may be advantageously added above, to prevent evaporation. When the cell is much used, so that zinc enough is dissolved, the liquid added above may be pure water; or if large internal resistance is not objected to, the liquid added may be pure water, whether the cell has been much used or not; but after an interval, during which the battery has not been much in use, the liquid added ought to be quarter saturated, or even stronger solution of sulphate of zinc, when it is desired to keep down the internal resistance. It is probable that one or more specific gravity beads kept constantly floating between top and bottom of the heterogeneous fluid will be found a useful adjunct, to guide in judging whether to fill up with pure water or with sulphate of zinc solution. They may be kept in a place convenient for observation by caging them in a vertical glass tube perforated sufficiently to secure equal density in the horizontal layers of liquid to be tested by the floaters. * * * Two or three cells, such as the one shown to the Royal Society, will be amply sufficient to drive a large ordinary turret-clock without a weight; and the expense of maintaining them will be very small in comparison with that of winding the clock."

HÆCKEL ON ARCHIGENESIS.—Prof. Hæckel, of Jena, has done more than any other observer,—says "E. R. L.," in *Nature* for March 2d,—"to establish the Protoplasm theory by his discovery of organisms of the simplest conceivable structure,—that is, not even possessing a differentiated central nucleus,—and his remarks upon the present condition of the Spontaneous Generation question must possess great weight." The following is a quotation from a recent work by him: "Since in our chemical laboratories, with our exceedingly limited and rough methods, we have succeeded in forming many Carbon-compounds, and have good reason to suppose that we may one day synthetically produce albuminoid bodies, is it not reasonable to suppose that in the great laboratory of Nature, similar but more complex chemical synthesis may go on, such as the formation from inorganic materials of albuminoids and of living protoplasm? If we are to call in a special creative act—superior to mere chemical synthesis—to account for the existence of Protoplasm because we have not succeeded in forming it artificially, so also must we postulate a peculiar creative act for a great variety of minerals, such as feldspar, fluor spar, heavy spar, augite, &c., since we are equally unable to build up these inorganic bodies. In this way we should divide the whole world into a Natural and a Supernatural group. The former would contain such salts, gases, &c., as we can build up in the laboratory, also alcohol, acetic acid, &c. All these bodies have arisen by Archigenesis, *i. e.*, by natural, mechanical means, solely by the interaction of the inherent physical and chemical forces of their matter. The latter group would contain all minerals not yet formed in the laboratory, also all the complex Carbon-compounds. These bodies would be considered as arising by "Creation," that is, by supernatural means, through a means, through a mysterious creative force existing externally to the bodies. To every philosophic naturalist such a view must appear as untenable as is every assumption of a "Creation." On the other hand the assumption of an Archigeneses for the first living beings from which all others have developed, is a logical postulate of the human intelligence."

THE POLARITY OF THE COMPASS PLANT. In the *American Naturalist* for March, W. F. Whitney gives a brief history of the discussion upon this plant, and Dr. Gray's explanation of the fact that the radical leaves always present their edges north and south. We quote: "In November last, Dr. Gray received a letter from Mr. Charles E. Bessey, of the Iowa State Agricultural School, in which he says: "We have the curious 'Compass Plant,' *Silphium laciniatum*, growing in great abundance throughout all this region. The polarity of its leaves is very marked. Use is made of it by the settlers when lost on the prairies in dark nights. By feeling the direction of the leaves they easily get their bearings." From the record of these observers there can be little doubt that the leaves on the prairies do assume a meridianal bearing; and the cause assigned for this by Dr. Gray is undoubtedly the correct one, viz.: that both sides of the leaf are equally sensitive to light. It only remains to be shown what renders its two sides thus equally sensitive. It is well known that the two sides of a leaf usually differ in structure, that the number of *stomata*, or breathing-holes, is much greater on the under than the upper surface; and that the tissue of the upper is denser than that of the lower stratum. As the two surfaces of the *Silphium laciniatum* appeared somewhat alike, Dr. Gray suggested that it would be well to examine the leaf microscopically in order to see if it corresponded with ordinary leaves in the above respects, or with truly vertical leaves, the two surfaces of which are usually similar or nearly so; also to compare with it the leaves of other species of *Silphium*, in which no tendency to assume a north and south position is shown. * * The observations recorded appear to show that the meridianal position of the edges of the leaf is to be explained by the structure of the two surfaces, which being identical, at least in the important respect of the number of the stomata, seek an equal exposure to the light:—the mean position of equal exposure, in northern latitudes, being that in which the edges are presented north and south, the latter to the maximum, the former to the minimum of illumination."

LARGE INDUCTION COIL.—W. H. Wahl, Ph. D., describes, in the *Journal of the Franklin Institute* for March, the induction coil recently constructed for Prof. Morton by E. S. Ritchie, of Boston. It is believed to be the most powerful one now existing. The mammoth coil built for Prof. Pepper by Mr. App, of London, "was nine feet in length, contained 150 miles of wire, and weighed nearly a ton. With a battery of sixty elements, this coil yielded for a while sparks 29 inches in length, but soon failed, and is now, we understand, taken to pieces. The coil, however, now described, containing but 44½ miles of wire, 40 inches in length, and weighing about 250 pounds, gives, with but three cells of battery, sparks 21 inches in length, and after several months of constant use and severe tests, is in perfect condition. * * The battery for exciting this coil consists of three glass jars, 10 inches in diameter and 12 inches high, into which are lowered, by means of a windlass, plates of carbon and zinc, 8x10 inches, five of each occupying each jar. The liquid employed is the mixture of potassium bichromate, water and sulphuric acid, now employed in several forms of battery.

# CORRESPONDENCE.

## Notes of Travel in Amador County.

[Written for the PRESS.]

### Ione City—Sutter Creek.

Ione City, situated 38 miles from Sacramento and 12 miles from Jackson, the county seat, contains about 300 inhabitants. The valley in which it is situated is very beautiful and productive; but the legalizing of a "Spanish grant," which covered this side of the county, has almost paralyzed its inhabitants. Paying for land a second time at an exorbitant figure explains itself. Some years will elapse before it will have recovered fully.

The Broom and Match Factory at Ione City, owned by John Kirk, Esq., manufactures 3,000 dozen of brooms and 5,000 gross of matches annually.

Hall & Co.'s grist mill, at the same place, has three run of buhrs, driven by an engine of 60 horse-power. Its capacity is about 75 barrels of flour and 50 tons of ground feed daily. About three tons of lignite are used daily for the engine. A mine of this fuel is situated in close proximity to Ione City, and is owned by F. C. Hall. The stratum is from 3½ to 9 feet thick, and can be traced for 10 miles in extent; it lies horizontal, and in many places near the surface.

Sutter Creek, four miles north of Jackson, contains something over 2,000 inhabitants. It is the largest town in the county. Its citizens have just completed one of the finest brick school-houses in the county, if not in the interior of the State, for the education of the rising generation. The structure is 35x55 feet, two stories high, and cost $10,000; 200 pupils are in daily attendance, and two competent teachers are in charge. This district contains 253 children.

In the Sutter Creek foundry and machine shop, owned and superintended by S. S. Manon, ten men are regularly employed, and for their capacity, they turn out as good work as the larger institutions of the State of the same kind.

### Agricultural.

Q Ranch, once upon a time the breakfast and dinner station for the Sacramento and Mokelumne Hill stages, is owned by O. N. Morse, Esq. It consists of 325 acres, nearly all of which is fine bottom land, and all of which is now under cultivation. Twenty-eight acres are in fruit trees, from which some 50 tons of fruit were marketed last year. The other productions of this ranch, last year, were 4,000 bushels of barley, 2,000 bushels of corn, 40 tons of hay, and 7 tons of hops. All of the products (except the hops) are marketed in the vicinity. From three to eight men are regularly employed; in hop time some forty are employed.

Mme. Marie Suize is the proprietress of a 300-acre tract of land, situated six miles east of Jackson, and is cultivating some 30,000 vines, and manufacturing about 12,000 gallons of wine and 600 gallons of brandy annually. With a view to silk raising she is cultivating 3,000 mulberry trees. At this writing there are on hand at this ranch some 18,000 gallons of wine, from one to five years old. It is kept in twenty-four 800-gallon casks, manufactured from a species of black live oak, cut, sawn and manufactured upon the farm. Two large 3,000-gallon casks are used for making the red wine. Five men are regularly employed.

J. S. Campbell, Esq., 1¾ miles east of Jackson, is tilling some 50 acres in vines, orchard and grain. Last year he manufactured 1,200 gallons of wine.

To PRESERVE LEMONS OR LIMES.—The following receipt was given me by a gentleman who deals in the above perishable articles, and I give your readers the benefit of the same: To preserve them from rotting for months at a time, simply cover them with *sour milk*, change the milk once in three or four weeks. [Being disposed to doubt, we should like some further facts concerning this.—EDS.]

THE FARMER.—The glory of the farmer is, that in the division of labor, it is his part to create. All trade rests at last on his primitive authority. He stands close to Nature; he obtains from the earth the bread and meat. The food which was not, he causes to be. The first farmer was the first man, and all historic nobility rests on possession and use of land.—*Ralph Waldo Emerson.*

## The New Geyser Field of Montana.

According to the Eastern papers, Hon. N. P. Langford has been lecturing on a trip from Helena and along the Yellowstone river, in Montana, to Yellowstone Lake Wyoming. He thus described a remarkable volcanic district:

Judge, then, of our astonishment, on entering the basin of the Madison, at seeing just before us an immense body of sparkling water projected suddenly and with terrific force into the air to the hight of 125 feet. We had found a real geyser. In the valley before us were 1,000 hot springs of various sizes, and 500 craters throwing out vapor. The geysers were seen in action in every direction, projecting water to various hights. The one first referred to was throwing from an irregular crevice, about 7 by 3 feet, a column of water of corresponding dimensions to a hight of 125 feet. Various names were given to the geysers. One was called the "Fan," as it threw up to a hight of 60 feet two radiating sheets of water, resembling a feather fan. Forty feet from this geyser is a vent, connected with it, and two feet in diameter, which during the eruption, expels, with loud reports, dense masses of vapor. One of the party crawled into "The Grotto" from curiosity, not supposing it to be a live geyser, and as he emerged, he was followed by an eruption of boiling water, which, if it had overtaken him, would have cooked him. "The Giant" is a rugged deposit, presenting in form a minature model of the Coliseum. It has an opening six feet in diameter. A remarkable peculiarity of this geyser is the duration of its discharges, which continued for three hours in a steady stream five feet in diameter and 145 feet high. Opposite our camp was a symmetrical cone, like a bee-hive, about five feet at the base, and with an orifice at the top of 24 by 36 inches. We had not suspected it to be a geyser, till one morning there suddenly shot up from it a column of water which was found, by triangulation, to be 219 feet high. "The Giantess" throws up a column six inches in diameter to a hight of 250 feet. This was the highest of all. The rays of the sun falling upon the geysers in action produced an infinite variety of prismatic hues, like broken up rainbows.

The explorers were much impressed by the beauty and grandeur of the valley of the Yellowstone river, and found cañons rivaling those of the Colorado. They proceeded directly up the valley, encountering many wonders on the way, such as immense waterfalls, columns of pillar basalt, like the "Giant's Causeway," and hot, and cold and sulphur springs, until in a few days they reached a summit from which they obtained a view of Yellowstone Lake, and to visit it left the well defined Indian trail and passed through a region never before traversed by civilized men.

The Yellowstone Lake was reached 12 miles beyond the mud volcano, and many days were spent in exploring the country in its vicinity. The lake was ascertained to be 8,330 feet above the level of the sea. It is an expansion of the river, and is about 25 miles long by 15 wide. It abounds in speckled trout of the finest quality, and vast flocks of geese, ducks, swans, and pelicans resort to it. It is surrounded by stupendous mountain ranges, which are approached on all sides by undulating plains and grassy foot-hills. Forests of pine touch its banks at intervals, and its beautiful margin presents every variety of sand and pebbly beach, glittering with crystals, carnelian and chalcedony. Indians rarely approach it on account of the superstition inspired by the volcanic forces of the vicinity.

## To Miners and Farmers.

The following letter from the Commissioner of the Land Office to Hon. A. A. Sargent, contains instructions which will enable miners and farmers to adjust their boundaries and treat what is left of forty-acre tracts as enterable as agricultural lands. It is very convenient to both miners and farmers:

I have the honor to acknowledge the receipt of your letter of the 7th inst., inclosing one dated at Nevada, California, the 25th ultimo, from H. S. Bradley, in relation to mineral affidavits, and with reference to the subject would state that, prior to the passage of the amendatory mining act of July 9th, 1870, the local land officers were instructed that when lands were surveyed and parties sought to establish their mineral character, the affidavits alleging particular tracts to be more valuable for mining than for agricultural purposes, should be made to apply to the *smallest legal subdivisions*, which at that time were forty-acre tracts.

Since the passage of said act of July 9th, 1870, authorizing at the expense of claimants the subdivisions of forty- into ten-acre tracts, the latter are recognized as the *smallest legal subdivisions* in mineral regions, where parties have caused such subdivisions to be made agreeably to the law and instructions. And no reason is perceived why the same proof of mineral or non-mineral character should not be made to apply to each one of the ten-acre lots in a forty, that has hitherto been applicable to the forty-acre tract itself, there being doubtless many forty-acre tracts in mining districts of which a part may be valuable for mining, and the remainder clearly agricultural, or containing deposits of mineral in such limited quantities as not to be remunerative to the miner, and which it is the policy of the Government to dispose of to permanent settlers under the homestead or preemption laws, instead of leaving them to remain out of the market indefinitely, by reason of their contiguity to lands containing mines.

It is contemplated to instruct the local officers to that effect at an early date.

The letter of Bradley is herewith returned. Very respectfully, your obedient servant.

WILLIS DRUMMOND, Commissioner.
March 20th, 1871.

## An Unknown World.

When Bret Harte left this coast for the East, some fears were expressed as to the continued excellence of the *Overland Monthly*, of which he had been editor. That by his departure a loss was sustained, no reasonably-minded man can deny, but that the loss was irreparable, is not for a moment to be supposed. The conductors of the magazine have been stirred up to still greater exertions, and the talent of the coast has responded. The *Overland Monthly* sustains well its acquired position. The April number is not a whit inferior to its predecessors. Freshness and talent, energy and dash, carefulness and accuracy are visible on every page, and the journal still maintains for us its wonted charms. That the public are of this opinion, is shown by the circulation which has increased largely. The young Pacific coast has vigorous talent and, we believe, will be able to supply the older Atlantic coast with other excellent writers besides Mr. Harte. It is a little queer, though, that the younger should be able to supply the older community with this article.

From the *Overland* for this month we clip the following:

How little is really known about the Island World of the Pacific! Who has ever numbered or named these little rims, with a circle of coral and a fringe of cocoanut-trees, rising out of the ocean? An article in this number is devoted to the description of one of these islands (Upolu), of which few ever heard. There is a wilderness of islands unclaimed. Now and then some adventurer tells us strange stories of people who live in these enchanted isles, and know how to roast a pig, and can do a White Man to a turn if he is not too tough, in a way to confound our notions of civilization. Skippers who have committed barratry, fugitives, pirates, and rovers thread these intricate channels, but the story of their going and coming is not known; in fact, many of them, to the great comfort of former friends, never come back to tell the story. But what a field for exploration and discovery! A six-months' cruise in a staunch yacht would be fruitful of strange adventures. There are islands just coming to the surface; others which in some great convulsion have been forced to "duck under," with no prospect of coming up all right in our times. Some there are, thank heaven, where the diabolism of Dr. Faust is not known, and where the revenue tax is honestly paid, in shells, at par value. The Empire of the Sea will one day be organized from a thousand islands, which, as yet, have not so much as a name.

DURING the siege of Paris, fifty-four balloons have carried two million five hundred thousand letters—a weight of some twenty-two thousand pounds.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

### FOR THE WEEK ENDING MARCH 21ST.

COMBINED ORE CRUSHER AND AMALGAMATOR.—Lymand Griswold, Denver, Colorado Territory.

LUBRICATOR.—Tapping Reeves, Little River, Cal.

ADVERTISING LAMP.—Emil Boesch, San Francisco, Cal.

ANKLE BRACE.—Jacob S. Niswander, Oakland, Cal.

HYDRAULIC NOZZLE.—Henry Shaw, Nevada City, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

IMPROVED WAGON AXLE.—C. R. Donner, Sonora, Cal. An illustration with description of this useful invention was given in the PRESS of March 18th, 1871.

IMPROVED MOP-HOLDER.—J. Brizee, Alvarado, Cal. This invention relates to an improved mop-holder, which is simple and cheap. It consists in employing strong wires or rods, which are arranged in a manner at once simple, easily of adjustment and durable, and which hold the mop securely to the handle. Housekeepers will find it well worth the trouble to examine the device.

MACHINE FOR MAKING HOOKS AND EYES.—J. T. Ford, S. F. Mr. Ford has succeeded in inventing a valuable machine for making hooks and eyes for toilet use directly from the reeled wire, one of each kind being made at each revolution of the driving wheel and completed ready for use. The mechanism is all driven from one shaft, and is remarkably simple and effective. Without illustrations, a description could hardly be made intelligible. Suffice it to say that the machine has been on exhibition at the Mechanics' Institute Exhibition and has attracted very considerable attention by its simplicity and rapidity. Large offers, we understand, have been made the inventor for his patent right. This is the only machine ever patented in this country for making both hooks and eyes.

SPRING FOR VEHICLES.—J. R. Hiller, Woodland, Cal. This is an improvement on a former patent granted to Mr. Hiller, and relates to an improved system of wooden springs for carriages and light wagons, by which an easy vertical or rocking motion is communicated to the carriage body. By this arrangement, the body is connected at all points directly with the frame work of the carriage, and the strain is received equally by all the springs. The same easy motion obtained by the use of the former device of Mr. Hiller, is here secured by a simpler arrangement of the springs, while the body is more firmly braced but still capable of yielding in either direction with equal facility. Both devices are excellent examples of practical inventive talent.

IMPROVED DOOR CLAMP.—H. O. Hooper, Diamond Springs, El Dorado County, Cal. This invention consists in so forming the movable side pieces of the clamps which hold a door, and their operating screws and gears, that these side pieces will be moved equally at the top and the bottom and will not necessitate an extension of those pieces down through the floor. It is a modification of a former invention of Mr. Hooper's, which was patented in July, 1869. The present arrangement ensures a perfectly parallel movement of the clamps so that they will always stand vertical, whether widely separated or near together, and will thus hold the door more securely. A simplification of the device is also effected.

# FARMING MISCELLANY.

## MANURES.

(Prize Essay of Illinois Ag'l Soc. for 1870.)

BY R. GIDDINGS, ROCKFORD ILLINOIS.

(Concluded from page 196).

### To Obtain our Dry Earth

is a very simple affair if attended to during the dry term of midsummer, for we have only to resort to the highway to find it as dry and fine as artificial heat and careful sifting could make it. If not to be had there it can be gathered very rapidly from the surface of a fallow or of a piece plowed for this purpose, and dragged, rolled and dragged again. It is then stored where it can easily be got at. Our plan is, if a stall can be spared for the purpose, to select a middle one and convert it into a bin, from which the earth is daily taken during the season. Two men and a team will fill such a stall in a day, and you will have sufficient absorbent for 10 or 12 head of cattle during the stabling season, say six months. If necessary to be sifted it may be done as usual. Our practice has been to cover the floor two inches deep, and over this spread the usual bedding when cleaning the stalls, all thoroughly soaked as thrown out, and a light sprinkling given anew. A very slight sprinkling over the main pile, after every addition, retains its virtues. In such a practice we lose nothing solid or liquid. In 1869, when we had neglected to lay in our supply of dry earth, we used a compost heap of decayed sods, which was still dry, late in the season, and found it good; but its use involved more labor in pulverizing and fining. Dry chip manure, well rotted and dried, we have used with satisfaction. The best of any, if one has it and can give the time, is to haul the leaf mold from the woods which is usually a little moist and needs spreading very thinly for a day or two on the barn floor, with the doors open. Our practice by no means ends with the stable, but extends to the pig pen, the hen roost, and the privy. These all will produce astonishing results. For the privy a self-acting earth closet apparatus is of course a fine thing. But nearly as good sanitary and manurial results may be obtained by placing the privy so that a box may be slid under the seat, and dry earth sprinkled over it as used, or daily. When full the box may be drawn out easily if on rollers, and the contents removed. Now to your pile from all these resources, add all the rubbish and waste which under our former practice went into the vat, and you will have from your own resources such a quantity of manure as will materially advance the value of your real estate and improve your bank account. Briefly we would call attention to the

### Inducement for the Use of Dry Earth.

1. That it requires no apparatus or cash outlay.
2. That the liquid manure which in cattle especially is equally valuable with the solid, and usually lost, under this practice is all retained.
3. That the dry earth, mingled through the pile, retains within it all the value, of which, usually, one-third to one-half is lost by fermentation, leaching or evaporation.
4. That it gives a much larger bulk of manure, each load of which is of nearly double the value of a load of ordinary manure.
5. That one ton of earth saturated with liquid is of more value than the same weight of solid manures.
6. That thus the aggregate amount of plant food saved from the stables is fully double, and in a much better conditon for use.

We can hardly take to ourselves space in such an essay as this to recount all the processes we employ to make available as fertilizers the various wastes from town, nor could the mass of Illinois farmers practice them with profit. But to this there is one marked exception, and that is

### The Manipulation of Bones.

These in greater or less amount are to be had by every farmer and for a nominal price, or by giving the matter a little attention plenty can be obtained. Our experience in the use of pure bone dust and genuine super-phosphate is so satisfactory that if it were not for the excessive freight rates charged by our railroad companies, we should use them more largely. Thus virtually shut off from the use of these, we were led to seek some method of rendering into available plant food the bones that were scattered over our land, injuring small plants and clogging the cultivators, and were constantly coming in with every load of manure, and that were to be obtained from slaughter-houses and other sources. The result of our experiments was the adoption of the following mode of treatment of them:

First, we make a crude, but quite available crushing apparatus by sinking a piece of timber 4 or 5 feet long into the ground, and, by mortises, fastening into it two stout spring poles, set far enough apart to place a heavy oak block between them, and standing out from each other at an angle of 60 degrees. Between the tops of these is stretched a double rope, which can be twisted to secure any desired tension. From this rope hangs a second, fastened to a 32-pound iron sledge, which at the foundry cost but $1.60. In fact, our whole apparatus cost only $2.10, and aided by these poles a weight of this size makes pretty effectual work of all the bones. Some heavy ones need more attention, but they all succumb sooner or later. The block soon becomes sufficiently dishing, so that the bones all keep under the sledge. When smashed, they are thrown into a barrel, though a sieve, placed over the top, so that the larger pieces are caught and go back under the sledge again until they will pass through a sieve having one-eighth of an inch meshes. But left of this size, little effect would be realized from its application to the soil for several years, and it is necessary for us to not only crush it as well as we can, but also to rot it and disintegrate it. For this purpose, when a pile of horse manure is beginning to heat, we put a layer of about six inches upon the ground and upon this, a layer of crushed bone, one-quarter inch thick, then a layer of about three inches of manure, and then over the bone, and so on. These successive layers are each sprinkled till wet, and after the pile is made as large as wanted, the whole is covered with soil two to four inches deep. After three weeks, the pile is forked over and covered with soil, and this is repeated after a like period. After the heat of the pile is exhausted, if the compost be not wanted for immediate use, it is bes to mix it half and half with fresh horse manure till it is all rotted, seeing that it is evenly and thoroughly mixed. By the expiration of this second heating and rotting it is well ready to feed the rootlets, and may be at once used, guarding against a too free use and seeing that it is evenly spread, leaving no lumps. It is easy to determine how much to apply per acre, by recollecting that of bones thus treated, *one ton equals at least thirty tons of manure.*

We usually do this work during the winter, when there is little work pressing, and in this way it costs but little. By a little effort a large amount of bones is easily obtained. This last season, without any cash outlay, we obtained some ten tons.

That this is found to be profitable, we presume no one need to be told. We find it an excellent application to bring up run down lands.

### Applying Manures.

We think the most important point in manures is to make good manure, and a great deal of it, and if kept from losing its virtues till well rotted, there is little danger of much loss in applying, if only good sense be used.

We do not wish to be understood as saying that manure should be always rotted before being applied; on the contrary, we, as a rule, turn under our manure while green, if the ground be ready, for under such practice no loss can well occur. We always seek to apply our long manure to slow growing crops, and our short rotted manure to those of quick growth. Except as top dressing for meadows we prefer to get all of our manure under the surface, but not deep—two inches is better than six.

We know it is very fashionable of late years to urge farmers to spread their manure broadcast in winter to be plowed under in spring. From an experience derived from small experiments we cannot urge it. We are frank to say we have not the courage to try the experiment on a large scale, for it is so contrary to all our ideas of good practice. We fear too much of it would feed fish in Rock river which we should never catch.

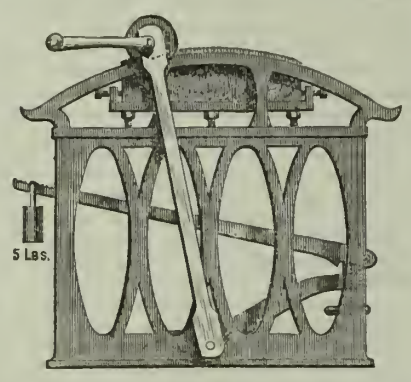
We would certainly dissuade any one from leaving for any time manure in small piles. It distributes the fertility unequally and is the source of much waste.

So few men, except those to whom manure is money—who must have it or forego any income—so few except those can be made to realize or know the extent of their manurial resources, that we have purposely refrained from calling attention to many apparently insignificant but really important sources of manures, for we did not wish to subject ourselves to the look of incredulity or may be ridicule, believing that we could more successfully draw attention and promote investigation into these matters by treating only of those methods of which all will admit the value. But if no more, we would at least, urge the careful saving of manures after the methods described, because we know them to be profitable, and we know if they are carried out that not only will you reap bountifully from the fatness of your land, but also that when you shall end your days and your children receive their inheritance, that it shall not be a barren, but a garden.

## Autographic Printing Press.

The annexed engraving represents a new printing press, designed to replace the lithographic press, and claimed to be adapted to common as well as fine work. It consists of a wood (or iron) frame, a weight of five pounds acting on a combination of two levers, two connecting rods, a printing cylinder, and a curved stone.

Replacing the old flat stone with the curved one, it is claimed, enables the finest work to be done by unskilled attendants, and obviates the old difficulty arising from the liability of the stones to break. The reasons assigned for this last are, that the ordinary presses give an unyielding pressure. The scraper must pass, or the stone



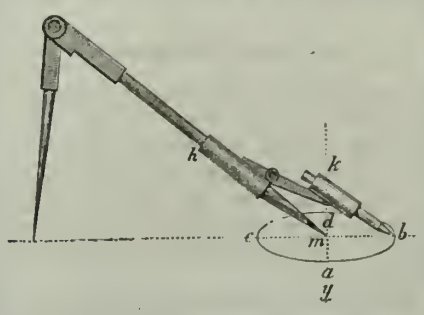

be broken. With the new press, the pieces are not so rigid, all the parts are movable and the levers, rising and falling, adapt themselves to irregularites in the stone, although the pressure remains constant in all points.

The absence of a tympan results in a saving of seven out of the eight motions required in the old style press, and it is claimed that a boy can easily take off with it one hundred and fifty impressions per hour. All trouble as to the regulation of the pressure on the stone is obviated. There is nothing to do except to move the weight of the first lever to a point which will give the required pressure.

The press weighs only a fifth as much as a corresponding old-style press, can be run by hand or steampower, may be shipped in condition ready for immediate use, is simple and durable, and is claimed to be particularly adapted for office use by companies and professional and business men generally. For further information address the patentee, C. Maurice, 160 William street, New York city.

## A New Ellipsograph.

The compass for drawing ellipses, illustrated in the accompanying cut, from *La Propagation Industrielle*, is a German invention. Its operation is based upon the truth, that by cutting a cylinder in an




oblique plane, the edges of the cut surface will form an ellipse.

The two arms, properly so called, of the compass remain fixed with their points on a line, (dotted here) the instrument being held in a vertical plane. A sleeve, *h*, to which is jointed a third arm, *k*, is capable both of sliding upon the adjacent arm of the compass and of turning around upon the same. This supplemental arm, *k*, carries the pencil or tracing point, *b*. In turning the sleeve, the point, *b*, describes a circle equal to that of the circumference of a cylinder having for its axis the longer arm of the compass. While this is being done, care is taken to allow the sleeve to slide upon the arm to which it is attached to an extent sufficient to enable the point to be kept constantly in contact with the paper upon which the ellipse is to be marked.

In order to use the instrument, the fixed points of its two arms are placed upon the (dotted) line, corresponding to the longer axis of the desired ellipse, and the point, *b*, is placed in the line of the shorter axis and at a distance from the point, *d*, of the longer arm equal to the length of the shorter radius, the angles of the two arms being adjusted to permit the point, *b*, to pass from one position to the other, whereupon the ellipse may be drawn in the manner just above described.

## Silk Culture in the Mountain Counties.

A correspondent of the Sacramento *Union*, writing from Nevada city, takes the following very correct view of the culture of silk in the foot-hills and especially in that county:—

One of the hopeful indications of prosperity in the future is to be found in the attention now being paid to sericulture throughout the State generally and in this county especially. This subject has of late excited a deal of discussion among the shapers of public opinion. It is one of peculiar interest to the residents of the mining section, as it is generally conceded that the valleys cannot compete with the mountains in this respect—all the circumstances being favorable to the production of a superior quality of silk at the least expense in the latter locality. In the presence of existing facts, it is difficult to see where the opponents of the silk culture find there material on which to found their opposition. There can be no doubt of its success in this State. The question "will it pay?" has already been successfully answered. Those who pronounce it a failure should remember that they must prove either that silk can not be successfuly produced, or that there will be no market for it. As to the first, it has been already proved beyond a doubt that in no part of the world can the finest quality of silk be produced more readily than in our California mountains. As to the latter, perhaps some of the gentlemen who have no faith in silk will be kind enough to inform the public when the demand for it is likely to cease or grow less. With regard to the culture in this county let me cite a few

### Items.

There are in this county at present, at the lowest estimate, in nurseries and plantations, over 100,000 mulberry trees. In this city and immediate vicinity some half a dozen different parties are engaged in the business. Among these are Ed. Muller, with a plantation of 6,000 trees and about 50,000 in nurseries; A. Isoard with a plantation of 6,000 or 7,000, and C. L. Dimon with a plantation situated between this place and Grass Valley of about 10,000. There are other plantations in this city and Grass Valley and in different parts of the county which will easily swell the figures to the amount stated. Many more already existing in contemplation will soon become substantial realities. The many testimonials as to the quality of the silk produced here, from those most conversant in such matters in quarters where sericulture is best understood, shows conclusively that it is nowhere excelled. Muller and Isoard were the pioneers of sericulture in this county, and it is especially owing to the perseverance and earnestness of the former gentleman that its success in this State has been assured. One of the important considerations of sericulture is, that it opens a new field for the profitable employment of women and children. Look at the girls everwhere growing up through our mountains! It is necessary that many of them should support themselves, but they can't all become schoolma'ams at present—the only manner in which your California girl dreams of obtaining a livelihood. Hence the advantages of a branch of industry which may find them pleasant and profitable employment.

A HEAVY ANVIL.—An anvil weighing 15 tons has just been received at the machine shop of the C. P. R. R. at Sacramento. It is to be used in connection with a large steam hammer, now on its way from the "States."

# AGRICULTURAL NOTES.

## CALIFORNIA.

A CALIFORNIA FARMER.—The Chico *Enterprise* has a lengthy notice of the various operations in progress on Gen. Bidwell's farm. This farm contains about 18,000 acres of land, divided into three departments—agricultural, pomological and grazing. He has about 2,600 acres in grain; 8,000 fruit trees; 50,000 vines; 200 head of horses; 1,000 head of horned stock; 3,000 sheep, and 2,000 head of hogs. All his stock is of superior breeds. The celebrated Chico flouring mills, owned by him and located on his farm, are capable of turning out 100 barrels of flour every 24 hours. He is now building a mansion which, when finished, will be one of the most magnificent places of residence in the State. Various works of improvement are constantly going on upon all parts of the farm. Among other things, he has been setting out shade trees the past winter, along the lines of his principal fences. The General will soon have established for himself a princely home; where elegance, judgment and good taste will everywhere be displayed. His plows are now busily engaged in preparing summer-fallowed ground, of which from 600 to 700 acres will be broken up. His crops look well, and his orchards are promising. Good cultivation secures him an almost total immunity from the effects of drouth, which so seriously affects many farmers, who exercise less skill and judgment in the preparation and culture of their lands.

A NEW AND LARGE NURSERY.—The Marysville *Appeal* learns that Dr. Teegarden, of that city, has purchased the upper portion of the Webb tract, in Sutter county, and will set out some 25,000 trees of different varieties. The Doctor intends that the farmers of Sutter shall not want for trees for years to come.

TWELVE ACRES OF POPPIES.—The Lower Lake *Bulletin* is informed that Dr. Delamont has planted upon the ranch belonging to Mr. Bowers, in Burns Valley, some ten or twelve acres of poppies, with the view of manufacturing opium. The poppies are doing finely. We hope the Doctor will be successful in producing a merchantable article, as the successful result of this enterprise would result in numerous other undertakings of the kind another year, for which the resources of the State would be largely increased.

WOOL BUYERS IN LAKE COUNTY.—The Lower Lake *Bulletin* of last week, says: "The advancing price of wool and the increasing demand for the article has resulted in the presence of numerous buyers in our county who are anxious to forestall all others by engaging the clip in advance. Our advice to the wool men is, when they get a good remunerative price offered them, to take it rather than wait for a rise. Wool is now selling from eighteen to twenty, and in some cases twenty-two cents per pound.

RAMIE PROPAGATION.—Judge Graham, of Hayward, Alameda county, has obtained about 90,000 roots from the layered stocks produced by 1,500 roots set out the year previous. No plant seems to excel the ramie in productiveness in this State. The belief that its cultivation will soon become one of our most important sources of industry, is fast becoming fixed in the minds of those who have carefully examined into the business.

FEED GETTING SCARCE.—Owing to the absence of rain, feed is already getting scarce in many of the central portions of the State. Over 3,000 head of beef cattle are about to be sent from Livermore Valley to be fattened among the sage brush of Nevada, from whence they will have to be re-shipped to San Francisco as soon as they are in good condition and the market is ready for them. Unless an abundance of rain comes very soon, tens of thousands of cattle and sheep will have to be driven from this State, to and across the Sierras, for pasture and water, to preserve them from starvation. It is possible that the rains which have commenced falling since the above was in type, may greatly change the aspect of things.

FRUIT IN EL DORADO.—Indications are favorable for a large fruit crop in El Dorado county.

STILL ADDING TO HIS FOREST.—J. T. Stratton, in addition to his seventy acres of gum trees, has this year set out sixty-five acres more, between the San Ramon and Castro Valley roads. This is the largest gum tree farm in the State.

TALL BARLEY.—The *Pajaronian* claims the tallest barley; having received a bundle of stalks which measure 4 feet 10 inches high.

EARLY STRAWBERRIES.—The Santa Cruz *Sentinel* acknowledges the reception of a basket of "delicious strawberries"—the first of the season. Fresh fruit, of all kinds will soon make its appearance in our market. A strawberry party is advertised to come off in Santa Cruz this week.

SHEEP FROM LOS ANGELES.—A large shipment of sheep was made from Los Angeles for this city on the 24th ult; also a lot of Los Nietos hogs of that inordinate fatness which the corn of that region, when properly administered, is sure to produce. All the animals were in good condition, and the consignment was the largest yet made. The *News* says such shipments have been made profitable by the recent reduction in the prices of freight by the coast steamers. This reduced freight charges will open up many other sources of profit to that region, if they are kept at the present figures.

THE *News* urges the farmers to cultivate ramie.

A GOOD IDEA.—An enterprising chicken raiser of Los Nietos, knowing the advantages to be gained thereby, hauled a load of beef skulls home, to be ground into nourishment for his feathered flock.

ARTESIAN WELLS.—The *Pajaronian* is informed that flowing water has been struck on the Pardee ranch at the depth of 148 feet. A six inch pipe was used. The flowing well at the school house, in the same vicinity, is 116 feet deep. The well on Mr. Wynan's place, a mile or two from town, is 112 feet in depth. The one on Messrs. Blackburn & Water's place is not yet deep enough to tap a good head of water. Several others are talking of boring wells in this valley.

The Monterey *Democrat* says good water can be obtained with little difficulty in Salinas City. On the premises of Mr. S. W. Conklin is an artesian well, dug by himself, which is only 97 feet deep, and brings water within five feet of the surface. This, for his purpose, is better than a flow, and the water is sweet and soft, soap not curdling in it

The wonder is that artesian wells are not more common. They might be made a source of irrigation in many portions of the State which are now suffering from the present drouth.

THE MERCED WOOLEN MILLS are turning out eight hundred yards of flannel per day. The enterprise is doing great good for the country; encourage it.

IRRIGATION SCHEME IN SAN JOAQUIN.—Now that the failure of the grain crops seems so very probable, says the San Joaquin *Republican*, a grand scheme for irrigating the lands of that county by water, taken from the Mokelumne river, has been set on foot. The proposition is to tap the river in the vicinity of Camanche Camp, and convey the water in a southwesterly direction to the Calaveras river. The intention is that all the farmers through whose land the water will pass, or who can use the same, will be stockholders in the company, and none others. A party in company with an engineer will go over the proposed route in a few days, to determine the practicability of the project. That once decided affirmatively, a survey will be made and the work commenced immediately. It is contended that a ditch can be made of sufficient capacity to irrigate properly 100,000 acres of land, and that there is ample water that can be spared from the waters of the river for that purpose.

SOMETHING NEW IN FENCE MAKING.—The Monterey *Republican* says that Mr. Joe Archer is building a large amount of fence on his ranch along the Carmel river bottom, in the following manner:—A small post driver with a 350 pound hammer and a drop of six feet is employed to *drive* the posts into the ground instead of digging and *setting* them. The posts are willow, ten feet in length, and the expectation is that they will take root, and in the course of time form a living fence.

THE WIRE WORM.—Harmon Bay informs the Chico *Enterprise* that the wire worm has made its appearance in several of the wheat fields in his vicinity. It is a small yellowish worm about the size of a darning needle, and attacks the main stem of the grain just under the ground, and is very destructive wherever it works.

The Watsonville *Pajaronian* of the 23d says: "We understand that worms are troubling the young wheat in several localities in this section. It is not uncommon in any country, and is probably due to the land being to wet when the wheat was sowed."

CALIFORNIA WINES.—Parties in San Francisco have commenced to fill a New York order for 18,000 gallons of California white wine. Napa and Sonoma counties are to contribute the juice, it appears. The best article, it is said, comes from the vineyards near St. Helena, in the former county.

A STOCK GROWERS' ASSOCIATION is to be formed for the county of Yreka, the object of which will be to aid in the improvement of the character and breeds of stock, and to protect stock-growers as far as possible from the hurtful effects of the dishonorable practices indulged in by some dealers in stock.

FARMING IN INYO COUNTY.—The farmers of Bishop Creek, and in fact all over the valley, says the *Independent*, are busily at work planting, putting in small grain mostly. Considerable more acres will be under cultivation this year than ever before, with fair prospects of the best of crops.

AGRICULTURAL SOCIETY ELECTION.—The annual meeting of the Contra Costa County Agricultural Society, for the election of officers and the transaction of other important business, will be held at 1 o'clock, P. M., on Saturday, April 29th, 1871, at the Odd Fellows' Hall, in Pacheco.

## OREGON.

PATCH WORK PREMIUM.—We have already noticed the fact that several public spirited gentlemen of Oregon have individually offered premiums for special objects, not provided for at the coming agricultural fair in that State. We now have the pleasure of noticing the offer of another, and a very suggestive and appropriate premium, by Mr. Geo. H. Chance, of Salem, we presume. The offer is made through the Willamette *Farmer*, "for the *cleanest, best, neatest and most patched suit of farmer's working clothes*, $25 worth of dental work of any kind the winner may desire, either for herself or any one she may designate. Two or more entries to be made. Said suit to consist of coat, pants and vest, or, in place of vest, woolen overshirt."

PLANTING THE LAUREL.—A correspondent of the Willamette *Farmer*, suggests the propriety of planting for ornamental and shade trees that beautiful evergreen known as the "Oregon Laurel." Efforts have been made to *transplant* it, but without success, hence the correspondent suggests *planting*. The capsules containing the seeds can be readily gathered in the fall, and it is recommended that the seeds so gathered be planted in the nursery.

We presume the "laurel" referred to is the same as that found in the mountains of this State. It is very difficult to succeed in transplanting it here, although we have known instances of success, and have succeeded in the attempt ourselves. It certainly forms a most splendid shade tree, growing from 40 to 60 feet high, and presenting a dense mass of large deep green leaves, beautiful both in summer and winter. The wood of the laurel is close grained, and makes excellent timber for cabinet work. We wonder that more attention has not been given to this tree by our nurserymen.

HIGH WATER.—The Willamette *Farmer* of the 18th ult., says the Willamette river was at that time higher than it has been known for several years. The railroad between the cities of Salem and Portland was so deeply overflowed that the water ran into the fire-box of the locomotives, thus materially interfering with railroad traffic. It is the intention of Mr. Holladay to raise the track the coming season, in places where it has been submerged, so as to avoid delay from this source in future.

THE GERMAN EMIGRATION.—Much is expected in aid of the future farming interests of Oregon from the German emigration which the railroad builders are about to introduce into that State. The arrangements for the first installments of this emigration are about completed.

OREGON WHEAT.—The *Land Owner*, a periodical published in Chicago, which is acknowledged to be the leading real estate journal of this country, on noticing the receipt of a sample of Oregon wheat says: "It surpasses in flavor and beauty of kernel any we have ever seen." Such a notice from such a source is certainly very complimentary, and one from which our neighbors may well take courage.

CASHMERE AND ANGORA GOATS.—The *Mountaineer* says that B. D. Butler, of Dalles City, has purchased a band of thirty-one Cashmere and Angora goats, to arrive soon from California. They will cost him about $1,000 delivered at the Dalles.

THE Roseburg *Plaindealer* has an "imposing stone" of Oregon manufacture. It was made of marble taken from the quarries in Jackson county.

NOT less than 100,000 sheep are grazing on the hills of Umpqua.

THE Walla Walla *Union* is highly gratified with the action taken by Senator Williams to secure a new land district east of the mountains, with a land office at Walla Walla. It says: Heretofore the expense of going to Vancouver to attend to land business has been a great tax on the settler and costs nearly as much as the price of the land. This item of expense alone is sufficient to deter some from taking claims that otherwise would avail themselves of the benefit of the public land laws.

DECAY OF OUR ORCHARDS.—A correspondent of the Willamette *Farmer* furnishes an interesting article on the decay of Oregon orchards, which is equally applicable to the other portions of this coast.

This decay he considers inevitable for this reason, viz: "What matures early dies early." "Too heavy crops," he sensibly remarks, "on too young trees, and the propagation from these decayed trees brings ruin to our orchards. If I were to start a nursery again, I would send for seedlings and grafts East, and start anew." He is of opinion, therefore, that Oregon orchards, in decaying early, succumb to an inevitable law of nature, and that no sort of culture of the trees can avert their decay. He states that he has tried every method of cultivation, with a view of reviving drooping trees, but with the same fruitless result. About ten years he considers the average period during which the apple tree in Oregon will grow vigorously and bear fruit. Then it should be renewed. We are satisfied that this theory is the correct one. It accords with facts and experience. The way to keep up our orchards is to plant new trees.

THE OREGON FRUIT CROP.—The *Farmer* thinks the prospect for a large fruit crop in the Willamette Valley is good. The trees are not nearly so far advanced as they were at this date last year, and there is not now, with the prevailing cold nights, much probability that they will mature before their season and be killed by late frosts. We are glad to chronicle the fact, as the fruit crop, in a commercial point, is second only to the grain crop in the valley.

WOOLEN FACTORY.—The people of La Grande, Oregon, are moving for the erection of a woolen factory.

LINSEED OIL.—The Pioneer Oil Mills, at Salem, have on hand about 15,000 gallons of linseed oil. They expect to manufacture 50,000 gallons this season.

WOODEN WARE.—The Willamette *Farmer* urges upon the people of Oregon the policy of manufacturing their own wooden ware, for which they have the best timber in abundance, with water-power for driving the necessary machinery.

## MISCELLANEOUS.

THE Idaho *Democrat*, in speaking of the Boise Valley, says: "The breadth of grain sown in this valley last fall, and that yet to be put in this spring, will far exceed all previous seasons. If no untoward event transpire, Idaho will have a surplus of flour next fall."

QUAIL FOR IDAHO.—They have a Quail Association in Boise City Idaho which is importing large quantities of those birds from California and Missouri, and turning them loose in that section.

PLANTING FORESTS IN MAINE.—The Maine people are talking about sowing the seeds of forest trees for lumber, and especially of the white pine.

A VALUABLE HEN.—It is said that gold to the amount of $15, in the gizzard of a hen, is matter that is agitating the denizens of Belmont, Wisconsin, just now; a man recently made a discovery of that startling character. The mortality of hens is said to be very great in that locality since the discovery was made.

STEAM WAGONS IN GEORGIA.—Savannah, Georgia, is forming a stock company to introduce steam wagons for farming and freighting purposes.

THE present winter has been the coldest in France since 1830, when claret and other light brands froze in the wine vaults.

A SPAN of horses forty-two years old still in splendid condition, are daily seen in the streets of Watertown, N. Y.

ARTIFICIAL RABBIT BREEDING.—At London, Canada, a citizen has in a warren, in a lot of five acres, two thousand rabbits. He reckons the cost of caring for these at twenty-five cents apiece annually and net profits from the warren at $5,000 a year. He sells the males as soon as they are a year old; shipping them in barrels to the Montreal market.

THE editor of the Brownsville *Clipper* is the owner of a very small pig with rat-killing proclivities.

# HOME AND FARM.

## FARM HOUSE CHAT.—No. 3.

There seemed nothing surer in the way of airy architecture than that I would build this week a model farm house. Especially for the kitchen I had everything in apple-pie order; but a brief interview with Nell Van's "Delia's Aunt Mary," has shivered all its timbers at such a rate, I can only "stand by" and wonder if we really have been making involuntary soft-soap all our days, and wasting our substance on perilous chemical combinations that in the interest of science, should have made an end of us long ago.

Here have I been patiently domesticating and putting through their paces everybody's pet hygienic hobbies; getting them well in hand, not only for my own culinary convenience, but that I might upon occasion trot them out again for public approbation, improved by careful training, warranted safe and pleasant to ride or to swallow and leave no sign.

When the RURAL PRESS, like a special providence, began to "shine on all both great and small," inviting correspondence of practical value for its countless host of friends and "gentle readers," my "hobbies" gently pricked their ears as who should say:

"This must be now the kingdom comin'
And the year of Jubilo!"

Nothing better could be asked than a place among these earnest workers.

Already upon the fair pages gleamed a "Jewell," enshrined in the good gold of common sense; and this suggests the very newest recipe for bride-cake, which, if true as 'twas told to me, will vindicate the time-worn quotation—"O, consistency! thou art a Jewel!"

"Full many a "gem" of pure, unbolted wheat,
Mixed with cold water—swiftly baked with care,
Then sugar coated. "Gem of gems" complete,
That leaves such sweetness on the desert air,
Even grim dyspeptics smile, and bless the "happy pair!"

Yes, cold water gems are nice enough to furnish forth the wedding feast; but my uncle Toby Stontly maintains that those I make with buttermilk are far more palatable and nutritious; and he calmly eats on even while I read Aunt Mary's expose of soda and its resulting horrors.

"Just another hobby," he growls. "You can tell her that soda does not enter the stomach as an alkali; but is neutralized by its contact with the acid; and the effervescence they kick up during their little fight, is just what makes the bread light and tender. So the "union" results in harmony and a *little*—ahem—a "little salt," that is, to say the least, no bugaboo; and why should we follow every toothsome morsel into those unexplored regions and disturb comfortable digestion with a continual muddle of analysis?

As for the "rotting process" of yeast, I hardly think Dr. Bellows puts it up so; for we found very little in his book that differed from our own precept and practice. But hunt up your authorities and "let us have peace." "Soap-suds, indeed!"

So I turn hopefully to "Philosophy of Eating" and find that yeast may still be permitted to make a raise in the good old-fashioned way.

"Two aerial substances are produced by fermentation—carbonic acid and alcohol. These expand the flour and make it light, and though both are poisonous they do no essential harm to the bread, because they are removed from it, or should be, before eating.

The alcohol is all removed in baking, and if the bread is placed in the air the pores will soon be filled with pure air instead of carbonic acid gas. Unbolted flour bread, raised with yeast, loses perhaps six per cent. of its muscle-making element; and there is no important objection to such bread.

It contains all the elements necessary for feeding the muscles and brain, and for producing all the fat and animal heat required.

Bread thus made from good, superfine flour is only negatively deleterious, having lost its food for muscles and brains; but it need not therefore be discarded *if at the same meal these elements are supplied* in lean meat, fish, cheese, or other food containing similar elements. But fine flour bread, if eaten with butter or sugar only, and nothing else, would soon make of us bloated and stupid idiots."

These extracts are taken from pages 44 and 46, where also may be found the method of making the Doctor's "ideal loaf," which answers to our cold water gems.

I also find a crumb of comfort on page 100, where it is broadly hinted that cakes of unbolted wheat mixed with milk or buttermilk are the best food for growing children.

My vindication of yeast is for the benefit of those mothers and housekeepers who must lay long tables with a dozen or more plates, and piles of food for hungry children, and hired men, or boarders. Sometimes—perhaps generally for breakfast—the required quantity of "gems" might be furnished, and with nice butter would always "go like hot cakes."

But this from hand to mouth style for every meal would be impolitic and well nigh impossible; and the provider for populous households may still "raise" her generous loaves *a la* Bellows, and rest from her labors unscared by hygienic ghost. And while I admire Aunt Mary's skill, and heartily concur with Mrs. M— and all other sensible reformers of food and dress, may I not also air my own convenient hobby, and rejoice in the abounding buttermilk of our dairy farm? Time and space permit no exhaustive flight upon this line; and the rambling chat seems fearfully meagre, when compared with the magnitude and importance of the subject.

If I had a million or so of loose cash it could hardly find better investment than in this same "Philosophy of Eating," which I would like to present to every housekeeper in the land, looking strait in her eyes while she promised to read and try to understand it.

Dr. Bellows, more than any other author I have studied, seems to cover the whole ground—teaching us to vary the diet to suit requirements of climate, season and occupation. If he ever rides a hobby it is with so firm a seat and with such an air of solemn triumph that we just like to see him "go it.".

Recommending the book to a friend, he exclaimed "Philosophy of Eating? I already understand that right well; but the Philosophy of getting a plenty to eat, that might be worth while." Read the book my friend and you will be surprised to find how charmingly in unison are the two Philosophies.

* * * * * * * *

"Dr. Dio Lewis believes everybody will find advantage in taking but two meals per day."

At this my uncle Toby's eye struck fire, and I knew what was coming.

"I would like to ask Dr. Dio if he ever got up at five o'clock of a winter's morning to begin his days work of chopping in the woods; or if he ever sharpened his scythe and cut the first swath in the "big medder" just as the summer dawn was streaking the east. If he has never done that—and several other familiar things I could mention, he had better think a spell, before he "speaks out in meetin'" again.

Its all very well for folks to sit still in the confined air of a city office or parlor and tell everybody to eat a little cracked wheat or graham bread twice a day. But when we come to twelve or fourteen hours per day, in haying time, or if we go back to the forest-felling, log-rolling days of the forefathers, then we find an easy solution (and digestion) of the pork-and-beans problem, etc., etc. Pshaw! how can the sedentary man judge for the farmer, the teamster, the hardy pioneer who destroys more work and victuals than Dr. Dio dare dream of! The attempt reminds me of the lank dyspeptic asking the jolly gourmand—"How do you manage to eat such food *and live?*"

"Ha! ha! ha! nothing easier—I just swallers 'em all and lets 'em fight it out theirselves!"

* * * * * * *

Last Monday Prof. Guyot and company came to Springvale to visit the once famous Santa Cruz Ruins. With a few brief hours for preparation my lunch bill-of-fare was arranged in a minute.

"The sliced apple pies from Saturday's baking. Then a fresh white loaf, (potato yeast, and just enough time to aerate the bread.) Then a steamed brown loaf, ruddy and warm. A plain "hurry-cake"—cheese, butter, coffee, tea, peaches, and unlimited cream. How delightful to have them come in just enough tired and hungry to relish everything! How delightful that one of the ladies has a home in my own beloved Vermont, nestling near Lake Willoughby, where I made my debut as country school ma'am!

With what apparent sincerity she declared that Springvale "grows" better cream than Vermont; and naively tested the Professor's patriotism by asking, "Is not this really as good as your famous cream of Switzerland?"

With no more of hesitation than is due dear fatherland he answered—"Yes, it is, almost—perhaps quite as sweet."

This learned Professor—aided by his wise little wife and others—is doing good service to the cause of science, and I hope they will gather many pleasant memories among our rough mountains and smiling valleys. The objects and results of their California rambles would doubtless make an attractive article for our "PRESS" but I am not sufficiently well-informed to undertake the pleasant task.

MARY MOUNTAIN.

Springvale Farm, Santa Cruz.

## SHORT PAPERS ON AGRICULTURE.

[For the PRESS, by Dr. J. R. THOMAS.]

### True Theory of Utility in Pulverization.

Our last paper closed with an abstract, or rather a condensed account of "Jethro Tull's philosophy of thorough pulverization in agriculture."

The reader will remember that the sum total of his theory is that plants *eat* the soil, and that their mouths are too diminutive to receive the particles, unless they be reduced to a very fine powder.

The true theory on this subject has been already partially developed in a previous paper. It has been stated that a finely divided soil, other things being equal, contains a larger supply of fertilizing elements. This is true, because, in this minutely divided state, the soil draws more freely upon its two sources of fertility, viz., the subsoil below, and the atmosphere above. The clay or subsoil which underlies a fertile field is, usually, rich in mineral salts. These constitute the larger portion of plant food, and of course furnish most of the building material, which enters into vegetable structures.

These salts, in the subsoil, are reduced to a state of solution, which, indeed, is a necessary condition of plants being nourished by them.

In this condition they are brought up to the surface, by capillary attraction, and this attraction is largely promoted by thorough and deep pulverization. A maximum of fineness in the soil, levies a maximum contribution upon the salt solutions that may be formed below the surface, by bringing them within reach of lateral roots, which run out in search of food, in every direction.

Long seasons of drought are unfavorable to present crops, inasmuch as the water which holds the fertilizing salts, evaporates from the surface during these long dry seasons, and the salts themselves being thus left in a solid state, can no longer be taken up in order to nourish the crop; but, at the same time, these dry seasons are agents of fertilization to the soil, and are altogether, favorable to future crops, provided there should be present during the next growing season enough of water to hold the surface salts in a state of solution.

We conclude, then, that drought is a fertilizer, and it is for this reason that the crop which succeeds a failure of the previous year, on account of drought, is always very abundant, if the season of that succeeding year be reasonably good.

A soil, which is divided finely and deeply, is a conservator of fertility, because the winter rains carry a portion of the fertilizing matters down to the subsoil, where they are retained for future demand, instead of carrying them off upon the surface to distant points, as is the case in a field with unbroken soil.

### Pulverized Soils Suffer Less by Evaporation.

It is a well-known fact that a field which is well plowed and finely reduced, is less subject to loss of moisture by evaporation. Therefore, their actual store of moisture suffers less diminution under the action of solar heat. Their actual store is also greater, because such soils admit the air freely, which carries with it and deposits below the surface its own freight of moisture.

Over and above all that has been stated, there is a large per cent. of carbon and ammonia floating in the atmosphere, besides other useful gaseous elements, which are deposited more freely at the surface, and below the surface of a field, well pulverized.

The earth subserves two purposes in vegetable production—1st. It supplies a stable platform, in order to support the plant in its erect posture. 2d. It furnishes a repository for plant food.

Any solid earth, which the roots can penetrate, would meet the first condition. The second demands a composition and texture, which will readily absorb and effectually retain the maximum of plant food, until the plant call for it, and then promptly relinquish it to its lawful owner. We conclude, then, that nearly all the virtues of good soils may be said to consist, 1st, in their capacity for receiving and holding plant food, subject to order on short call, and 2d, in their capability of being easily traversed in every direction by the plant roots which are sent out on commissary duty, in order to supply nutritive material for building up the living vegetable structures.

Every man who has made the experiment, knows that soils which are finely and deeply pulverized, suffer less in long seasons of drouth, and that they hold up better to a liberal yield from year to year, under continued and successive crops. These are the facts beyond dispute, and we have already given mainly the explanation of them.

### What Will Improve Soils?

We answer, anything that will promote the foregoing conditions. Whatever, in the first place, will render soils more friable *(i. e.)* more susceptible of minute division, will improve their productiveness, provided they are too stiff or tenacious in their primitive state.

Either lime or charcoal, or decomposed vegetable matter on stiff soils, will be found to be decidedly beneficial.

In order to fulfil a second condition of good soils, viz., that of rendering them good absorbents of fertilizing elements, the agents already mentioned are of great utility.

Lime in some form as phosphates, carbonates or sulphates, is very essential to a field, in order to render it largely productive. These are all first-class absorbents, and some of them, especially the phosphates, contain in their composition, valuable fertilizing elements, in the shape of plant-food.

Common bones, guano, and indeed, the excrements of all birds, contain a large per cent. of phosphates, besides fertilizing elements.

We will recur to this subject in a future paper.

It has been a mooted point whether common charcoal be a fertilizer. Charcoal freshly burned, is useful to the land, only as a relaxent and as an absorbent. In the latter respect, its virtues are unequaled. It will absorb 27 times its own bulk of ammoniated atmospheric air. This statement becomes less marvelous, when it is further stated that the air is condensed as it is absorbed by charcoal, and we have used the term "ammoniated" atmospheric air, because ammonia is one of the most valuable of all the volatile fertilizers.

The powdered coal which has been lying for years around old smitheries, is always found to be rich in ammonia, and as such, is a valuable fertilizer.

The writer of these papers has had large experience in this direction, and knows that facts support the teachings of science.

In treating of the benefits derived from thorough pulverization, and the reasons of it, we have been tempted prematurely, to glance at some matters which will be more fully brought out at some future sitting.

Jethro Tull had the address, with his quaint notions, to draw us a little of the traits of history to which we will return hereafter.

Vacaville, March 24, 1871.

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HOW TO KEEP ONIONS.—Many complain that onions do not keep. The trouble is in keeping them too warm. The onion is a bulb, a plant at rest, and the least warmth starts it into activity. It is much better that onions should remain frozen through the winter, provided they can thaw gradually, than to put them into a cellar or other warm place where their vegetative powers will be aroused. If put in large heaps, onions will be sure to spoil; but if spread in thin layers, and covered by hay and straw, so that if frozen the thaw may be gradual, they will keep well through the winter. It is the custom with onion growers to get their crop to market as soon as possible. If they were to provide proper storage, they would realize much more for them if sent to market later in the season. —*American Agriculturist.*

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A FARMER who runs his farm without a record of expenses and the cost of different crops, is like a ship without a compass or a log book.

# Home Industry.

## Our Sugar Supply.

Editors Press:—The consumers of sugars in California and the country to the east of the Sierras, deriving their supply through the port of San Francisco alone, pay for this one agricultural product over $6,750,000 annually. It is therefore of immense importance to know how much of this enormous consumption can be supplied from the industry of our own people.

When the late Geo. Gordon was largely interested in the refining of crude sugars obtained from Central and South America and the Pacific Islands, it became with him a question of great interest as to whether the enormous sums of gold annually paid for foreign raw sugars, could not to some considerable extent be kept at home.

He was a man of comprehensive views, and of great and good judgment, and as his thoughts naturally turned to the consideration of the great sources of sugar supply, he could not but observe that the manufacture of sugar from beets was rapidly gaining in importance in many of the countries of Europe.

This led him to think that perhaps California, able to compete with any country on earth in vegetable productions might also produce her own sugars. His thoughts, study and observations on the subject finally took form and bearing in several articles in which he expressed his firm belief that California could profitably make her own raw sugar from beets.

Designing, however, to make the thing perfectly clear to his own mind, he made a trip to Europe, largely with the view of comprehending the whole subject of its adaptability to a grand industry for California. And what was the result? He found that the manufacture of beet sugar was not only largely on the increase in European countries, but that it was actually driving the foreign or cane sugars from all their markets, in a direct competition in the matter of cost; that raw beet sugar was actually produced at a less cost than cane sugar could be made and delivered there.

Thus far then, all was well, very well; for he saw in prospect cheaper raw sugars for his own refineries, than could possibly be obtained from foreign ports, and also the certain introduction of a new and immensely important industry amongst us.

### Evidence of Success at Alvarado.

But what other fact came under his observation while pursuing his investigations? Simply this, that to work a beet sugary successfully and profitably, it should have a capacity for working at least twenty tons of beets per day; and then, that every beet sugary capable of working that quantity of beets per day, was also its own refinery, and a refinery that could be employed upon other raw sugars from cane or beets.

Here was something that put a new phase upon the whole subject of beet sugar manufacture in California. If small beet sugaries working twenty tons of beets a day can supply the country with raw sugars, and every sugary do its own refining, what was to become of the large capital now invested in the San Francisco refineries?

This was certainly an important question to those most interested, and to my mind fully accounts for all the opposition to the beet sugar industry.

### Every Sugary its own Refinery.

The Alvarado beet sugar company has been operating upon beets grown on some two hundred acres of land, for the last three months. None but those immediately interested are posted as to the actual profit that has attended the first working campaign of this company, and for a very sensible reason. If the business is to prove a success, the company want more than their original two hundred acres of land. If it is to result in loss, they want no more land. And what appears to be the fact? why simply this, that they have just now purchased two hundred additional acres of land at two hundred dollars per acre. This does not look much like a failure to make sugar profitably. And if they can do well with land at two hundred dollars per acre, what may not others do, whos land need not exceed twenty-five dollars per acre?

In proof of my other position that a beet sugary is also a refinery, we see the Alvarado company already in the market for the purchase of raw cane sugars for refining processes.

That this company can successfully compete with the large and costly refineries of San Francisco in the refining of low grade sugars, there is no possible doubt; for what can be and is done in all the beet sugar countries in Europe, can be done here.

With this view of the situation, are not the objects and purposes of those who are opposing the introduction of beet sugar manufacture along the whole extent of our great valleys, perfectly transparent.

### Sugar from Melons.

The following is a correct translation from the most recent work in the French language, on the production of sugar from beets, melons, etc.:

The author says: "I have been experimenting on the juices of two varieties of melons, the most noted for their richness in sugar, and find in them a density equal to 9° Baumé, beet juice seldom exceeding 8° Baumé. It produces free, detached crystals, dry, and of excellent flavor.

"I have devoted to this subject a series of experiments on an extended scale, and from them have derived excellent results. The idea of making sugar and alcohol from melons is no new thing. As early as 1837, an enterprising Hungarian, M. Hoffman, obtained from the melon a notable quantity of juice, which he manufactured so perfectly as to be fit for immediate use, without submitting it to the operations of the refinery.

"According to that observer, melons gave as much sugar as beets in that locality; they gave double the yield from a given area of land; they grow willingly in all soils; the fruit produces a considerable quantity of seed, which yields 16 per cent. of good table oil. The manufacture commences in July and is finished in January. The juice is very easy to extract, and is equal to eighty-two per cent. of the weight of the fruit; it keeps better than the juice or pulp of beets, and is more easily worked.

"A member of the Industrial Society of Hanover, M. F. Marquarat, duly appreciated at that time the efforts and method of M. Hoffman, by saying that a Hungarian manufacturer, M. Hoffman, is occupied advantageously in the extraction of sugar from melons. That the plant is cultivated in great abundance in the locality which he inhabits—Zombor—as well as in other countries; that every arid spot, every place in the garden, in the fields and forests, useful for no other purpose, can be utilized for the culture of melons.

"The seed does not require to be planted in ground wholly plowed, or in very rich soil, nor with any particular care, and yet the fruit is produced in the greatest abundance.

"The culture demands but little work or care; the growth of the plant is vigorous, with but a small quantity of manure, even upon old, worn out land.

"An inventor of machinery adapted to the manufacture of sugar from melons, has just obtained a patent for his establishment, a large melon sugary in Hungary. Numerous specimens of sugars from this establishment have been from time to time, during the last three years, brought under the notice of the National Industrial Society of Hungary, and the following are the observations and records of that society in regard to that establishment and its products.

" 'The brown sugar is but a very little colored, and has a better flavor than the brown sugar from beets. The refined sugar is a clear white, and has a flavor perfectly pure and sweet. It has a fine and beautiful grain; in a word, equal to the best refined sugar from the sugar-cane.'

"The melon contains sugar in larger quantities than the beet. By the use of a simple screw press, there is obtained easily six per cent. of sugar, and by employing the hydraulic press, more than seven per cent. In Bohemia, the same area of land, of the same quality, produces 450 quintaux of melons to 200 of beets; and whilst the production of seed in the former requires neither extra labor nor land, the seed from beets requires both.

"Twenty-five pounds of melon seeds will easily yield four pounds of very agreeable table oil, equal to olive, and the oil obtained from the annual crop of seeds, after reserving sufficient for the next year's seeding, will pay half the cost of culture of the entire crop.

"The manipulations in the manufacture of melon sugar are much more simple than in the manufacture from beets. The melon juice does not require the same care and rapid working, for the rasped pulp can rest for six days, and the expressed juice for three weeks, without danger from fermentation or injury to the sugar; but little or no scum rises in boiling, and it is much less liable to burn than the juice of beets.

"The pulp and seed residue after extracting the oil, is very nutritive and very healthy for animals.

"The syrup and the brown sugars have a slight but very agreeable taste of melon, and is perfectly acceptable for direct consumption, which cannot be said of beet syrup, on acount of its disagreeably bitter, herbaceous flavor.

"I do therefore," says the author, "especially recommend to agriculturists the production of sugar from melons, as an industry entirely within the scope of their ability; at the same time that it yields a larger profit than is derived from any other agricultural product from the same area of ground at the same cost."

The foregoing I offer in evidence of the practicability of sugar making from melons.

W. W.

# Good Health.

## How to Prevent Spring Sickness.

Dr. Wood, in the *Herald of Health* for April, gives the reason why so many people are subject to a "bilious attack" every spring, and points out how the trouble may be avoided. This periodical complaint is usually termed "spring sickness." We condense from the Doctor's remarks as follows:

There is no more need of people being sick in the spring than at any other time of the year. This periodical sickness may easily be avoided by a little attention to diet.

During the winter people eat larger quantities of carbonaceous food, such as fat meat, butter, bread, etc.—the system naturally craving such diet more than during the summer, to keep up the animal heat against the greater cold of winter. As a general thing, more is eaten than is necessary, and as a consequence, the system is clogged up, and the excretory organs, particularly the liver, is overburdened in vain efforts to get rid of it. Those who lead sedentary lives, and get but little outdoor exercise, generally suffer most.

This difficulty is greatly hightened in the case of persons who continue this kind of diet late into the spring, after the system stands less in need of it.

Now to prevent this suffering, a person should eat a smaller portion of the food mentioned, substituting instead, an increased quantity of vegetables and acid fruits. To this end persons of sedentary habits, especially, should eat freely of canned fruits, when the natural fruit was unattainable. [Such fruits we may add should be put up in their own juice, exclusively, not a particle of sugar should be added in the process of canning; if sugar must be eaten with them at all, it is better to sprinkle it over the fruit at the time of eating.]

There is perhaps no one thing better calculated to prevent "spring sickness" than a free use during the winter, and especially as spring approaches, of tart apples, eaten in any manner, cooked or raw—provided they are eaten as a part of the regular meals, and not between while.

How to Give Children an Appetite.—Give children an abundance of out-door exercise, fun and frolic; make them regular in their habits, and feed them only upon plain, nourishing food, and they will seldom, if ever, complain of a lack of appetite. But keep them overtasked in school, confined closely to the house the rest of the time, frowning down every attempt at play; feed them upon rich or high seasoned food, candies, nuts, etc., allow them to eat between meals and late in the evening, and you need not expect them to have good appetites. On the contrary, you may expect they will be pale, weak and sickly.

Don't cram them with food when they don't want, or have no appetite for it—such a course is slow murder. If they have no appetites, encourage, and if need be, command them to take exercise in the open air. Don't allow them to study too much, and especially keep them from reading the exciting light literature which so much abounds in our book stores and circulating libraries. In addition to securing exercise for the children as above, change their diet somewhat; especially if they have been eating fine flour, change to coarse or Graham flour.

Tropical Fruits.—The reason why tropical fruits are so generally unhealthy when eaten in temperate climates, is because they are almost always picked green and allowed to ripen during their transportation. No food is healthier than perfectly ripe fruit—either tropical or temperate—picked and eaten directly from the tree, especially when eaten at and as a part of regular meals.

## What Sickness Costs.

The *Medical and Surgical Reporter* estimates the cost, to the people of the United States, of medical services and medicines, at $100,000,000, and adds $25,000,000 for the quack medicines swallowed. "Let the people," it says, "study these figures awhile, and then reflect that probably one-half, or certainly a large fraction, of this expense is incurred by a deliberate infraction of the laws of health; that, if they tippled less, smoked less, overworked less, were less 'fast' and less self-indulgent, they would save some thirty or forty millions a year."

If the cost of the loss of time, loss of happiness, loss of ability to do and dare was added to the above, there would be no counting the expense of sickness. And then add to this the expense of those indulgences that make us sick!

The truth is, sickness is the most expensive nuisance on the face of the globe. There may be instances where it makes people better, but generally it makes people selfish, sad, misanthropic, nervous, mean and miserable. The best way to make ourselves happy and good is to keep ourselves well. Then we are apt to be sweet and kind and wholesome. Moral reform societies and tract societies might learn a lesson from this fact, and do more good with less money than they are now doing.

## Eating too Fast.

Eating too fast, generally involves eating too much—more than is needed for the support and nutrition of the body, and the reason for this is, that the organs of taste which are our guide in this matter, are not allowed sufficient voice; they are not allowed time to take cognizance of the presence of food ere it is pushed past them into the recesses of the stomach. They do not therefore have opportunity to represent the real needs of the system, and hence allow the crowding of the stomach. I hold that thirty minutes should be spent at each meal, and spent too, in chewing the food a good portion of the time; not in continued putting in and swallowing, but in pleasant chat and laugh instead of a continuance of the intense nervous pressure of the office or library. If you lay out to spend thirty minutes in this way at your meals you may rest assured you will not eat to much, and that what you do eat will be in the best condition for appropriation to the need of the system. You will be healthier in body, happier in mind, and more vigorous in brain—for there are few things that so clog the brain as a meal of half-eaten food put into the stomach.

Open the Doors.—Where there are children, it is of great importance that rooms and entries should be of the same temperature, for certainly a large proportion of the chest and bowel afflictions of the young can be traced to sudden changes of temperature, especially when the little ones are in the habit of passing from over-warmed rooms into somewhat under-warmed entries.

There is no need to dilate on the subject of ventilation; but even where stoves are used and a certain ventilation is thus afforded, our remarks hold true; for there is no doubt that all ordinary modes of burning coal pours into our rooms so much of the inodorous, tasteless carbonic oxides and other gases that we can hardly have too much fresh air with which to dilute it.

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SAN FRANCISCO:
Saturday, April 8, 1871.

## OUR WEEKLY CROP.

The Earthquake, at the commencement of our weekly trip through the ranch, causes us to pause for a moment for sentiment and reflection, to devote a short space of time to the consideration of Busy Idleness. From this, however, we are soon awakened by the sight of a new Steam Plow for Tule Lands, and hasten on to the Library of Mechanical and Scientific Progress.

By means of the knowledge here acquired, we are enabled to take a trip to Amador County, to visit the New Geyser Field of Montana, and to discover an Unknown World. Here we find an Important Letter for Miners and Farmers with regard to land matters and a collection of valuable Inventions.

We visit again our practical Manure heap, which we pass around in an ellipse which is accurately marked out for us by a New Ellipsograph, and permanently described by the aid of a New Press. Then we go to the Mulberry grove to ascertain what can be done in the way of Silk Culture in the Mountain Counties, and there we put on our agricultural eye-glass for a glance over the coast.

Chatty Mary Mountain is pleasanter company than ever this week, and Dr. Thomas as interesting as ever concerning Agriculture. There is a very sweet article on our Home Industries, and a number of solid articles on our Good Health.

Our lawn invites to a consideration of Grasses, and the Choice Poultry close at hand attract our attention to the lordly chanticleer. The Hay Rake passes us on its errand of usefulness, and we return again to the mulberry grove to get some new and important hints on Silk Culture. Meantime we cast a glance at our Castor Beans, some of which have reached the enormous hight of thirty and thirty-five feet.

The ladies bring us the accustomed lunch of story and song, as we join the Home Circle, and of practical Domestic Economy. Refreshed by the many Kind Words from every quarter, we glance at the New Publications, and the Market Reports, and are ready for another week.

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A NEW HOME MANUFACTURE.—While not excluding ourselves in a provincial manner from the rest of the world, it is wise to help ourselves as much as possible by fostering home industries. The beginning of a new home manufacture should be encouraged, as it will redound to our own personal benefit hereafter. We have room here on our coast for many a factory, and extensive manufacturing establishments are needed to develop our resources. And they can be made to succeed. When Mr. Selby proposed erecting shot works, a failure was predicted. These works now not only furnish our home supply, but even export in considerable amounts. This is one example of many. They are now engaging in another manufacture, that of a composition water pipe, which is claimed to be lighter than the ordinary lead pipe, cheaper than iron, and very strong and serviceable; and to this fact we wish to call attention. Selby & Co., 116 California street, have samples for examination.

## HERBAGE AND FORAGE PLANTS.

In continuing our remarks under the above head we would here call attention to the fact that some varieties of the grasses are more economically adapted to be consumed as pasturage, while others are better suited for dry feed. Some develop their economic properties more fully when grown alone; others when in combination Some develop early spring herbage; others late. Some are most nutritious in spring; others at the flowering period, and again, others still at the autumnal season. Some delight in moist soils to the extent of becoming aquatic or semi-aquatic plants; while others will only perfect themselves on dry or almost arid lands; and possibly, what will perhaps be calculated to astonish the reader, there are a few that have been found to flourish better on poor, as compared with rich soils; and lastly, a few varieties only grow to perfection beneath the shade of trees.

Simple, therefore, as the study of grass appears, it will be found on close examination, to be really a most comprehensive and intricate one. In a previous number we pointed out its importance.

As an incitement to others it may be well to call attention to what has been accomplished, by a single individual, in promoting a general interest on the subjects associated with the best cultivation and the appropriate selection of grasses for the particular modes in which it is desired they shall be consumed, whether as pasturage or for dry feed.

About the commencement of the present century, alive to the importance of the subject, that enthusiastic, enlightened and liberal patron of agriculture, Francis, Duke of Bedford, instituted a series of experiments at his family seat in Woburn, England, on all matters relating to the growth and qualities of grasses, which are now known to science under the denomination of "The Woburn Experiments." The cultural department was placed under the superintendence of the well known Mr. Geo Sinclair, and the chemical one under the world-renowned Sir Humphrey Davy. This was the first step, and it was a grand and successful one towards combining *practice* with *science* for the promotion of economic agriculture; and continues to be by far the most princely present ever made in aid of that important art and science. Its cost was solely paid by the noble donor, and amounted to more than $100,000—possibly double that amount.

### A Hint to California Land Owners.

We have between this city and the Rocky mountains several corporations that have obtained possession of grants of land, whose areas exceed that of many kingdoms, and who are consequently deeply interested in this connection, as rapid sale, and increased appreciation in value of their lands are of great importance to them, and we cannot see any way by which these objects can be better obtained, than by devoting some of the means at their disposal towards the patronage of trials to be made by one or more experienced parties, who have devoted years of attention to the subject. We do not expect a magnificent expenditure to be made, as the one we have instanced; nor do we anticipate any cash outlay. But of land, these incorporations possess what, for all practical purposes will in a great measure be for many years a surplusage, and no injury would be felt by them, while the chances are that great benefit would be derived by them, if an infinitesimal portion of their immense domains were devoted and given, by way of remuneration, to such party or parties as might be selected to conduct the experiments recommended, on the express condition that the experience so obtained and all necessary information shall be given from time to time to the general public; which might also be accompanied by special remarks on the adaptability of the lands of such companies for particular culture, which would in this manner supply a most valuable amount of information to immigrants and those contemplating immigration.

## CHOICE POULTRY.

Mr. George B. Bailey, of Oakland, received by overland railroad, on Friday last, 15 light Brama fowls (from the Autocrat strain) and a trio of Buff Cochins. These fowls are of mammoth size, and came through in most excellent condition. The Brama roosters, would dress about 12 pounds and the hens 10. The 15 Bramas sold, in one lot for $300. The Cochins, which are really beautiful to look upon, are not for sale; it being the intention of Mr. B. to keep them in his poultry yard, for breeding purposes. The freight bill on the whole lot was $140. They are all last summer's chickens, being but about eight months old. The price at which the Bramas were sold—$20, is just twice the figure at which Mr. B. sells the pure stock bred at his yard, in Oakland. At the same place where the above were on exhibition on Friday, corner of Sansome and Merchant streets, Mr. C. M. Nichols, the pioneer poultry raiser, had a display, in contrast, of a trio of African bantams, about the size of large pigeons, and another of Houdans, somewhat larger. Both these lots were pure bloods, and were for sale, the former at $30, for the trio, and the latter at $25. These latter fowls were raised at Mr. Nichols' poultry yards, Fruit Vale, Alameda county, where he has one of the most complete establishments of the kind on the Pacific coast, a description of which we hope to give, from personal inspection, at an early date.

## Bay District Horticultural Society.

This society held a special meeting last Saturday. It will hereafter hold meetings, open to the public, on the second Saturday of each month, at No. 622 Clay street.

Arrangements have been completed by which the Society will be enabled to give a horticultural exhibition in August next. The Society has negotiated with the Mechanics' Institute, to build a wing to the main building of the Pavilion, forty-five feet wide and 300 feet long, on Geary street, which is to be under control of the Horticultural Society, and is to be connected by three long passage-ways with the main building. This exhibition will comprise plants, flowers, fruits, vegetables, seeds, etc.

The premium list is already completed, and prizes to the amount of six hundred dollars will be offered. It is proposed to introduce some new features in this exhibition, and to make it surpass anything of the kind ever given here. The office of the Secretary is at No. 418 Kearny street. Applications must be made to the Secretary for space in the Horticultural Exhibition. The rules and regulations, together with the premium list will be ready in a short time.

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ACADEMY OF SCIENCES.—At the meeting, last Monday, Mr. E. Durand presented specimens of chrome ochre and of cinnabar with asphaltum from the New Almaden mines; also a compound of the sulphates of the binoxide and the protoxide of mercury which is found in the condensing chambers of the quicksilver furnace. Remarks on the earthquake, which occurred here last Sunday evening, were made, and there followed rather an unprofitable discussion as to the cause of earthquakes. A species of small crab, found in Half Moon Bay, was presented by Dr. Gibbons. Dr. Cooper was elected Corresponding Secretary *pro tem.*

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MELON SUGAR.—The articles by Mr. Wadsworth, on the manufacture of melon sugar, are attracting considerable attention in various parts of the State. We would call especial attention to a farther reference to this matter by Mr. W., in a communication which will be found on the 215th page of the present issue.

## THE CROP PROSPECT.

The rain which has fallen the past week came most opportune, and just in time to save a large proportion of our grain crops from a most disastrous failure. It has been worth millions of dollars to the State, and has been received with feelings of gratitude and thankfulness. About two inches was received in this city and vicinity, a much larger amount to the north, but less at the south. Up to the present time of writing, Thursday noon, we hear of no fall, whatever, to the south of Tulare or Monterey. The total fall in this city, to date, is now about 13.85 inches.

This rain came too late to save the grain on some of the drier portions of the San Joaquin valley; but it has been of incalculable value to the State generally. The effects of the threatened drouth, as will be seen by our to-days report, had already began to be felt in the grain market.

The question of crop is now pretty well settled—the only anxiety being with regard to surplus for export. This surplus will undoubtedly fall considerably short of that for last year; but the increased price, and decreased expense in sacking and hauling will bring the aggregate profit fully up to last year's figures. One thousand sacks of wheat at last year's prices—say $1.40, after allowing 25 cents for bagging and hauling netted $1,150. Five hundred sacks at this year's prices—say $2.50 will net $1,125, within a small fraction of twice as much per bushel as last year.

As we shall have a surplus for export, our home market must be governed by the price of wheat in Liverpool; and we have the opinon of Mr. Kains Jackson, of London, the highest authority in relation to the matter, that the present prices *must* be kept up, under all common circumstances; while if political affairs become further complicated, or other more unfavorable conditions occur, prices must advance.

## ANSWERS TO CORRESPONDENTS.

DEFERRED COMMUNICATIONS received the past week—A short paper on "The Ferret and its Usefulness;" "How to Destroy Gophers," and an interesting letter from Montana.

PLANTING MULBERRY SEED.—A subscriber from San José, desires to know how to collect, care for, and plant the seed of the mulberry tree. He thinks some of our nurserymen or large silk-growers might be able and willing to give information on this point. We are not aware that the seed has ever been planted on this coast, for the reason that the tree is more easily propagated from cuttings. Perhaps, however, some of our tree culturists might feel disposed to give the information required, through the PRESS.

CATCHING MOLES.—A correspondent from Oakland is desirous of learning how he can best catch or destroy the moles, which are very annoying and destructive on his grounds. If any person has any valuable experience in this matter, we should be pleased to communicate it through the columns of the PRESS. Will any of the expedients usually adopted for destroying gophers, answer also for moles?

CRANBERRY PLANTS.—We have an enquiry for cranberry plants. Who in this State has them for sale?

JERSEY STOCK.—In the PRESS of March 25th, in speaking of some pure and mixed Jersey stock, owned by Mr. Edwards, of San José, we inadvertently wrote "quarter breeds," instead of "three-quarter breeds."

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THE RAIN-FALL OF MARCH, 1871, has been the least recorded for that month, by Dr. Logan, or any other observer in this State, since 1849. The lowest previously given for Sacramento, was 0.481, in March 1865—that for this year being 0.690 The present is the third year during the past 21 years in which less than one inch of rain has fallen in Sacramento.

## SILK CULTURE.

At the appropriate season we discussed in the RURAL PRESS the different modes of planting mulberry trees and the cultivation of the same; also the preparation, planting and cultivation of cuttings. The season for planting is now past and we will here remark that during the past planting season there has been more mulberry plantations set out in the State than in any previous year. Those who have commenced in the culture this season have done so after due deliberation and have exercised caution and prudence in the matter. Very few have set out over two thousand and many not over five hundred trees. They propose to feed a few worms this season to learn practically the art of feeding and caring for them, and to test the adaptability of their particular localities to the business, so that by another season they will be prepared to enter upon the new industry with the advantage of one season's experience.

We promised that as the season advanced and the time arrived for the different operations of the silk culturist we would discuss those operations so as to give to all the readers of the PRESS the benefit of our experience.

### Silkworm Eggs.

It is a universal law of nature, both in the animal and vegetable kingdom, that "like produces like." So with the silkworm. If your eggs are good—the product of strong and healthy worms—the worms from them will be strong and healthy. If on the contrary, your eggs are the product of diseased or weak worms, from any cause, you may expect your worms to partake more or less of that same disease or weakness.

This brings us to remark upon the most unfortunate circumstances connected with the initiation of silk culture in our State. The first eggs imported and used here were from France. They were of the variety known as the European Yellow Cocoon or French worm. This variety of worms was introduced into France in the 14th century, and up to a very recent period, at least to within twenty years past, it was the great study and care of the French people to keep them pure and unmixed with other varieties.

Thus it will be seen that for centuries they were bred in and in, and all France and Italy were stocked with silkworms of one common origin.

Every farmer knows how fatal it is to the health of his chickens, if he neglects to change or cross them even for a term of four or five years. A dozen years of constant breeding in and in, of any one particular breed, without renewing the stock from other sources, will almost certainly render a yard of fowls entirely valueless, if they do not all die off.

Is it any wonder then that the silkworms of France and Italy became weak and diseased? Is it not rather a wonder that the kind did not become extinct, centuries ago?

The practice of the Chinese and Japanese has been entirely different. They have kept up a constant mixing and interchange of worms from different localities and of different varieties. All who have had any experience with worms imported from those countries must have become convinced of this fact, as there has never been a lot of eggs imported into the State from China or Japan, that did not prove to be a mixture of some three or four different kinds, including annuals, bivoltines, and trivoltines. The first lot of Japanese eggs hatched in the State, were presented to Mr. Prevost by a Frenchman in 1866, and were hatched and fed by him in the Pavilion at Sacramento, in 1867. They proved to be bivoltines and were the first of that kind of worms he had ever seen or heard of. We do not remember to have seen a man much more surprised and astonished than he was, when some eight days after he had packed away the eggs made from them he found them all hatching again.

Since that date we have hatched and raised more or less worms from eggs imported from Japan each year, and all have been more or less composed of mixed varieties. In addition to this evidence of the parties of these people in reference to this subject, we are informed by the most intelligent Chinese silk-growers in the State, that it is the annual custom to interchange eggs between China and Japan, and that many of the eggs heretofore shipped from Japan to Europe have been produced in China. The Japanese Merchants buying them in China and making a good profit in the trade.

From the same source we also learn that the Chinese have a way of making any silk eggs hatch as many times in a year as they desire; and that in the southern portions of China they make as many as six crops of silk in a year. Their worms frequently spin these cocoons in eighteen days from the day of hatching. The nights being warm they have no recourse to artificial heat, but keep up the feeding during the night, as regularly and plentifully as in the day time. This accounts for a universal disposition among the Chinese to over feed the worms here, where the climate, and especially the nights are cooler. They, or many of them, cannot understand why the worms do not eat as rapidly in California as in China. This is the most serious objection to the employment of Chinese in cocooneries, and those who *do* employ them will do well to watch them in this respect very closely.

### Chinese Secret.

The art of forcing the eggs to hatch at pleasure is a great secret among the Chinese and it is said only a few are able to practice it with success. It is in fact a sort of profession or special gift, those who are masters of the art being looked up to as men of some superior endowment. They go about the country practicing the art and commanding very great fees for the same.

We have met but two Chinamen in this State who had any pretentions to a knowledge of the art, and when they were called upon to put it in practice both failed. They attributed their failure to a want of practice in the climate of California, which they said, being different from that of China, where they had practiced the art, required that the eggs should be treated accordingly, and it might require many trials before meeting with success.

The plan of operaton is as follows:—While the moths are laying, they are confined very closely under a dark covering. When this operation is finished the moths are thrown away and the eggs remain covered until the next morning early or about twelve hours from the time they are laid. At this time they are dipped, together with the cloth to which they are attached, into warm water for a certain length of time. Then taken out, dried in a warm place until they hatch, which they say should be in about eight days. The secret of success is said to be in the relative degrees of heat in the water and atmosphere, and the length of time that the eggs should be held in the water.

Although the experiments we have witnessed failed to make annual eggs hatch like bivoltines, in the same seasons they were laid, yet the change in color and form through which such eggs passed, were much more similar to the changes that usually take place in bivoltine eggs than those annuals. So much so that we are of the opinion the thing can be successfully accomplished.

### The Freezing Process.

Reason would lead us to adapt an entirely different process to arrive at the same result—the forcing of annuals to hatch twice or more in the same season, from that practiced by the Chinese. It would seem that if annual eggs were artificially put through a succession of degrees of heat and cold similar to those of the seasons they might be made to hatch the same as they do upon the return of spring. We have never tried or seen this experiment tried but are assured that it has been successfully accomplished both in France and America. We can see no reason why an artificial winter and spring should not bring about the same changes in the eggs as a natural one.

### The Advantages.

In this State where the seasons are long enough to produce two crops of silk, and the trees produce sufficient foliage for that purpose it would prove of great advantage to be able to hatch the annual eggs the second time, since the annual make so much stronger and better cocoons than the bivoltines or trivoltines. It would give us a double crop each year and would more than compensate for any disadvantages we now labor under in consequence of high priced labor.

## Improved Hay Rake.

Among the late improvements which California has made in agricultural implements, improvements which have an actual importance for all on our coast in that they aid in the production of the country, an improved hay rake, recently patented by Mr. O. Bonney, Jr., of this city, deserves attention.

THE BONNEY PATENT IMPROVED HAY RAKE.

This rake is designed for gathering hay or gleaning on any ground, and from its construction, it is claimed, will save double the amount of hay on rough land that can be saved by either the old revolving or the wire tooth rake, besides delivering the article in a superior condition. It is, moreover, very easily handled by both man and horse. The illustration gives a good idea of the device, several of the important points of which may here be touched on.

The teeth are adjustable, being held in a malleable shank by set nuts, and can be run out as they become worn, two feet being the length generally used. This is an advantage over stationary teeth which, when worn one season, become so short often that their holding capacity is very limited. The teeth, moreover, are double-pointed, so that they can be changed, point for point, giving the advantage of two sets of teeth.

The spring bar, *A*, held by the steel spring, *B*, and a thumb-nut, is designed more especially for cocking or bunching hay, but can be used to advantage in raking any ordinary ground. On very rough ground, the bar should be thrown off, which is done quickly by turning off the thumb-nuts, and raising the lower end of the springs. The bars which hold the teeth are changeable in the frame, allowing the required inclination of the teeth to the ground.

The dumping arrangement, connected with the seat, and operated by the driver's weight, allows one to handle the rake with the greatest ease, being connected with the lifting beam, *C*, through the changeable link or strap, *I*, so as to suit the weight of the party driving. The hand lever, *O*, is thrown under the seat to take the weight of the driver when simply raking, an operation represented in the cut.

There are several other points in the machine for which superiority is claimed. This rake is now in use at Sherman Island and about Rio Vista, raking tules and working in localities where other rakes have been found impractical. It took the first premium at the last State Fair in Sacramento. Patented Nov. 23, 1869, and Jan 31, 1871.

The manufacturer is Mr. O. Bonney, corner of Mission and Beale streets, San Francisco, whom address for further particulars.

## THE CASTOR BEAN.

The castor bean crop of this State will be much larger this year than ever before. The conditions of the soil and climate of California seem to be particularly favorable for its culture; and there is scarcely any other crop which can be made so sure or profitable with so small an outlay of capital. The plant throws a tap-root to a considerable depth, thereby rendering it much less liable to be affected by drouth than the common bean, or, in fact, almost any other product of the garden or field. Before a person enters largely into its culture, however, he should test the same thoroughly, on a small scale. In fact this rule should be applied to all new products of the farm, or such as the farmer may not be practically acquainted with.

The San José *Mercury* gives the following experience of Mr. Frank Kingston, of Santa Clara, in the culture of this bean, which will be found interesting, if not useful to all who are about entering upon its cultivation:—Mr. K. planted about eight acres to beans. They grew finely, but did not ripen evenly or well. They ripened mostly in September, when the sun was not hot enough to burst the seed pod, rendering the separation of the beans from the pod a work of great difficulty. He was obliged to place them in a drying house, and then was not wholly successful. Mr. Kingston thinks that while this bean may be grown profitably in the vicinity of Los Angeles, and further south, our summers, in this section, are not hot enough for it. It requires, to be grown successfully, a good corn country, which this valley is not.

With the *Mercury*, we should be pleased to learn the experience of other experimenters on the same subject.

### Castor Bean Trees.

It may be interesting, in connection with the above, to note the fact, stated by the Los Angeles *Star*, that "on the place of Don Pio Quinta Davila, there are three castor bean *trees*, from 30 to 35 feet in hight, and from 4½ to 6 feet in circumference at the base of their respective trunks. They are said to be fully ten years old."

COMMENDABLE LIBERALITY.—The Humboldt *Register* says that the Central Pacific Railroad Co. has made a very liberal offer, and one which will enable every property owner in Winnemucca to procure shade trees free of cost. D. H. Haskell, town-site agent for the company, is authorized to supply the citizens with 250 trees of the mulberry variety, and deliver them at the depot in that place free of cost, to all who will promise to set them out and care for them. Would it not be to the interest of the company to make a similar offer to every town and stopping place along the entire route of the road?

A "STEAM GIRL" is the latest Parisian invention announced. This "steam girl" is not a "fast" young lady, but a new machine for paving, invented by the engineer, M. Alphaud.

BY OUR LADY EDITORS.

## "AS THE TWIG IS BENT THE TREE IS INCLINED."

[Written for the PRESS.]

BY NELL VAN.

"Mamma" said Susie, "why did you look so stern, and speak so cross to little Eva this morning when you found her sitting under the breakfast table with the sugar bowl and a spoon eating sugar? She looked so funny with her face all smeared, and seemed so frightened to be found out, that I don't see how you could help laughing." "My dear little girl" said mamma, "we must not laugh at everything that seems funny, when the consequences of making light of such proceedings is so dangerous. Suppose I should take no heed of such funny little ways and my child should grow up a pilferer and a thief, would not the fault rest upon my shoulders, who should have taught her better by correcting her sin before she seemed to realize the full extent of it? Remember our greatest faults have but small beginnings, and if crushed in the outset their growth will be retarded till reason gains full sway.

The contents of the entire sugar bowl might not have had a very serious effect upon little sister, though I believe, with many learned men, that sweets undergo fermentation in the stomach, generating a certain gas which is disastrous to the teeth, causing them to decay early. But in this instance the greatest danger to my mind was from the moral standpoint, and it was my aim to inspire the little darling with a fear for wrong-doing by making it a matter of the utmost importance. I have known children no bigger than you and Eddy, who thought nothing of going to mother's cake-box, and nibbling at the cake, and taking a handful of raisins now and then. Now all this is very wrong, and is but the beginning of what often ends in serious thefts. It does not seem like stealing to take nice things from the pantry without leave; yet when we consider that what we find there belongs to mother and not to the family until placed upon the table as a free gift, it is certainly very wrong for children to help themselves without first gaining her consent.

There are a vast number of instances wherein people brought up in the best society have been actually found stealing laces and other goods from the stores where they go to buy. Many have became so expert that they are never detected, while others are looked upon as partially insane; and in the newspapers we often see cases of kleptomania, as this morbid or insane desire to steal is called, which is becoming of such frequent occurence among our educated women.

I consider this partly owing to the laxity of government in the mothers of the land who do not lay sufficient stress upon the first petty thefts committed in the household. Your aunt Rebecca was telling me last week of a beautiful lady, the wife of a wealthy citizen of New York, who has such a passion for stealing that her husband, becoming aware of the fact, charged the proprietors of the stores where she dealt to watch what articles she thus purloined and put down in the bill without her knowledge, and he would settle for them.

Without doubt that lady's education had been carefully attended to, and her accomplishments were a source of gratification to herself and friends; but with this great fault how could she be respected or admired? Such instances as this, my child, should teach us that "as the twig is bent the tree is inclined;" for doubtless this person, in her early training, had no idea of the rights of property, and was in the habit of taking what did not belong to her in the family as well as in the pantry, and so she grew up a thief, or what is genteelly called a victim to kleptomania. Go now, my child, and take sister out for a run in the sunshine, which is so glorious and health-giving, and to-night when you little folks are preparing for bed I will tell you a true story on this same subject."

That night when mamma was undressing baby Eva, a little curly-headed boy sidled up to her, and laying his head caressingly upon her shoulder, said he felt like going to bed himself, and wondered if she was going to tell them the story she said she meant to. Susie had told him about Eva's little caper under the breakfast table, and what mamma had said about little fingers picking at the cake and goodies in the pantry; and looking up into her eyes with a roguish toss of his head he said: "That was me you meant, mamma, for I have been a little thief; but I did not think it was so wicked till that day you met me on the stairs and asked me if I knew who had been at your cake picking at the frosting; and if I knew that thieves and robbers begin by stealing such little things. Since then I don,t do so any more, for I don't want to grow up to be a stealer, and grieve dear papa and the other kind angels who are watching over us.

But mamma, I can't help wondering why little children want sweet things so bad, if they are not good for them. Don't you know aunt Maria said one day she believed sugar was good for children, and she thought mothers ought to give it to them, for those who never eat sweet things, have just as poor teeth as those who do." "Yes, my little man" said mamma, "aunt Maria and I do not agree on that subject, and we do not know which is in the right. We mean to do the best we know how for our little folks, and they can study out as they grow older what best agrees with them. But the story I meant to tell you to-night, is about your uncle Edwin, for whom you was named, my son. God grant you may grow up as excellent a man. Go and call Susie to come up to bed while little Eva gives dear grandma a good night kiss before I carry her up."

"Now for our story: When Uncle Edwin and your mamma were children, we lived in the city of New York, which is a great many miles from our California home. Our papa was a very kind and affectionate man, and seldom found fault with his children, except for some great misdeed. If we did anything wrong, mamma was sure to find it out and punish us, after her fashion, by either scolding (as we called it) or whipping us, while papa would never interfere unless upon some very serious offense when he was appealed to. Then we were led away and talked into penitence. Never shall I forget the agony I have suffered upon seeing the tears steal down his cheeks while endeavoring to show us the evil consequences of such faults if persevered in. I would rather a thousand times take a whipping than be sent into papa's study for a half hour's talk. Edwin was unsually a very good boy, but he had commenced going to school and had formed the acquaintance of some vicious companions. One day word was brought to us that Edwin had given one of the neighbor's children two bright half dollars, and seemed to have other silver change which appeared as if he had not come honestly by it. This caused great concern in the family. Edwin was questioned as to how he came by the money to which he replied that he had found a five dollar bill in the street and had taken it to an exchange office and had it changed into silver. Upon being cross-questioned, however, he made some contradictory statements which caused suspicion that he was telling a falsehood.

This case was promptly brought before papa, and how very serious he looked when he said: "Can it be possible that my son can be guilty of falsehood. He that will lie, will also steal, and I find that a five-dollar bill has been taken from my pocket-book. Can it be that little Edwin, whom I have ever looked upon as such a truthful boy, has proved himself a thief, and has lied to conceal his fault," after having stoutly denied his guilt? How earnestly the little fellow plead for pardon, and begged that he need not undergo the punishment which he well knew he deserved. Papa was resolved that such a crime should not go unpunished. "Your whole future, my son," said he, "may depend upon the impression this first great wrong and its punishment leaves upon your mind. I *must* do what I consider my duty, and it will then rest with you whether you become an honest man or a thief. Consider the deep responsibility resting upon yourself, and strive to choose wisely. As long as you remain under my roof, I shall watch carefully and punish severely any further attempt to rob or speak falsely, and I shall not expect to be compelled to punish you for a similar offense very soon. Poor Edwin was sorely distressed, and promised faithfully never again to commit such a crime, and he never did. "How old was he then?" asked Susie. "Well, let me see, he must have been upwards of eight years old, for I remember he went away to boarding school before he was nine." "And did he get whipped Mamma?" said Eddy. "Oh, yes, darling. Papa gave him a severe whipping which he has never forgotten, and he will tell you the tears his father shed, hurt him worse than the blows. From that day to this your uncle, has never been guilty of a mean action, while lying and stealing are the farthest from his thoughts in his dealings with men. In fact he has no desire to enter into mercantile pursuits, lest he might find it for his interest to take advantage of his fellow men in the way of competition or in overestimating the value of his goods. This, my children, is another illustration of that beautiful proverb, "As the twig is bent the tree is inclined."

## BEAR YE ONE ANOTHERS' BURDENS.

"Bear ye one anothers' burdens"—softly it fell from the eloquent lips of the minister, floated down the dim old aisles where the sunlight lingered, as a fond benediction, rested in gold and crimson shadows, thrown from stained glass windows on the soft velvet, on the costly sable, on the rich feathers and rare old lace.

But the sermon is over and there is a soft stir through all the church—an unclasping of pearl and velvet-bound books, for this, dear reader, is a rich congregation —a very select congregation, and very suitable they should hear the text,—"bear ye one anothers' burdens." And did they profit by it? yes, indeed! You can see that if you notice the plentiful supply of silver the beggars outside the door receive. What if the costly robes are swept aside by delicately gloved hands; money is money all the same, and that is all they (the beggars) ask.

So the proud congregation go home satisfied; they have attended services; they have given to the poor; yes, this day at least they have borne one anothers' burdens. Soon they are seated at the bounteous lunch, sipping the rare old wine, feeling so satisfied—satisfied for what?

Is this bearing one anothers' burdens; is it any credit to drop a dollar out of the thousands, perhaps hundreds of thousands, you call yours; dropping it with an up-drawing of silken skirts and soft embroideries; is this charity? Oh God, keep me from such! Is it bearing one anothers' burdens, when Monday morning comes, and brings your timid seamstress to her day's work, to treat her very much as you do your sewing machine, only with not near so much care? To invite her to your table and then quietly talk *past* her, making her feel entirely out of place, and wishing herself back at her work, instead of at what ought to be to her a pleasant meal? But then when her day's or her week's work is ended you pay her punctually. That's what she came for, isn't it? Surely you have done your duty.

It is just the same with the girls who do your housework, perhaps in a little different way, still the principle is the same. But then you know one must keep them in their place. Oh, ladies! pray remember you are responsible for yourselves, keep your own places truly and thoroughly, and those about you will most assuredly keep theirs. Yet, thank God, to all this there are exceptions,—exceptions so broad and deep it makes me glad to think of them. I can see them now—those sweet christian women, shedding joy and peace around them wherever they go. Ladies they will always be, whether in silk or in cotton. And, after all, there is one rule which will carry us safely through this life, as regards our treatment of others, it is the old golden rule, "Do unto others as you would that they should do unto you." It may be hard to follow, but we can at least try, and weighing our treatment of others by this standard, in word and deed, we shall at last in truth, "bear one anothers' burdens and thus fulfil the law of Christ."

CLAIRE MASTERSON.

DON'T LIKE IT.—It is well known that the Territory of Wyoming recently adopted "Woman Suffrage." The late elections in that Territory were conducted under that law; and now we are told that the people of that Territory are about to abandon woman suffrage as both mischievous and impracticable.

## THE LITTLE DRAWER.

There's a little drawer in my chamber
Guarded with the tenderest care,
Where the dainty clothes are lying,
That my darling never shall wear.
And there, while the hours are waning,
Till the house is all at rest,
I sit and fancy a baby
Close to my aching breast.

My darling's pretty white garments!
I wrought them, sitting apart,
While his mystic life was throbbing
Under my throbbing heart.
And often my happy dreaming
Breaks in a little song
Like the murmur of birds at brooding,
When the days are warm and long.

I finished the dainty wardrobe,
And the drawer was almost full
With robes of the finest muslin,
And robes of the whitest wool.
I folded them all together,
With a rose for every pair,
Smiling, and saying, "Gem fragrant,
Fit for my prince to wear."

Ah, the radiant summer morning,
So full of a mother's joy!
"Thank God, he is fair and perfect,
My beautiful, new-born boy!"
Let him wear the pretty white garments
I wrought while sitting apart;
Lay him, so sweet and so helpless,
Here, close to my throbbing heart.

Many and many an evening
I sit since my baby came,
Saying, "What do the angels call him?"
For he died without a name;
Sit, while the hours are waning
And the house is all at rest,
And fancy a baby nestling
Close to my aching breast.

## WOMANLY MODESTY.

Man loves the mysterious. A cloudless sky, the full-blown rose, leaves him unmoved; but the violet which hides its blushing beauties behind the bush; the moon when she emerges from behind a cloud, are to him sources of inspiration and pleasure. Modesty is to mark what shade is to figure in painting—it gives to it boldness and prominence. Nothing adds more to female beauty that modesty; it sheds around the countenance a halo of light which is borrowed from virtue. Botanists have given the rosy hue which tinges the cup of the white roses, the name of "maiden blush." This pure and delicate hue is the only paint Christian virgins should use, it is the richest ornament. A woman without modesty is like a faded flower diffusing an unwholesome odor, which the prudent gardener will throw from him. Her destiny is melancholy, for it terminates in shame and repentance. Beauty passes like the flowers of the albo, which blooms and dies in a few hours, but modesty gives the female charm which supplies the place of the transitory freshness of youth.

THE FIRST YEAR.—Dr. Stone, of this city, in a recent lecture, truthfully said: "The first year of married life is not usually the happiest. It takes time to adjust two lives to one another so that they will run smoothly. Each needs to learn how to adapt itself to the other, how to avoid dangerous ground, how to shun the sharp points that produce irritation, how to bear and forbear, and "keep the peace." That is not a lesson learned in the honey-moon. It is learned in the disturbed harmonies that leave a warning memory behind them, and show the safe and pleasant path. And the longer husband and wife live together, in a true bridal, the more uninterrupted is their peace."

MIXING WITH STRANGERS.—The effect of mixing with new people, who have new ideas and new methods of thought, is very salutary. Always to see the same people, do the same things, feel the same way, produces a stagnant condition of the mind and heart that is very distressing to behold. There are thousands of people who might be greatly benefited by getting away from home, if only for a short time, to mix with strangers, and be touched with the magnetism of the great world as it courses in its accustomed rounds. Nearly all need some change to get their minds and hearts enlarged and let in a little more of the great light of life. Outside influences are very valuable to those at home who have been well trained by the healthful influences in early youth, so that they can avoid the snares and pit-falls into which those who go blindly often fall.

A SMART GIRL.—A young girl in Troy, during four years past, has made $2,400 by her sewing machine.

# Domestic Economy.

## Healthful Economy in Bread.

Many people who now use fine flour altogether, would employ unbolted flour universally if it could be as readily obtained as the former and perhaps a little cheaper, as they would thus be able to combine economy with the true principles of dietetics. Millers generally charge as much for unbolted flour, as for that which is bolted; but there is no reason why they should do so. Unbolted meal ought to be considerably cheaper per sack or barrel, than that which is subjected to extra labor, and diminution by having a large proportion of that which possesses the least pecuniary value taken from it.

But there *is* a way to avoid this imposition—by simply buying the middlings (best shorts) and good bran which have been taken out by the miller, and mixing them together, in the same proportions in which they would exist if the wheat had been ground up without bolting. There is but little labor in mixing, while the cost of the mixture to make a given quantity of bread, will be much less than though the same quantity was made from fine flour alone.

No harm will arise, even if an undue proportion of bran finds its way into the flour, and any good domestic bread maker may produce as light, sweet and wholesome bread from such a mixture as can be obtained from the best bolted flour. Such bread is far more wholesome than the common white bread, and to dyspeptics it is indispensable. It is more digestible, and of the phosphates, so essential to the stamina of the system, it contains 17 pounds in 100; while flour, bolted to the degree of "superfine," contains only 6 pounds in 100—nearly three to one. These facts are of the utmost importance to every person, and deserve far more consideration than is usually allotted to them.

## How to Buy Meat.

Dr. Letheby gives the following description of good and bad meats, with which his duties as sanitary officer in the city of London have required him to be very familiar:—Good meat is neither of a pale pinkish nor a deep purple tint. It has a marbled appearance, from a ramification of little veins of intercellular fat; and the at of the internal organs especially is firm, hard and suety, and is never wet, whereas that of diseased meat is soft and watery. The feel of healthy meat is somewhat elastic and hardly moistens the finger. Diseased meat is soft and wet. Good meat has but little odor, and this is not disagreeable; whereas diseased meat smells faintly cadaverous. Good meat bears cooking without much shrinking or losing much of its weight; but bad meat shrivels up and boils to pieces; this is due to the larger proportion of watery and gelatinous material, and the absence of fat and true muscular substance in the meat. Under the microscope the fibre should be clear and well defined, and free from infusorial animalculæ; while that of diseased meat is sodden and tumid, as if it had been soaked in water, the transverse streaks are indistinct and wide apart, and animalculæ aboundin it.

## Delicate Hands.

"Why don't my hands look and feel, as it would seem that the perfect Author of all things would have them?"—How many a young man and woman have asked this question; and are troubled to know why it is that some persons have such bloodless hands, perfect nails—so free from *hang nails*, as they are called—while their own hands look so much like duck's feet or bird's claws.

All sorts of cosmetics, the most penetrating oils, rubbing and scouring the hands, pareing and scraping the nails, and cutting round the root of the nails, are resorted to, in hopes of being able to make their hands appear natural; but all avails nothing, and many a poor hand is made to perform all its manipulations *incognito*. About the piano, in the social party, in the house and in the street, the hand—the most exquisite, or what should be the most beautiful and useful part of the human frame—is *gloved*; and why? Because it is not fit to be seen.

Now, we are about to tell you of a positive cure. In the first place, never cut or scrape your finger nails with a knife or scissors, except in pairing them down even to the end of the fingers.

Secondly; use nothing but a good stiff nail brush, soap and water, and rub the nails and hands briskly with these, every morning the *year round*.

In the third place, I would have you know that surfeiting will invariably produce heavy burning hands. An impure state of the blood will manifest itself in the hands sooner than in most other parts of the body. If you have bad hands, be as sured that the quantity or quality (or both) of your diet, is wrong.

If you *try* to profit by these suggestions, you will, before one year expires, be no longer ashamed of your hands.

## Soups.

Generally the American people are not fond of soups; perhaps because they are seldom well made, and when they are, they are often complicated and expensive, requiring much money, time and attention to prepare them. These difficulties are avoided in the following receipts, and a few trials will enable any one of ordinary understanding, who will follow the directions, to produce cheap, wholesome and agreeable soups, without shins, knuckles, scrags, bacon or drippings.

Pea Soup.—Put one pint of split peas, which have been previously soaked in cold water four hours, into two quarts of pure soft water. Distilled, or filtered rain-water is preferable when it can be obtained. Let them boil for one hour, then add one carrot, one parsnip, one turnip, two onions, a small head of celery and a little mint, all cut small, and boil the whole another hour. Strain the soup from the vegetables, and thicken it with a little Indian meal, previously mixed in cold water; boil the whole for ten minutes more, and serve in a tureen with toasted or plain wheat-meal bread. (Mix the vegetables well, and put them into a mold or a basin and then into a vegetable dish, and serve it with steamed or baked potatoes, which are better than when boiled in water.)

Bean Soup.—Wash and pick one pint of white beans; steep them twenty-four hours in pure soft water, put them into a stew-pan (earthen, enameled is best), set them on the fire in two quarts of water, let them boil for two hours, then add two onions, one parsnip, one carrot, a little parsley and thyme cut small, a little cold boiled rice, and a little salt. Boil the whole gently for another hour, and serve it the same as pea soup.

Barley and Bread Soup.—Take three ounces of barley, one and a half ounces of stale bread crumbs, one and a half ounces of butter, one half ounce of salt, and one quarter ounce of parsley. Wash and steep the barley for twelve hours in one-half pint of water, to which a piece of carbonate of soda, the size of a pea, has been added; then pour off the water not absorbed and add the crumbs of stale bread, three quarts of boiling water and the salt. Digest these in a salt-glazed covered jar, in the oven, or boil them slowly in a well-tinned covered pan, for from four to six hours, adding the chopped parsley, with the butter, thirty minutes before the expiration of the time of boiling.

Hotch-Potch Soup.—Take four large turnips, one pound of carrots, one onion, one lettuce, and parsley. Put four quarts of water into a pan, set it on the fire, and put in the carrots and turnips, part of which must be grated, and the remainder cut in small square pieces with the other vegetables, all cut small; season, and let all boil very well together slowly. Young green peas may be added, part of them to be put in with the other vegetables and the remainder about an hour before the soup is ready.

Stuffing for Fish.—Butter slices of stale bread upon both sides; saturate them with wine, catsup, or cream, as preferred. Cut again in smaller slices, and lay inside the fish.

To Save Fruit Without Sugar.—Put in wide-mouthed bottles; fill up with cold spring water. Put them in a vessel of water up to the neck; boil half an hour; tie bladders or oil-skin over tight, or cork and seal while hot. Let them set until cold. Keep in a cool place. Use as soon as opened. Pack hay around while boiling, to steady them.

## Domestic Receipts.

Ointment to Soften the Hands.—One and a-half pound of mutton tallow, one ounce of tallow, one ounce of camphor gum, one ounce of glycerine, melted; when thoroughly mixed put away to cool. Rub on at night.

Tongue Toast.—Take cold boiled tongue, mince it fine, mix it with cream, and to every half pint of the mixture allow the well beaten yolks of two eggs. Place over the fire and let it simmer a minute or two. Have ready some nicely toasted bread; butter it, place it on a hot dish, and pour the mixture over. Send to table hot.

A Good Dish may be made, for those who like pork, as follows:—Take slices of home-fed pork and set them over a good frying fire in the spider with a little salt. Core and quarter some nice tart apples and add them to the pork, covering the spider with a lid. Cook till all is of a nice brown and serve hot, with the apples spread upon the slices.

To Preserve Figs.—Take the fruit when not quite ripe. Soak for ten or fifteen minutes in weak, warm soda water to remove the skin; or peel thinly with a sharp penknife. To one pound of figs use three-quarters of a pound of sugar. When the syrup is made, put in the fruit, and let it boil until half done; take them up, and spread on a dish, and put in the sun. Let the syrup simmer slowly, always carefully removing any impurities that may rise to the surface. When clear, put in the figs; let them cook until transparent, taking them out separately when done. Set in the sun again; if the syrup is not clear, skim again; do not let it boil away too much. Put the figs in jars, and when the syrup is cold, pour it over them.

The small kind, called the Celestial fig, is better unskinned.

## Mechanical Hints.

Gilders' Composition for Frames.—The composition at present in use is composed of best black glue, common resin and linseed oil. Some use resin oil, others boiled linseed oil. Nearly every manufacturer has a little change in the proportions. It is a useful material for many other purposes to which it might be applied were its mode of manufacture known. Take 10 lbs. of best black glue, boil it in the usual manner, but with very little water. It should be at least four times as thick as the glue used for general purposes. Take 6 lbs. of common resin, and pound to dust; add linseed oil, or resin oil, to form a thick paste with the dust; dissolve with heat, allow it to cool to about 212°, then add the hot glue together; combine it well. Have sifted whiting prepared, and combine the whole as in making bread; form it into cakes, and allow it to cool; at any time by the application of steam or heat, this composition may be brought into use.

Well Worth Knowing.—It is a matter worth knowing that a tree felled while in full leaf in June or July, and allowed to lie with their tops and lops on till every leaf has fallen, are then very nearly dry, as the leaves will not drop of themselves till they have drawn up and exhausted all the sap in the tree. The time required is from a month to six weeks, according as the weather is dry or moist. Trees so treated will never push again, or show leaves, as the stocks of winter-felled timber almost invariably do if allowed to lie, and thus prove that they have lost that vitality which the latter retains. The floor of a mill laid with poplar so treated and cut up and put in place in less than a month after the leaves fell, has never shown the slightest symtom of shrinkage or other indication of not being perfectly seasoned.

Billiard Balls may be colored red by first steeping in a mordant of nitro-hydrochlorate of tin, and then plunging them in a hot decoction of brazil or cochineal; afterwards placing them in cold water. Experiments will teach the proportions, which influence the shade of color. Tin mordant—Mix four oz. hydrochloric with one of nitric acid and one of water; dissolve in it, by small portions at a time, two drachms of grain

Turners' Cement.—Take Burgundy pitch and resin, one pound each; yellow wax, two oz.; whiting, one ball. Melt in a pot over a slow fire, pound the whiting and add it gradually to the other ingredients when melted. When thoroughly mixed, mould it into balls or sticks.—*Campin's Turning.*

# Life Thoughts.

Endeavor for the best, and provide against the worst.

How to be Nobody.—Spend your leisure hours in a drinking saloon.

The best humor is that which contains the most humanity.

Life is hardly respectable when it has no generous task, no duties or affections that constitute an object for loving.

In youth we should cultivate mind and character, that we may reap the ripened fruit thereof in old age.

Heroes may destroy tyrants, but it is wisdom and law that prevent tyranny and oppression.

In every pursuit, whatever gives strength and energy to the mind is favorable to the interests of knowledge and virtue.

Whatever limits or enfeebles the power of the mind, is hostile to the best interests of human life.

The best way to acquire the faculty of being at home in the best society, is to stay at home with one's wife and children.

Refined homes are the end of civilization. The work of all races for thousands of years is represented by the difference between a wigwam and a lady's parlor. It has no better result to show.

Genius in a man to-day is individualism of character and effort, the power one here and there is seen to have to light his own fire and drive his own engine.

Avoid those who take pleasure in exposing others to contempt by jeering, mocking, or mimicking. Keep off from such as from the heels of a horse that kicks all near him.

Friendship, love and piety ought to be spoken of only in the rare moments of perfect confidence be mutually to understood in silence.

Spurgeon says nobody is more like an honest man than a thorough rogue.

If a man sleighs all day, can he be said to kill time.

## What is Life?

As we sit at our table to-night, thoughts of the past, present, or future crowd upon our mind, and we naturally ask, what is life? What is there in this world of sin and sorrow that should claim our attention, or cause us to have one wish to continue here? We look around, and we behold suffering and sorrow; there lies the infant baby, who never committed one sin, writhing in pain; over it bends the kind mother weeping and feeling as none but a mother can feel. Yonder we hear a wailing which comes from around the couch of the dead. Sickness sorrow, anxiety, and fear stalk over the earth and meet us on every hand. Why should we not ask, what is life? and the answer comes from the heart, life is one continual scene of sorrow. But the grave awaits us, and in that house which God has prepared for all his suffering children the weary can find rest.

What is a Man?—No man is a man till he is tried; till he has passed through the ordeal: through deep water and scorching fires. A man surrounded with comforts, friends and relations, food and raiment; whose barns are filled with plenty, and whose presses gush out with new wines; who eats his fill; sits and reads, doles about taking his ease and pleasure; smoking his pipe and chewing his cud; is he a man? Far from it. A man is not a man until he is proved—has passed the ordeal—drank the bitter cup; risen above life's conflicts; mounted the billows of the sea.

Few traits of character are more valuable than the possession of good temper. Home can never be made happy without it. It is like flowers springing up in our pathway, reviving and cheering us. Kind words and looks are the outward demonstration; patience and forbearance are sentinels within.

True Courage.—A learned man has said that the hardest words to pronounce in the English language are, "I made a mistake." When Frederick the Great wrote to the Senate, "I have just lost a battle, and it is my own fault," Goldsmith says, "His confession showed more greatness than his victories.

Dr. Johnson said, when in the fullness of years and knowledge: I never take up a newspaper without finding something I would have deemed a loss not to have seen; never without deriving from it instruction and amusement.

## KIND WORDS.

EDITORS PRESS:—In common with many others on the Pacific Coast, your readers in Stanislaus County hail with delight the advent of your new paper—the PACIFIC RURAL PRESS. It supplies a want long felt on this coast; for all of us, it is an important step towards the advancement of practical knowledge and science in the departments of the field, the garden, and the barn; the orchard, the vineyard, the pasture, the dairy, and the poultry-yard.

While it is readily conceded that the various excellent periodicals on these subjects in the Eastern States, such as the *American Agriculturist*, of New York City, and others which might be named, contain much valuable information, for all who wish to see these branches of knowledge keep pace with the rapid advancement of other interests, in this age of steam and lightning, *they certainly do not supply the wants of our people of the west*, as does your admirable journal, in which you so successfully make our special wants your particular study. No rancher should be without it.

We are particularly pleased that you can issue sixteen pages a week of such interesting and instructive reading, handsomely illustrated by first-class engravings, on terms so moderate as to bring your paper within the means of all for whose benefit it is intended. When we consider the amount of solid reading matter it contains, its useful advertisements, and the attractive and costly style in which it is gotten up, we can safely rank it among the cheapest papers published, while it is assuredly one of the best.

It is a privilege to enjoy the weekly visits of the RURAL PRESS in our familes. May it meet with the permanent success which its object and merits so well deserve.

W. W.

Fairview District, Stanislaus Co., Cal.

A FRIEND and valued correspondent, whose initials will readily be recognized, writes from Vacaville as follows:—"I must add a postscript just to say that your last issue [that of March 25th] is worth more than the entire subscription price of the paper. There is much of good sense and of good taste in your columns of selected matter. I may not be allowed to say much about the original articles. Judicious readers think them to be of standard value. I may say that your skillful use of the scissors adds largely to the value of your journal.

I. R. T.

EDITORS PRESS:—I have believed, for a long time, that a first-class agricultural paper, which should be in some degree, devoted to the peculiarities of farming necessities in the Pacific States and Territories, would be a great desideratum; therefore I was highly pleased when you announced the PACIFIC RURAL PRESS; for as you had made the SCIENTIFIC PRESS the best mining journal in the United States, I had full confidence in your ability to make the former one of the best farming papers. Agriculture, as practiced on the Pacific coast, in and on both slopes of the Rocky Mountains, is so different from that as practiced in the Atlantic States, that the best Eastern agricultural papers have but little adaptability here. Our success is wrought under conditions and experiences so peculiarly our own, so at variance with eastern practice, that it seems fitting that we should have an organ that should point out for us the difference—the whys and wherefores, and deduce therefrom useful lessons from the very contrast.

[The above is from a correspondent at Deer Lodge, Montana, under date of March 14th. The same correspondent furnishes some interesting facts with regard to the agricultural progress of that distant region, which we shall give in our next.]

A FRIEND at San José writes as follows: "I wish you all success in your noble enterprise. Your paper is splendid, and has the hearty good will and good wishes of every one here."

GASOLINE EXPLOSIONS.—There were two explosions of gasoline at San José last week. In one instance a lady threw a small quantity of gasoline into a stove in which there was no fire. Soon afterwards, on approaching the stove with a lighted candle, the gas which had been formed took fire, with an explosion, greatly injuring the lady.

In the other case a gasoline lamp exploded while no one was in the room, setting fire to the fixtures, which, however, was quickly extinguished.

MANURIAL EFFECTS OF GYPSUM.—The following letter, addressed to Mr. Jansen, of this city, and written from Minnesota, Sierra County, under date of March 11th, 1871, shows the value of gypsum for vineyards, grass, etc. Gypsum is one of the cheapest manures obtainable on this coast, and should come into more general use both as an absorbent in stables, and for direct application.

MR. JANSEN, *Dear Sir:*—I am in receipt of your letter of date 23d ult., and now reply regarding the gypsum. My experience is this: On grass it is the best and cheapest manure I can use. On grape vines no person would believe unless they saw with their own eyes the great improvement by a slight dressing. The leaves are larger, and a darker green, and the fruit a third larger. On my hop yard, mixed with guano, the result was highly satisfactory. On potatoes it will keep off or kill the grubs, worms, etc., and is a good manure when applied to the hill or drill. Respectfully yours, ANDREW T. SMITH.

S. F. ART ASSOCIATION.—This new association is rapidly getting under way. A special meeting is called for Tuesday, the 11th inst, at 7 P. M., to be held in a room adjoining the library of the Mercantile Library Association, for the election of members and other business. A full attendance is requested. All lovers and patrons of art desiring membership should send in their names to any one of the members or officers of the Association, or, if not personally acquainted with them, to the Secretary, Frederick Whymper, room 11, Donahoe's building.

PLOWING IN THE MOUNTAINS.—The Alpine *Chronicle* says: "Our farmers are all busy plowing and putting in their crops. If they do not find a home market next fall for all their products, it will not be because our mining prospects at this time do not warrant a belief that their hopes in this particular will be fully realized." The mountain farmers are happily free from the dangers and damage from drouth which lately so seriously threatened the farmers of the great valleys of the interior and Coast Range.

THE SANTA CRUZ TIMES has entered upon its 9th volume. The *Times* is a well conducted paper and presents every indication of a successful journal.

THE EVENING EXPRESS is the title of a new daily paper which has just made its appearance in Los Angeles. It is well filled with local and general news.

THE SAN DIEGO UNION is now issued daily. It is a spirited and well filled sheet, and the citizens of the new terminopolis should give it a cordial support.

THE NORTHERN ENTERPRISE, published at Chico, Butte county, has just entered upon its third volume. That *Enterprise* is one which ought and doubtless does pay.

THE NEVADA NATIONAL GAZETTE has entered upon its third volume. The *Gazette* occupies an important position among the interior journals of the State, and fills it well.

MAP OF YOLO COUNTY.—Mr. Henning is preparing a map of the County of Yolo, which is pronounced very correct so far as completed, and has been adopted by the Board of Supervisors. The map will soon be placed in the hands of the engraver and will be furnished and mounted in the best style by A. L. Bancroft & Co. Every county in the State should have its particular map. Such maps are of great value.

IMPORTANT RAILROAD NEGOTIATIONS.—The report is circulated that negotiations are in progress for the purchase of the S. F. and Northern Pacific Railroad by the Cal. Pacific.

WOOL SHIPMENTS BY RAIL.—Five car loads of wool, of this spring's clip, left Sacramento for the East on Monday last.

## SANTA CRUZ FARMERS' CLUB.

Nothing of interest to the readers of the PRESS transpired at the last meeting of the Club, held at the Court House, on Saturday, April 1st.

The Club passed the following resolutions which restores harmony among the members.

*Resolved*, That the President may vote on all questions coming before the Club.

The proposition to strike out the words "Any Farmer" and insert the words "Any Person" was adopted. Hereafter the Club will devote itself to discussing subjects pertaining solely to the agricultural interests of the county and State.

I trust I shall be able to send you an interesting report next time.

ROGER CONANT.

SEEDS, ETC., WANTED AT THE DEPARTMENT OF AGRICULTURE.—We have received a letter from Commissioner Capron, of the Department of Agriculture, at Washington, asking among other things, for reference to "parties in California who would furnish plants, seeds or cuttings for the propagation of the tea, olive or malaga grape." Many applications for the same are made at the Department, which the Commissioner is unable to fill. We take the liberty of publishing the above extract from the Commissioner's letter, in the hope that some of our public spirited cultivators will furnish the plants, seeds or cuttings desired. The act will no doubt be duly appreciated and acknowledged.

CALIFORNIA PACIFIC RAILROAD. — The steamers recently purchased by this company, commenced running under the new management on the 1st inst. The time table shows no change. The *Chrysopolis* and *Yosemite* are on the Sacramento route; and the *Amador* and *Julia* on the Stockton route. The rates of fare to Sacramento and Stockton will be $1 50 for cabin and $1 for deck passage, and to Benicia and Suisun, $1. Rates for freight have been fixed as follows: To Sacramento, $2 50; to destination for interior points, $2; Knight's Landing, $3; Colusa, $5; Tehama, $9; Red Bluff, $12; Stockton, $2 per ton.

DR. J. R. THOMAS, the author of the interesting and instructive series of papers which we are now publishing under the head of "Short Papers on Agriculture," and late President of the Vacaville College, has received a proposition from the citizens of Ukiah to take charge of a select school in that place. We had the pleasure of a call from him a few days since, *en route* to accept of the proffered charge. We trust and believe the Doctor will find a generous support in that picturesque and flourishing town, and the citizens of Ukiah will be fortunate in securing the services of so good a man and so distinguished an educator as Dr. Thomas.

THE LESSONS OF THE SEASONS.—An intelligent and observant farmer writes us as follows: "This dry season teaches us farmers impressive lessons in favor of *early sowing, deep plowing, plowing in volunteer and adding seed*, and proves beyond a doubt, that, in all winter sowing on loose sandy soil, it is best to plow in the grain deep. It repeats, most forcibly, the lesson, that of all modes of putting in grain in California, *summer fallow is the surest, even on the loose sandy soils.*"

CASTOR BEANS AND GOPHERS.—It has been asserted that wherever the castor bean is planted in different parts of a garden or field the locality will be entirely deserted by gophers. Have any of our readers tried the experiment; and if so, will they report the result?

THE PLOWING TOURNAMENT.—The Marysville *Appeal* copies the account given by our correspondent of the late Plowing Tournament, at Stockton, and suggests that a similar exhibition be given in the vicinity of Marysville.

## NEW BOOKS.

FARM IMPLEMENTS AND FARM MACHINERY, and the Principles of their Construction and Use: with simple and practical Illustrations of the Laws of Motion and Force as applied on the Farm. With 287 Illustrations. By John J. Thomas. New York: Orange, Judd & Co., 245 Broadway. 8vo. pp. 302.

This publication contains very much of general interest and value while intended more especially for the farmer. It commences with the leading principles of mechanics which are applied every day by the farmer, and presents these in a simple and interesting form. They are important in teaching the reasons of success and failure, that the practical agriculturist may not be guided by random guessing. Then follow pages of excellent matter concerning farm implements.

The practical, every day value of such a book as this is very great, and we cheerfully recommend it. It is by the possession of such knowledge as is here given that our agricultural classes are raised above the condition of those of less civilized races. This knowledge not only improves the mind but it saves money, enables the farmer to judge between good and inferior machines, and tells him how to most easily obtain his objects. Nothing shows the advancement of modern agriculture in more striking light than the rapid improvement of farm implements, and perhaps nowhere is the ability to improve on what the farmer uses, possessed to a greater extent than on our coast. In aiding greatly for the still more general diffusion of such knowledge and ability, a book like this is a great help.

HINTS TO HORSE-KEEPERS, a complete Manual for Horsemen. By the late Henry William Herbert (Frank Forester). With additions. Illustrated. New York: Orange, Judd & Co. 8vo. pp. 425. Price, $1 75.

The basis of the present work is the valuable matter written by Mr. Herbert shortly before his death, comprised within the first thirteen chapters. An extension of the work was undertaken by the author, and the outline of the remaining chapters was being filled out by him, when that strange and fatal mood overshadowed his life, and terminated his earthly labors. In committing the unfinished task to other hands, the publishers have been particularly fortunate in procuring, for each department, competent and experienced aid.

These Hints to Horse-Keepers are intended to include every subject of interest to those who, for pleasure or business, own or use a horse. From their comprehensiveness they are necessarily brief and condensed. More elaborate works on each speciality have previously been in the hands of the public, and this volume is not adapted, nor intended, to supplant them; but by presenting in one volume a compend of our valuable standard works, with the latest discoveries and improvements, it is believed the publishers have answered a demand till now unsupplied.

MONEY IN THE GARDEN.—A Vegetable Manual, prepared with a vein to Economy and Profit. By P. T. Quinn, Practical Horticulturist. New York: The Tribune Association. Illustrated. 8vo. pp. 268.

In this work the author aims to give (and succeeds admirably in his aim) instructions on three distinct, although closely connected, branches of gardening—the kitchen-garden, market-garden, and field culture of root-crops—his credentials being a successful practical experience of years. He writes simply, concisely and to the point. The objects, reasons and style may be judged of to some extent by his preface which we here give.

Now-a-days a non-literary practical man, if tolerably successful in any speciality, must do one of two things. He either must keep his own counsel and reticently go on, making what profit he may, or be prepared daily to answer a thousand-and-one questions by mouth, and by letter, conscious that his "pursley" is getting ahead of him, while he casts and recasts multitudinous counsels from his one little mould of experience.

There *is* a way of evading these alternatives, though it may call for a radical change in the nature of the aforesaid practical man. He can go into a book, there say whatever he has to say, and, going out again (backward at the preface), explain humbly: friends, you will find it in all this volume. I've been as matter-of-fact and explicit as possible, avoiding speculation, and putting down, briefly, things I have learned from daily toil and the wisdom of other men.

This is why these two hundred and sixty-eight pages of simple and conscientious directions are given to all who, by saving or gaining, hope to find "Money in the Garden."

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121° 29′44″ W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | Daily Means of: Barometer Corrected. | Temp. Air. | Rel. Hmdty. Satura'n 100. | Force of Vapor. | Amount of Cloudiness. | Teer*: Maximum. | Minimum. | Range. | Wind: General direction f'm which it moves, and the Forces. | | Rain† Gauge 30 ft. above surface | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| March and April. | Inhs. | Deg. | ℉ C. | Inhs. | 0–10 | Deg. | Deg. | Deg. | Dir'tion. | F'ce. 0–10 | Inhs | |
| Sunday..26 | 30.080 | 60 | 50 | .215 | 2 | 69 | 47 | 22 | N. W. | 3 | .... | |
| Monday..27 | 30.095 | 61 | 39 | .212 | 0 | 68 | 47 | 21 | N. W. | 4 | .... | |
| Tuesday .28 | 30.096 | 61 | 52 | .292 | 0 | 71 | 46 | 25 | N. W. | 2 | ... | |
| Wedns...29 | 30.126 | 63 | 43 | .248 | 0 | 73 | 46 | 27 | N. W. | 4 | .... | |
| Thurs....30 | 30.119 | 66 | 46 | .229 | 2 | 77 | 48 | 29 | N. | 1 | ... | |
| Friday...31 | 30.230 | 66 | 48 | .327 | 8 | 78 | 50 | 28 | S. | 1 | ... | |
| Satu'day. 1 | 30.140 | 65 | 46 | .289 | 0 | 78 | 47 | 31 | N. | 2 | .... | |

* Thermometograph. † Rain.

REMARKS.—Although the weather of the week bas been fraught with disappointment and dismay to the agriculturist, on account of the fierce, desiccating winds that have prevailed, we see no reason yet for despairing of an average harvest. The young grain is not so much injured but that it will revive under the influence of a much less supply of rain than the average fall of April would afford; and at the present writing (April 2d) the prospect is favorable for a speedy contribution of the much needed aqueous precipitation. Within the last 24 hours the barometer has fallen two-tenths of an inch, and the wind is in the right quarter for rain.

## Meteorological Report—San Joaquin Valley.

Rain table for a portion of San Joaquin Valley. Prepared for the PRESS by J. W. A. WRIGHT, from observations since September, 1868, between Tuolumne and Merced Rivers, nine miles south of Empire City and ten miles east of the San Joaquin, in T. 5 S., R. 10 E., Mt. Diablo to meridian and base line.

Lat., 37° 38′ N.; long., 120° 55′ W. Height above sea, about 100 feet.

| MONTHS. | 1868. | 1869. | 1870. |
|---|---|---|---|
| September | 0.00 | 0.00 | 0.00 |
| October | Sprinkle | 1.19 | 0.25 |
| November | 0.95 | 0.49 | 0.32 |
| December | 2.83 | 0.99 | 1.89 |
| Total for each year to Jan. 1st | 3.78 | 2.67 | 2.46 |
| MONTHS. | 1869. | 1870. | 1871. |
| January | 2.62 | 0.89 | 0.90 |
| February | 3.53 | 2.79 | 1.44 |
| March | 3.54 | 1.17 | 0.31 |
| April | 0.99 | 1.00 | |
| May | 0.65 | 0.00 | |
| June | 0.00 | 0.12 | |
| July | 0.00 | 0.00 | |
| August | 0.00 | 0.00 | |
| Total | 15.11 | 8.64 | |

REMARKS.—It will be observed that the amount of rain to April 1st, this season, is 5.11 inches, while to same date, 1870, it was 7.52; and to same date, 1869, it was 13.47 inches. Yet so well has the rain-fall been distributed the past winter and spring, so many cloudy days have we had, and such heavy fogs and dews, that the early sown grain on our loose sandy loam, when well plowed, is forward enough to promise a fair yield if we have a few moderate and well-timed rains in April and May. [The telegraph informs us that the rain of Wednesday reached the locality of our correspondent.—EDS. PRESS.]

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, April 7, 1871.

IRON.—Duty: Pig, $7 ℔ ton: Railroad, 60c ℔ 100 lbs; Bar, 1@1½c ℔ lb; Sheet, polished, 3c ℔ lb; common, 1½@1¾c ℔ lb; Plate, 1½c ℔ lb; Pipe, 1½c ℔ lb; Galvanized, 2½c ℔ lb

| | | |
|---|---|---|
| Scotch and English Pig Iron, ℔ ton | $34 00 | @$35 00 |
| White Pig, ℔ ton | 37 50 | @ 40 00 |
| Refined Bar, bad assortment, ℔ lb | — 03 | @ — — |
| Refined Bar, good assortment, ℔ lb | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ℔ lb; Pig and Bar, 2½c ℔ lb. | | |
| Sheathing, ℔ lb | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheatbing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | — 22 |
| Composition Bolts | — 21 | — 22 |
| TIN PLATES.—Duty: 25 ℔ cent. ad valorem. | | |
| Plates, Charcoal, IX ℔ box | 12 00 | — — |
| Plates, I C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 10 00 | 10 50 |
| Banca Tin, Slabs, ℔ lb | — — | — 42 |
| STEEL.—English Cast Steel, ℔ lb | — — | — 15 |
| QUICKSILVER.—℔ lb | — — | — 85 |
| LEAD.—Pig, ℔ lb | — 06 | — 07 |
| Sheet | — 09 | — |
| Pipe | — 10 | — 11 |
| Bar | — 08 | — 09 |
| ZINC.—Sheets, ℔ lb | — 10½ | — 11 |
| BORAX.— | — 25 | — 35 |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, April 6.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

| | |
|---|---|
| City Tanned Leather, ℔ lb | 26@30 |
| Santa Cruz Leather, ℔ lb | 26@30 |
| Country Leather, ℔ lb | 25@28 |

CALF AND KIP SKINS.—The unsettled state of affairs in France still keeps French stocks high, with an upward tendency. Domestic Skins have not changed.

| | | |
|---|---|---|
| Best French Calf Skins, ℔ doz | $75 00 | @100 00 |
| Common French Calf Skins, ℔ doz | 35 00 | @ 75 00 |
| French Kips, ℔ lb | 1 10 | @ 1 30 |
| California Kip, ℔ doz | 60 00 | @ 75 00 |
| Eastern Wheel Stuffed Calf, ℔ lb | 80 | @ 1 25 |
| Eastern Bench Stuffed Calf, ℔ lb | 1 10 | @ 1 25 |
| Eastern Calf for Backs, ℔ lb | 1 15 | @ 1 25 |
| Sheep Roans for Topping, all colors, ℔ doz | 8 50 | @ 13 00 |
| Sheep Roans for Linings, ℔ doz | 5 50 | @ 10 00 |
| California Russett Sheep Linings | 1 75 | @ 5 50 |
| Best Jodot Ca f Boot Legs, ℔ pair | 5 25 | |
| Good French Calf Boot Legs, ℔ pair | 4 50 | @ 5 00 |
| French Calf Boot Legs, ℔ pair | 4 00 | |
| Harness Leather, ℔ lb | 30 | @ 37½ |
| Fair Bridle Leather, ℔ doz | 48 00 | @ 72 00 |
| Skirting Leather, ℔ lb | 34 | @ 37½ |
| Welt Leather, ℔ doz | 30 00 | @ 50 00 |
| Buff Leather, ℔ foot | 22 | @ 25 |

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., April 6th.

FLOUR—Has been in large demand during the week for export—a full cargo having been dispatched for England, an unusual occurrence. The local millers, in view of this rare demand, and the poor prospect for a crop in this State previous to the late rain, made a still farther advance of rates on Tuesday. It may be remarked, however, that the price of flour is still lower, relatively, than that of wheat; which fact may perhaps account for the shipment noticed, in the shape of flour, rather than wheat.

We quote local brands, superfine, $6.25@7.50; extra, $7.25@7.50. Oregon brands, have sympathised with the advance of local brands.

WHEAT—The market still continues very dull, but firm. Only one cargo has been shipped during the week. As high as $2.60 has been paid for small lots for distilling. The market for choice closes at $2.55@$2.60, which is still quite above the limits of foreign orders. For futher comments see "Crop Prospects" in another column.

The Liverpool market still remains at 12s. New York rates are still continued at $1.70@1.75.

BARLEY—The threatened continuance of the drought in the early part of the week, together with the light stock in the hands of the brewers was given as a reason for advancing last week's figures from$1.45 to $1.75. The rain of yesterday will no doubt effect a reversion of the above figures, as there is no doubt but that the current crop will be abundantly sufficient for all our wants.

OATS—Have been in sympathy with barley and met with a similar advance; but in view of the unexpected rains the continuance of present prices is quite problematic. We quote yesterdays rates at $1.60@$1.80, an advance of 10c.

CORN—Has also met with an improvement, and made a most unexpected advance from $1.70 to $2.00, with sales at the latter figure.

CORNMEAL—Quotable at 2@3c per ℔. from the mills. In consequence of the advance noted in corn, the market for meal is much firmer at the latter figure.

BUCKWHEAT—Sales are noticed at $3.25@3.50.

RYE—In limited demand. Quotable at $2.25—nominal

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $30 strong. MIDDLINGS, $35 for feed; OIL CAKE MEAL $33.

HAY—Is in steady demand. We quote ordinary to choice at$12.00@16.00 ℔ ton.

HONEY—Los Angeles, 5-gall. cans, $12@16, and Porter's, 2 ℔ do, at $4 ℔ dozen.

POTATOES—The present range of good quality of California is from $1.65@$2.00.

HOPS—Demand light—prices nominal at 8@12½c. for California crop of 1870.

HIDES—We quote Dry, slaughterer's stock, 17@18 c; Salted, 8@8½c. Sales during the week 1,600 Cal. dry.

WOOL—The receipts still continue quite free. Sales by one of the leading houses aggregate 100,000 lbs. We quote good to choice, shipping at 22½@26c ℔ lb.

TALLOW—The extremes may still be quoted from 7½@8c.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California and Oregon Bacon 15½@16c; Chicago Bacon, 16½c; California Hams, 14c; Oregon do, 16@17c; California Sugar-cured Hams, 18@19c; Oregon do, 18@20c; Eastern do, 22@24½c; California Smoked Beef, 13@14c.

BEANS—Jobbers are asking the following rates: Bayo, 2½@2¾c; Butter, 2¼@2½c for small and 2¾c for large; small White, 2c; Red, 2¼@2½c; Pea, 2¼c; Pink, 1¼@2c ℔ lb.

VEGETABLES—Asparagus is selling at 2@6c and Rhubarb at 5@7c ℔ lb.

NUTS—Sale of 10,000 Cocoanuts, private; quotable at $10 ℔ hundred; California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 6@7c; Hickory and Walnuts, 12½c; Brazil, 15@18c ℔ lb, an advance.

FRESH MEAT—In good supply with but little change. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11½c ℔ lb.
Do 2d do 8@ 9c ℔ lb.
Do 3d do 7@ 8c ℔ lb.

VEAL—Is steady at 8@ 12½c—the latter for strictly choice.

MUTTON—Has declined to 6@8 ℔ lb.

LAMB—More plentiful, and may be quoted at from 11@12½c ℔ lb.

PORK—Undressed is quotable at 7½@8½c. for grain fed; dressed, 11½@12½. Poorly fed and soft descriptions, 10@10½c.

POULTRY, ETC.—In good supply, and prices but little changed. Young Chickens $6@8; Hens $7@7.50; Roosters $7.50@8.00; Ducks, tame, $7@8 ℔ doz; geese, tame, $2.00@$3.00 ℔ pair; live turkeys, 18@20c ℔ lb; Hare, $2.00@2.50; Rabbits, $1.25 per doz.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 20@28c. The receipts of choice butter have been fair.

CHEESE—In fair supply, at unchanged rates. California new, 10@14c., Eastern, 16@17c.

EGGS—California fresh, 28@30c; Oregon, 24@25.

LARD—California Lard, 11-℔ tins, 15@16c; Oregon, 15@14½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $2.50@$3.00; Oregon, $1.75@$3.00; Pears, per box, $2.50@$4.00; Oranges, per 1,000, $25@$45; Tahiti oranges $30 per M.; Lemons, per box, $12; Cal. Lemons, $3@4 per 100; Pears scarce, choice Apples scarce; Strawberries, 50c; Rhubarb, 4@7c; Asparagus, 3@6c.

CASE GOODS—In 2 ℔ cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

## GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—There is at the present time a good demand for Mowers, and if the crop prospects continue favorable, Harvesters, Threshers, Reapers and other seasonable implements will be in active demand as the season advances. Stocks are said to be liberal, and prices rule low for all kinds of goods in this department of trade.

BUILDING AND FENCING MATERIALS—In good demand, and prices still reported firm. We quote wholesale rates to dealers: Redwood Rough at $18; do Siding, $22.50; do Surfaced, $30; Fancy Pickets, $30; Oregon Rough, $17; do Flooring, $27; do Fencing, $18; Laths, $3@3.25, and Redwood Shingles, $2.75 ℔ M.

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 6½c; Oregon do, 7c; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12@13c, for old and new respectively, ℔ lb; Raisins, layer, $4.25@5.00; Currants, Zante, 10½@11½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13½@4½c; Oregon do, 16½@17c; Bacon, California, 15@15½c; Oregon do, 15@15½c.

TABLE OF MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Sugar, crsh'd, ℔ lb | $ 14 | @$ 14½ | Hemp Seed, ℔ lb | $ 7 | @ 9 |
| Hawaiian, do. | 9 | @ 12 | Castor Beans, ℔ lb | 4 | @ 4½ |
| Coffee, Cos. R, ℔ lb | 14½ | a 15 | Castor Oil, gal | 1 75 | @2 00 |
| Rio, do | 16 | @ | Linseed Oil, gal | 1 05 | @1 10 |
| Tea, Japan, ℔ lb. | 50 | @ 90 | Broom Corn, ℔ lb | 3 | @ 5 |
| Green, do | 50 | @1 00 | Beeswax, ℔ lb | 27 | @ 30 |
| Rice, Haw'n, ℔ lb | 8½ | @ 9 | Peanuts, ℔ lb | 5 | @ 7 |
| China, do | 6 | @ 7½ | Corn Meal, cwt | 2 50 | @3 00 |
| Coal Oil, ℔ gal | 50 | @ 60 | Onions, cwt | 1 50 | @2 50 |
| Candles, ℔ lb | 14 | @ 18 | | | |

## San Francisco Retail Market Rates.

FRIDAY, April 7, 1871

MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Butter, Cal fr. ℔ lb | 30 | @ 40 | Wool Sacks, new | 40 | @ 90 |
| Pickled, Cal. ℔ lb | | @ | Second-hnd do | 67½ | @ 70 |
| do Oregon, ℔ lb | | @ | Wheat-sks, 22x36 | 13½ | @ 14 |
| Honey, ℔ lb | 25 | @ 30 | Potato G'y Bags. | 23 | @ |
| Cheese, ℔ lb | 20 | @ 25 | Second-hnd do | 16 | @ |
| Eggs, per doz | 35 | @ 40 | Deer Skins, ℔ lb. | 15 | @ 20 |
| Lard, ℔ lb | 15 | @ 20 | Sheep sks, wl on | 50 | @ 75 |
| Sugar, cr., 7 ℔ lb | 1 00 | @ | Sheep sks, plain. | 12½ | @ 25 |
| Brown, do, ℔ lb | 10 | @ 13 | Goat skins, each. | 25 | @ 35 |
| Beet, do, 7 ℔s. | 1 00 | @ | Plums, dried, lb. | 15 | @ 30 |
| Sugar, Map. lb. | 37½ | @ 35 | Peaches, dried, * | 15 | @ 30 |

PRODUCE, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Codfish, dry, lb | 6 00 | @ 10 | Barley, cwt | 1 35 | @1 42½ |
| Flour, ex, ℔ bbl. | 6 50 | @7 30 | Beans, cwt | 2 00 | @3 00 |
| Superfine, do | 5 50 | @6 00 | Potatoes, cwt | 1 75 | @2 75 |
| Corn Meal, 100 lb. | 2 75 | @3 00 | Hay, ℔ ton | 15 00 | @18 00 |
| Wheat, ℔ 100 lbs. | 2 75 | @3 00 | Live Oak Wood. | 10 00 | @12 00 |
| Oats, ℔ 100 lbs | 1 60 | @1 75 | | | |

FRUITS, VEGETABLES, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Pine Apples, † | 5 00 | @9 00 | Egg Plant | | @ |
| Bananas, ℔ lb | 3 00 | @5 00 | Garlics | 5 | @ 8 |
| Cal. Walnuts, lb. | | @ 20 | Green Peas, ℔ lb | 10 | @ 12½ |
| Cranberries, ℔ g | 75 | @1 00 | Green Corn, doz. | | @ |
| Cranberries, O. ¶ | | @1 00 | Sugar Peas, ℔ lb | | @ |
| Apples, No. 1, lb. | 4 | @ 5 | Lettuce, ℔ doz | 12 | @ 25 |
| Pears, table, ℔ lb | | @ 12½ | Mushrooms, ℔ lb | 8 | @ 15 |
| Oranges, ℔ doz | 50 | @ 75 | Horseradish, ℔ lb | | @ 20 |
| Lemons, ℔ doz | 75 | @1 00 | Okra, dried, ℔ lb | 37 | @ 50 |
| Figs, dried, ℔ lb | 15 | @ 20 | Okra, green, ℔ lb | | @ |
| Asparagus, wh.* | 12 | @ 15 | Pumpkins, ℔ lb. | 3 | @ 4 |
| Green, do | 10 | @ 25 | Parsnips, † bnchs | | @ 25 |
| Artichokes, doz. | 75 | @1 00 | Parsley | | @ 25 |
| Brussel's sprts, * | 12 | @ 15 | Pickles, ℔ gal | 50 | @ 75 |
| Beets, ℔ doz | 20 | @ 25 | Rhubarb, ℔ lb | 12 | @ 15 |
| Potatoes, ℔ lb | 2 | @ 3 | Radishes, † buns | | @ 25 |
| Potatoes, sweet, * | | @ 5 | Green Peppers, * | | |
| Potatoes, new | | @ 06 | Red, do | | @ 25 |
| Tomatoes, ℔ lb | | | Summer Squash | | |
| Broccoli, ℔ doz | 1 50 | @2 00 | Marrowfat, do. | 4 | @ 6 |
| Cauliflower, † | 2 50 | @4 25 | Hubbard, do | | @ 5 |
| Cabbage, ℔ doz | 3 00 | @1 50 | String Beans, lb. | | @ |
| Carots, ℔ doz | 10 | @ 25 | Dry Lima, shl | | @ 8 |
| Celery, ℔ doz | 75 | @1 00 | Spinage, ℔ bskt. | 25 | @ 50 |
| Cress, ℔ doz bun | 20 | @ 25 | Salsify, ℔ bunch | 25 | @ 12 |
| Dried Herbs, b'h | 25 | @ 50 | Turnips, ℔ doz | | @ 25 |

POULTRY, GAME, MEATS, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Chickens, apiece | 75 | @1 00 | Tongues, pig, ea | | @ 15 |
| Turkeys, ℔ lb | 20 | @ 25 | Bacon, Cal., ℔ lb | 18 | @ 20 |
| Ducks, wild, ℔ p | | | Oregon, do | 18 | @ 20 |
| Tame, do | 1 50 | @2 00 | Hams, Cal, ℔ lb. | 18 | @ 20 |
| Teal, ℔ doz | | | Hams, Cross' s e | | @ 25 |
| Geese, wild, each | 37½ | @ 50 | Choice D'field | | @ 25 |
| Tame, ℔ pair | 3 50 | @4 00 | Whittaker's | | @ 25 |
| From Chicago. | | @ | Johnson's Or | | @ 25 |
| Hens, each | 75 | @1 00 | Salmon, ℔ lb | 10 | @ 12 |
| Snipe, ℔ doz | 1 25 | @1 50 | Smoked, new,* | 10 | @ 12 |
| English, do | 2 50 | @3 00 | Pickled, ℔ lb | 6 | @ 8 |
| Venison, ℔ lb | | @ | Rock Cod, ℔ lb | 12½ | @ 15 |
| Quails, ℔ doz | | | Perch, s water, lb | 10 | @ 12½ |
| Pigeons, dom. do | 3 00 | @3 50 | Lake Big. Trout* | 20 | @ 25 |
| Wild, do | 1 50 | @2 00 | Smelts, ℔ lb | 6 | @ 8 |
| Hares, each | 40 | @ 50 | Herring, fresh | | |
| Rabbits, tame | 50 | @1 00 | Sm'kd, 100 lbs. | | @1 00 |
| Wild, do, ℔ dz. | 1 75 | @2 00 | Tomcod, ℔ lb | | @ 25 |
| Squirrel, ℔ pair. | 25 | @ 38 | Terrapin, ℔ doz. | 5 00 | @6 00 |
| Beef, tend, ℔ lb. | 20 | @ 25 | Mackerel, p'k, ea | | @ 20 |
| Sirloin and rib | 18 | @ 20 | Fresh, do | | |
| Corned, ℔ lb | 10 | @ 12 | Sea Bass, ℔ lb | | @ |
| Smoked, ℔ lb | 15 | @ 18 | Halibut | 62 | @ 75 |
| Pork, rib, etc., lb | 12½ | @ 15 | Sturgeon, ℔ lb | 4 | @ 5 |
| Chops, do, ℔ lb | 12 | @ 15 | Oysters, ℔ 100 | 1 00 | @1 25 |
| Veal, ℔ lb | 15 | @ 20 | Chesp. ℔ doz | | @1 00 |
| Cutlet, do | | @ 20 | Turbo t | | @ 40 |
| Mutton chops,* | 12½ | @ 15 | Crabs ℔ doz | | @1 00 |
| Leg, ℔ lb | 12½ | | Soft Shell | 37 | @ 50 |
| Lamb, ℔ lb | | @ 12½ | Shrimps | 10 | @ 12 |
| Tongues, beef, ea | | @ 75 | | | |

* Per lb. † Per dozen. ¶ Per gallon.

PATENT BROKERS.—Inventors having valuable patents and needing reliable assistance in selling them should consult WEISTER & Co., No 17, New Montgomery street, under the Grand Hotel, San Francisco.

VIRGINIA CITY, Nev., March 13, 1871.

MESSRS. DEWEY & Co.—Gentlemen: I hereby acknowledge the receipt of letters patent for Sulphuret Saving Machine, procured through your Agency. At the same time, allow me to thank you for your care and skill in drawing up application, and promptness in procuring letters patent on the same. Hoping again soon to profit by your valuable Agency, I have the honor to remain, very respectfully yours, C. C. COLEMAN.

## Wool Prices in New York.

BROWN'S CIRCULAR, March, 1871.

DOMESTIC FLEECES.

NEW YORK, MICHIGAN, INDIANA AND WISCONSIN.

| | | | |
|---|---|---|---|
| Saxony Fleece | 48@52 | Quarter-bld Fleece | 47@50 |
| ¾ and Full-bld Merino | 47@51 | Common Fleece | 45@47 |
| Half-bld Fleece | 47@50 | Combing Fleece | 53@56 |

OHIO, PENNSYLVANIA AND VIRGINIA.

| | | | |
|---|---|---|---|
| Choice Sct'd Saxony Fl | 58@65 | Quarter-bld Fleece | 48@50 |
| Saxony Fleece | 53@56 | Common Fleece | 46@48 |
| ¾ and Full-bld Merino | 50@53 | Combing Fleece | 53@56 |
| Half-bld Fleece | 50@55 | | |

IOWA, VERMONT AND ILLINOIS

| | | | |
|---|---|---|---|
| ¾ and Full-bld Merino | 45@50 | Quarter-bld Fleece | 45@48 |
| Half-bld Fleeee | 45@50 | Combing Fleece | 50@53 |

MISSOURI, KENTUCKY AND TENNESSEE.

| | | | |
|---|---|---|---|
| Washed Fleece | 46@50 | Unwashed Combing | 42@45 |
| Unwashed Fleeee | 34@38 | Canada Fleece | 45@57 |

TUB-WASHED WOOL.

| | | | |
|---|---|---|---|
| Choice | 56@60 | Inferior and Burry | 45@50 |
| Fair | 52@55 | | |

PULLED WOOL.

| | | | |
|---|---|---|---|
| N. Y. City extra Pulled | 42@45 | Country extra Pulled | 47@52 |
| N. Y. City super Pulled | 44@48 | Country super Pulled | 47@54 |
| N. Y. City No. 1 Pulled | 30@33 | Country No. 1 Pulled | 32@35 |
| Lambs' Wool | @ | Canada Pulled | 45@52 |
| Western super and ext. | 40@4 | | |

CALIFORNIA.

| | | | |
|---|---|---|---|
| Spring Clip, fine | 34@37 | Fall Clip, lw gds & b'ry | 20@26 |
| Spring Clip, medium | 34@37 | Extra Pulled | 38@43 |
| Spring Clip, lw gds &, br. | 27@33 | Super Pulled | 40@44 |
| Fall Clip, A 1 | 25@28 | Low Pulled | 30@35 |

TEXAS.

| | | | |
|---|---|---|---|
| Fine | 35@38 | Inferior | 20@25 |
| Medium | 35@38 | Very Burry | 18@23 |
| Low | 26@33 | | |

FOREIGN WOOLS.

| | | | |
|---|---|---|---|
| Cape of Good Hope | 30@33 | Buenos Ayres Merino | @ |
| Mestiza Pulled, X & XX | 55@65 | Buenos Ayres Mestiza | @ |
| Mestiza Pulled, low gds. | 45@50 | | |

## Our Printed Mail List.

Subscribers will notice that their names are printed on colored paper and pasted upon each copy of the PRESS. This is done by machinery, to expedite the issue of our paper, the regular edition of which has become too large to be convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriber has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4jl0, to the 4th of July, 1870. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

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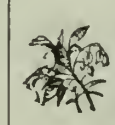

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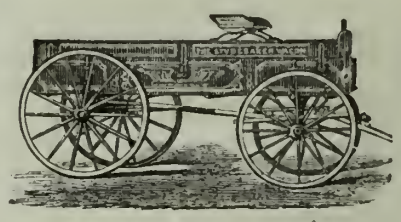

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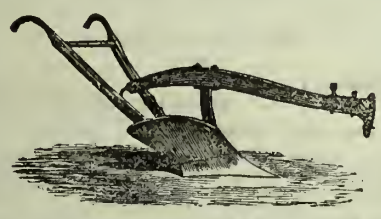

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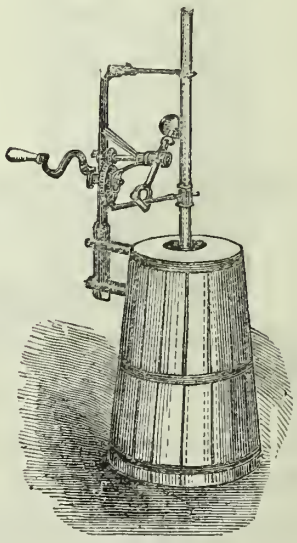

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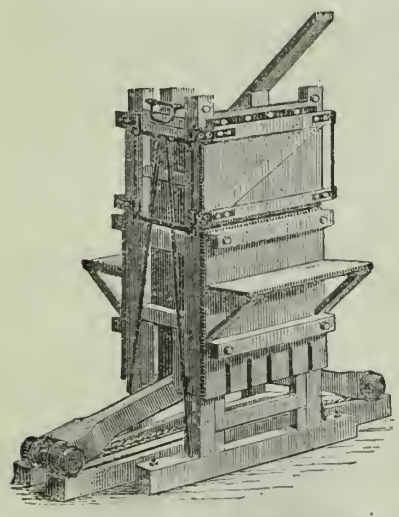

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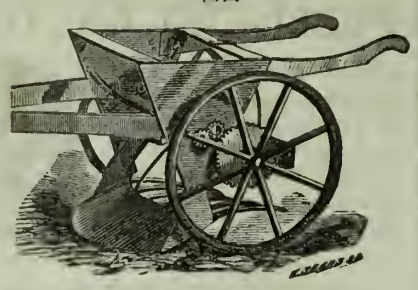
### Westfall's Improved Potato Digger.



We ask special attention to this practical and useful invention. Nearly every farmer has felt the want of a machine to dig potatoes. This new invention fully supplies that want. The machine being made entirely of iron and steel, will last longer than the farmer who buys it. It is operated by a man and one or two horses, and digs one row at a time. The shovel part of the digger enters under the potatoes and raises them on to the fingers in the rear, where the dirt falls through and the potatoes roll back on to the surface of the ground. The machine is prevented from clogging by a reel which revolves above the fingers and carries through the potato vines, weeds, etc. A complete model can be seen in our office. Full particulars in regard to Machines or Rights furnished on application.

### P. Davis' Wire and Picket Fence.

Although about two hundred different styles of fences have been invented and patented in the United States within the past ten years, yet this Fence, for GENERAL FARM USE, stands at the head of the list. This is a Virginia invention, and the actual cost of the Fence complete in that State is less than fifty cents per rod. Three men can put up six hundred yards per day. You men who are idle, why hang about the city talking hard times when you can make from five to eight dollars per day building this Fence? We will make a present of ONE FARM RIGHT in each county on the Pacific Coast to farmers who will erect one hundred rods of the fence in good style within thirty days after the privilege is granted. We wish to employ several working men to travel in this State and Oregon. Price of territory, and circular with full description of fence sent on application.

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### Tarbox's Combination Stencil Alphabet.

By the use of this ingenious device, ANY NAME OR NUMBER can be marked well and perfectly, thus saving the necessity of having a number of different plates. The exclusive right to sell said invention in California, and also a small stock of Places, for sale at a low price. Send for Circular, or call and examine the Plates.

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This machine will roast one quart or half a bushel of nuts at once. All that is required is to wind it up and fill with nuts. It roasts evenly and perfectly and will keep nuts warm a whole day and not burn them. The Patent Right to any town or city in the States of California and Oregon, and Washington Territory.

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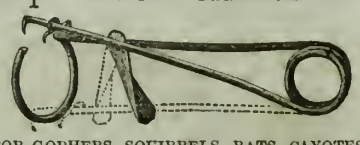

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Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

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January 28.—4v1-3mr

PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, APRIL 15, 1871. [Number 15.

## THE STUDEBAKER FARM WAGON.

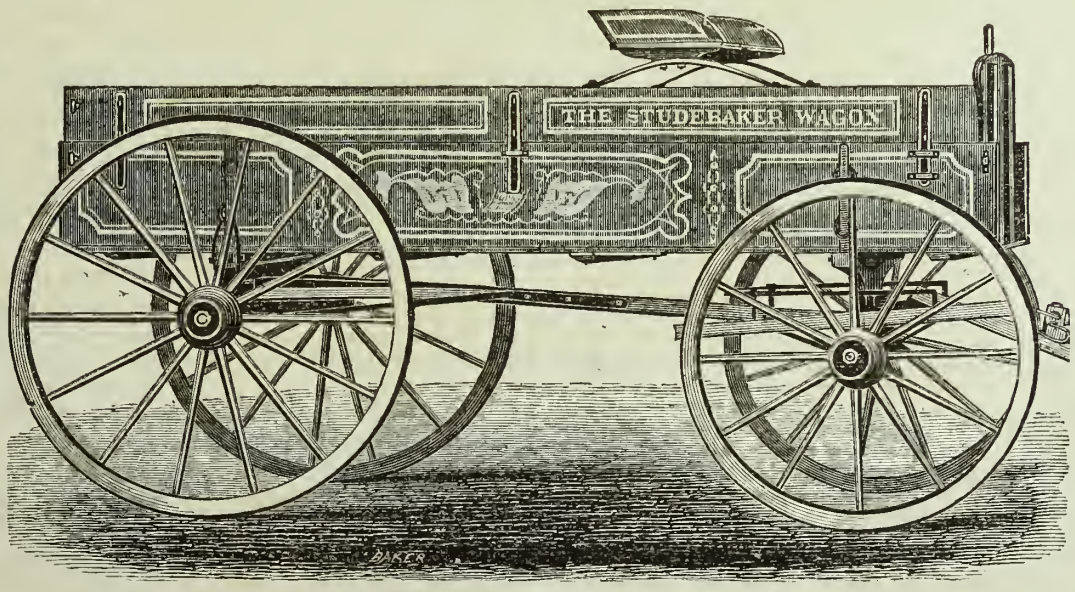
We present our readers to-day with a cut of the celebrated Studebaker Farm Wagon, manufactured at South Bend, Indiana, by the Studebaker Manufacturing Company. Since the completion of the railroad across the continent and the consequent increased facilities of commerce between the States east and west of the Rocky Mountains, all our industrial pursuits have been brought into close competition with those of the East. Especially has this been the case with our manufactories, and none have felt this competition more keenly than our wagon makers.

There are now some three or four large Eastern wagon factories extensively engaged in shipping farm wagons to all parts of this coast, to say nothing of the great number of carriages, buggies, and stage-coaches that are annually imported from the same direction. These manufacturing companies have their agencies established in all the principal towns on the coast, and seem determined to supply us with their wagons at all hazards.

The Studebaker company are the pioneers in this enterprise and they probably sell more wagons here than all other Eastern companies combined. They have shipped over the railroad to California the past year over 600 wagons and carriages of all descriptions valued at $75,000. Their organization for the sale of their wagons, is complete. Their principal or grand agency is at Sacramento, their agents being Ames & Woolverton, through whom all the business of the company on this coast is transacted. It may not be uninteresting to our readers to know something of a company who though so far away are working such a change in this branch of our manufacturing interests and supplying so many of us with that indispensable agricultural machine the "Farm Wagon."

Two of the brothers Studebaker commenced the manufacture of wagons in a small and rude shop at South Bend, in 1852, with a capital of but $65. By good workmanship and strict attention to business they soon built up an extensive and profitable local trade. It was nearly four years before they shipped or sold any of their wagons outside of their immediate neighborhood; but their reputation spread gradually farther and farther from home in all directions and orders began to come in from greater distances, and now the "Studebaker Farm Wagon" is used in almost all parts of the United States, and has a reputation almost as extensive as the celebrated Concord stage coaches.

The company now consists of four brothers, all mechanics, and the capital employed in the business is half a million dollars, all of which has been made in it since the small beginning at South Bend. Last year 250 men were constantly employed, and 6,500 vehicles were turned out of their shops. They consumed 2,000,000 pounds of iron and 3,000,000 feet of lumber. Their iron is all purchased of the iron manufactories, made to order, of the exact quality, size and length desired, and so with their lumber and other material. Nothing is bought that is not wanted and nothing is wasted. They will this year turn out over 7,000 vehicles, and by the end of the year will have so extended and increased their shops and machinery as to be prepared to turn out annually thereafter 10,000—or very nearly one wagon for every twenty minutes of working time in the year. We have given the history and achievments of this firm or company as an example of what may be done in a manufacturing line by a harmonious combination of mechanical skill, business capacity, and integrity. Next week we will present a cut of a California made Thimble Skein Farm Wagon and will discuss for the consideration of our readers some of the advantages and disadvantages which this branch of our California manufactories presents.




THE STUDEBAKER FARM WAGON.

## COLLECTING AND PLANTING MULBERRY SEED.

We had no time last week to consult our associate editor on the subject of our correspondent's query with regard to planting mulberry seed, and our principal editor having had no experience in this particular line was at a loss to answer the inquiry. We are glad, however, that within our own household we can speak on this important question from personal experience, which, upon practical matter, we regard as the best authority. The mulberry, like the various kinds of raspberries and blackberries, is composed of a large number of small berries, each having a separate seed covered by pulp. The pulp of each of these small berries is united with the pulp of other small berries adjoining it, and this union of small berries forms what we call a mulberry, which is in fact a *bunch* of mulberries.

Now to the question:—To collect and preserve the seed, the berries should be allowed to ripen fully before gathering, so that the pulp will be soft and easy to separate from the seed. Then gather them either by picking or shaking from the tree. It will be well to allow them to stand in a bucket or other vessel a few days, until the pulp shows incipient stages of decay. This will facilitate the separation of pulp and seed.

Then, with the hand or with a pestle, break the pulp thoroughly and pour on water and wash or stir them. Change the water and stir again until the seeds are cleansed from the pulp. Strain and dry the seed; keep in a dry place until wanted for use. On the subject of planting we quote from "Observations on the Culture of Silk in California, by I. N. Hoag," published in 1870:—

"The mulberry tree may also be propagated from the seed, which is a little larger than a mustard seed. In this State the seed should be planted in April or May, in damp but warm soil, well cultivated or pulverized. It should be covered from a half inch to an inch and a half. If the soil is very damp and not liable to dry on the surface, a half inch is a plenty. The soil will be of that nature that it will keep damp to the very surface. I planted from two to three acres last year with seed of the alba and moretti, and only succeeded in making the seed come up on about an acre and a half. They were planted on the Sacramento river, about two miles above Sacramento. In the winter of 1865 the water ran across the land, and washed the surface soil, a vegetable mould, entirely off of about an acre and a half, leaving a light sandy clay, through which the moisture rose to the very surface—so much so that until ten or eleven o'clock of the warmest days in May the surface looked wet. Here, on this land, the seed came up and grew well, while on the land directly by its side, but upon which the vegetable or surface soil remained, very few of the seeds germinated, and none came up. As the sun warmed up the surface of this vegetable soil, the moisture receded, leaving the surface very dry and hot; and, as the tender leaves of the young trees reached this dry soil they withered or baked, and died, while the moisture of the sandy and clay soil, reaching the very surface, protected and invigorated the young leaves, and forced them up. I have been thus particular in giving my experience in this matter, because almost every one else who planted seed made an entire failure, and I made a partial success, in consequence of the peculiar condition of some of my land."

## PROTECTION TO SILK AND TEA CULTURE.

The land upon which Herr Schnell and his Japanese colony for the cultivation of tea and silk were located in El Dorado county, was unsurveyed public land. This fact has been the source of great annoyance and discouragement to the colony; so much so that the originators of the enterprise had almost lost heart to continue the experiment. The friends of the industrial progress of the State will be gratified that this annoyance is now at an end. Through the instrumentality of Capt. John Mullen of this city and Congressman Sargent, a special law has been passed by Congress allowing Schnell to locate 640 acres, including the improvements and plantations of tea and mulberries, at $1.25 per acre. This is a just and very important law; and now our State should aid Mr. Schnell to give the matter a thorough and satisfactory trial. No one man should be called upon to defray alone the expense, and assume the risk of so costly and important an undertaking.

The law offering premiums on tea and silk and which was an inducement for Mr. Schnell to come here and engage in their culture was repealed by the last Legislature. Justice to the colony and the best interests of the State would dictate that the promises held out by that law should be redeemed or at least, that such aid should be extended as is necessary to give tea culture a thorough and satisfactory trial in the State.

## GOOD APPLES.

But a few years since all our winter apples came from Oregon. It is gratifying to know that now most of them come from the foothills of the Sierras, within our own State. A comparison of apples from Oregon and the Sierras, as they are now found side by side in our market, is decidedly in favor of the latter. Our own apples are more juicy, finer grained better flavored and highly colored. The same varieties compared show the California apple in a much better state of preservation, and proves its keeping qualities to be superior.

We have noticed a few boxes in the market lately from some thirty miles above Placerville. They are much superior in all the qualities referred to above to those grown lower down toward the valley.

These facts should give our fruit growers some valuable and practical hints. They show that by utilizing the natural advantages our State possesses, as a fruit growing country, we may enjoy the luxury of fresh apples in good eating condition the year round. They also suggest the great importance of originating new varieties by fruiting seedlings. It is well known that this is the best way to secure fruit adapted to climate and locality. To obtain late or winter varieties plant seed from localities high up in the mountains and from the latest and best keeping kinds. To obtain early or summer varieties plant seed from such varieties which have been grown in the warmest or earliest localities in the State.

Remember it is the earliest and latest fruit that pays the best.

## MECHANICAL PROGRESS.

PURITY OF MELTED METALS DETERMINED BY THEIR DROPS.—Dr. Quincke, of Berlin, has described,—says the *Polytechnissche Journal*,—a new method of determining the purity of melted metals, aud of various chemical combinations by the hight of the drops which are formed by them upon a horizontal surface. By the hight of a drop, such as is formed by dew upon a leaf or by quicksilver upon glass, is meant the vertical distanee of the horizontal plane from the vertex of the drop surface. This altitude is nearly constant, and is independent of the diameter of the drop if it is not greater than 20 millim. * * * The altitude of large flat drops or bubbles is less if their surface is covered with a thin coat of some fluid. A fluid coat less than the millionth of a millimetre in thickness is sufficient to reduce the altitude of melted drops in a sensible degree. A maximum of depression (¼) occurs when the coat is 50-1,000,000 of a millimetre in thickness, which is about 1-10 of the length of a light wave. The presence of very small quantities of substances may be proved in this way to a degree of delicacy unequalled by any other method of observation except that of the spectroscope. A trace of oil on a drop of dew or a bubble of air in water, and a trace of lead applied to a drop of melted silver, reduced the hight from 4 to 2.8 millimetres, so that unpractised eyes could easily discern the difference. Substances which oxidize easily in the air should be melted and tried in some indifferent gas, like carbonic acid gas. Large flat drops of iron from several mills, with surfaces coated with oxide, all had the same altitude of 5.2 millimetres. Workmen in foundries are in the habit of judging the quality of cast-iron by the form and condition of the drops. The speaker thought the careful investigation of the forms and altitudes of melted drops might prove an important aid in determining the properties of metals.

PROGRESS IN STEAM ENGINEERING.—From an editorial in London *Engineering* for March 3d, we clip the following:—"On land and sea the purchase cost of a steam horse power has increased during the past twenty years from 20 to 30 per cent., the pressure has increased 50 to 500 per cent., while the weight of fuel per each horse-power has been reduced from 7 lb. to 2¼ lb., and if we take the past ten years only, a pound of coal now develops twice the power it did in 1861. Successful steam engineering does not mean merely the production of an engine economical in working, but the production of one at a cost that shall be remunerative to the purchaser. That the improvement previously named is of this character in marine engineering is easily proved. In 1861, marine engines of 400 indicated horse-power could be purchased in the north for 3,500*l.*, requiring 4½ lb. of coal per each horse-power; in 1871, the same power can be purchased for 4,500*l.*, requiring 2¼ lb. of coal for each horse power. Such engines would average at least 200 days' steaming each year, and allowing 20*s.* per ton for the coal saved and additional cargo—a very low estimate—the owner will receive nearly 2,000*l.*, or 200 per cent. on his extra purchase outlay of 1,000*l.*, while assuming the value of the 1861 ship and engines to be 16,000*l.*, and those of 1871 to be 17,000*l.*, and the first ship just cleared her expenses, the saving in fuel alone would give a dividend of nearly 12 per cent. on the capital of the second and higher-priced ship. This great reduction of fuel, and the certainty that a large margin is left for further saving, gives a most encouraging prospect for the future of steam navigation."

HIGH SPEED COMPOUND ENGINE.—*The Engineer* illustrates a three-cylinder compound engine invented by A. F. Franklin. We quote from the description: "In order to avoid the inconvenience and "knocking" attending the running of double-acting high-speed steam engines due to the sudden reversal of the strain on the crank pin at each stroke, Mr. Franklin uses three single-acting cylinders with cranks set at 120 deg. The connecting rods being fixed directly on to the pistons, the hight of the engine is reduced to the lowest possible limit, a point of much importance in marine engines with overhead cylinders. The eccentric and valve gear is simplified. The course of the steam will be readily traced. When it has done its work it exhausts from the last and largest cylinder into a condenser; this piston, and this only, using the pressure of the atmosphere as motive power. In order to avoid the evil of excessive cylinder condensation, common hitherto to all single-acting engines, the cylinders are jacketted, and the pistons are provided with trunks, consisting of thin cylinders of steel, lagged with wood inside. These cylinders may be regarded as practically non-conducting, as their weight is too small to enable them to condense much steam, while the quantity of air which can find its way between their sides and those of the cylinders, is too small to have any appreciable cooling effect. It is clear, therefore, that the temperature of the metal of the cylinders will be maintained very nearly as well as though the engines were double-acting."

NEW FEEDING MACHINE FOR PRINTING PRESSES.—The *Tribune* describes a recent invention in which a single sheet from the pile of paper is *sucked* up at each upward movement of the oscillating table upon which it is placed. An oscillating pipe, furnished with short tubes, or caps, having oblique edges, is exhausted of air at each movement, by means of an air pump attached to the machine,—thus supplying the suction apparatus. A second tube is placed parallel with the oscillating pipe, and is provided with several perforations opposite the table, from which currents of air pass underneath the raised sheet of paper and separate it from the other sheets lying on the table. At this instant the suction of the pipe ceases by the action of a cock cutting off the communication with the vacuum-chamber, and the paper is released from the cups and delivered to the adjusting apparatus. The latter consists of a series of grippers and clamps by which the sheets are adjusted and delivered to the printing-press without manual assistance. The sheet is seized by traveling carriers moving horizontally, and if oblique, or out of place on the back table, the front edge is drawn squarely up to the gauges by means of guides, while at the same time side-clamps, acting at right angles to the carriers, seize the lateral edge of the sheet and adjust it according to side-gauges. The apparatus is not only adapted to printing-presses, but may be used in connection with rolling, folding, cutting, and all other machines which are fed with paper. Its speed is 2,500 sheets an hour.

BESSEMER STEEL CAST GUN BARRELS.—The London *Mining Journal* says Mr. Foster, of Sheffield, has had rifle barrels cast from a hollow bloom. They are cast with a chill centre, and then rolled into the centre instead of being drilled, so preserving the original skin of the metal. By being case-hardened they wear longer without fouling, are not liable to corrosion, whilst the cost is scarcely so much as the ordinary barrel. Mr. Foster has just had a Chassepot barrel cast, and it appeared to be all that could be desired. The invention is applicable to steel hoops for railway wheels, gun barrels, and the casting of cylindrical forms in Bessemer or crucible steel. The object of the improvement is to save the preliminary processes in the production of a "bloom" by casting it in a metal mould, with a movable metal pin centre.

LOCOMOTIVE FEED-WATER HEATER.—The Springfield *Republican* thus describes an arrangement now being tested on the Connecticut River Railroad, for the saving of fuel by utilizing the waste heat:—"The water is pumped from the tank in the tender through a copper pipe, 1¼ inch in diameter, to the "heater," which is a coil of pipe of the same size around the "cone-pipe" in the smoke-stack, and from this coil the water, heated to more than 200 degrees Fahrenheit during its passage through the coil, passes in a copper pipe on the side of the boiler opposite its passage when cold, and into the boiler."

SIZE AND SPEED OF BELT FOR ONE-HORSE POWER.—"It is found practically, that a leather belt eight inches wide, embracing half the circumference of a smoothly-turned iron pulley, and traveling at the rate of 100 feet per minute, can communicate one-horse power."—*Jour. Frank. Institute.*

SHEET TANITE.—Such is the name of a new article intended as a substitute for vulcanite, about to be brought before the public by the Tanite Company of Stroudsburg, Pennsylvania.

## SCIENTIFIC PROGRESS.

PARTHENOGENESIS.—A. S. Packard reviews, in the *American Naturalist* for March, a work by Prof. Ganin on the early stages of Ichneumon parasites, and at the conclusion says he cannot refrain from making some reflections suggested by the remarkable discoveries of Ganin. We quote:—"In the first place, these facts bear strongly on Cope and Hyatt's theory of evolution by 'acceleration and retardation.' In the history of these early larval stages we see a remarkable acceleration, or hurrying up, of the embryo. A simple sac of unorganized cells, with a half-made intestine, so to speak, is hatched, and made to do the duty of an ordinary, quite highly organized larva. Even the formation of the 'primitive band,' usually the first indication of the organization of the germ, is postponed to a comparatively late period in larval life. The different anatomical systems, the heart, with its vessels, the nervous system, and the respiratory system (tracheæ), appear at longer or shorter intervals, while in one genus, the tracheæ are not developed at all. Thus some portions of the animal are accelerated in their development more than others, while others are retarded, and in others still certain organs are not developed at all. Meanwhile all live in a fluid medium, with much the same habits, and surrounded with quite similar physical conditions. The highest degree of acceleration is in the reproductive organs of the Cecidomyian larva of Miastor, which produces a summer brood of young, alive, and which live free in the body of the child-parent; and in the pupa of Chironomus, which has been recently shown by Von Grium, a fellow countryman of Ganin, to produce young in the spring, while the adult fly lays eggs in the autumn in the usual manner. This is in fact a true virgin reproduction, and directly comparable to the alternation of generations observed in the jelly fishes, in Salpa, and certain intestinal worms. We can now, in the light of the researches of Ganin, Siebold, Leuckart, and others, trace more closely than ever the connection between simple growth and metamorphosis and metamorphosis and parthenogenesis, and perceive that they are but the terms of a single series. By the acceleration of a single set of organs (the reproductive), no more wonderful than the acceleration and retardation of the other systems of organs, so clearly pointed out in the embryos of Platygaster and its allies, we see how parthenogenesis under certain conditions may result. The barren Platygaster larva, the fertile Cecidomyia larva, the fertile Aphis larva, the fertile Chironomus pupa, the fertile hydroid polyp, and the fertile adult queen bee, are simply animals in different degrees of organization, and with reproductive systems differing not in quality, but in the greater or less rapidity of their development as compared with the rest of the body."

PROGRESS OF THE CALIFORNIA GEOLOGICAL SURVEY.—Some two months since, we noted the issue of the first volume of the Ornithology, containing the land birds of the western side of the continent. *Silliman's Journal* for April has the following: "The second volume of Ornithology, which will contain the water-birds of the whole country, is in process of preparation. The volume of Conchology, which Dr. Carpenter undertakes, is likewise begun; and Prof. Brewer of Yale, formerly assistant on the survey, is rapidly working up the botanical material for publication, aided by Prof. Gray, and by others specially qualified for the work. The abundant collection of mammalian fossils is committed to Dr. Leidy for treatment. The fossil botany is undertaken by Prof. Lesquereux. The volumes already issued contain descriptions and figures of the invertebrate fossils by Mr. F. B. Meek and Mr. W. M. Gabb. It thus appears that Prof. Whitney has called to his aid the best available talent in working out the results of the survey in special departments. Meantime, the field-work, and the elaboration of the geological and topographical data collected, are going on rapidly under his direction. * * Of the maps of the California survey, there have appeared hitherto those of the Yosemite valley and of the High Sierra in its vicinity (in the Yosemite Guide Book), and that of the region adjacent to the Bay of San Francisco, the last on a scale of two miles to the inch; a much larger map, including about 60,000 square miles of the central part of the State (occupied by more than nine-tenths of its population), is far advanced, one of its four sheets (the S. W. corner) being already engraved, and a second (the S. E. one, containing the highest part of the Sierra) in the engravers' hands. This is on a scale of six miles to the inch; it will be issued in duplicate, as geological and as a topographical map. Another, of the whole State, at eighteen miles to the inch, is finished, and is intended to serve as a preliminary geological map, and to accompany the second volume of geology, of which the printing will be begun next summer. Among the regions which have been recently receiving particular attention is that of the ancient river-channels, on the western slopes of the Sierra, which a party has for a long time been engaged in exploring and mapping, and on which a full report is soon to be made; also, the White and Inyo ranges of mountains, east of the Sierra and of Owen's valley; and the vicinity of Clear Lake, in the northern coast ranges."

FUNGOID ORIGIN OF CHOLERA DOUBTFUL.—The report of Dr. T. R. Lewis in reference to the cholera inquiry now proceeding in India under direction of the Army Sanitary Commission, is noticed in *Nature* for March 16th. The investigation has so far been limited to facts bearing upon the theories of Hallier and Pettenkoffer. The former held that cholera was due to the introduction of a fungus resembling the rye fungus of Europe, and probably present in diseased rice in India. "The general conclusions of Dr. Lewis upon this portion of the inquiry are:—1. That no cysts exist in choleraic discharges which are not found under other conditions. 2. That cysts or 'sporangia' of fungi are very rarely found under any circumstances in alvine discharges. 3. That no special fungus has been developed in cholera discharges, the fungus described by Hallier being certainly not confined to such. 4. That there are no animalcular developments, either as to nature or proportionate amount peculiar to cholera, and that the same organisms may be developed in nitrogenous material even outside the body. Lastly, that the supposed *debris* of intestinal epithelium is not of this origin, but appears to result from effused blood plasma. Unless these conclusions are materially modified on subsequent inquiry, they must be considered as disposing of Hallier's theory of cholera. Should, however, Dr. Lewis's further investigations prove that Hallier's fungus is present in choleraic discharges and in diseased rice as a *constant*, we should still require scientific proof that cholera was caused by the action of this fungus and by nothing else."

ELECTRIC DISCHARGES THROUGH GASEOUS MEDIA.—At the Royal Society's *soirée*, March 11th, Mr. C. F. Varley exhibited an experiment in illustration of a paper read by him in January:—"In a Geissler's tube, containing highly rarefied hydrogen, a small filament of talc was hung by a single horizontal fibre of silk. Two aluminium rings, separated an inch and a quarter, formed the electrodes inside the vacuum. This tube was placed longitudinally with and over the horizontal poles of a large and very powerful iron horse-shoe electro-magnet, made of a bar four inches in diameter and four feet in length, and wrapped with nearly 2 cwt. of thick copper wire. A small induction coil sent electric discharges from one ring to the other, producing a brilliant blue light around the negative pole, the positive pole being dark. The moment the magnet was charged, by means of thirty cells of Grove's nitric acid battery, each cell containing twenty square inches of platinum foil, the electric luminosity in the tube, which beforehand was diffused, gathered up into an arch extending one and a half inches beyond each ring, forming altogether a well-defined arch about four inches in length. This luminous arch follows exactly the course of those magnetic rays which traverse through the negative pole. By shifting the tube the piece of talc can be brought at pleasure in or out of this luminous arch. Neither the electric action nor the magnet *per se* produces any motion upon the talc; but when the tube is so placed that the luminous arch strikes against the talc, the talc is repelled as much as 30° from the perpendicular. The electric current is passing simply from one ring to the other inside the tube, but the luminous arch in question where it strikes the talc is on the other side of the ring and where no electricity is flowing."

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING MARCH 28TH.

MECHANICAL TELEGRAPH INSTRUMENT.—James Gamble, San Francisco, Cal.

WHEEL FOR VEHICLES.—James Harris, San Francisco, Cal.

SKATE.—David Kerr and Asa Ebenezer Hovey, San Francisco, Cal.

GANG PLOW.—John Murray, Silveyville, Cal.

GRINDING MILL FOR ORES.—Jacob S. Niswander, Oakland, Cal.

AXLE AND AXLE BOX FOR VEHICLES.—Ernest Von Jeinsen and James Monroe McDonald, San Francisco, Cal.

SASH-HOLDER.—Barnet M. Whiting, San Francisco, Cal.

ANIMAL TRAP.—James William Fishback How, Douglas County, Oregon.

CHLORIDIZING SILVER ORE.—Eugene N. Riotte, San Francisco, Cal., assignor of five-fourteenths interest to Charles A. Stetefeldt, same place, and five-fourteenths to John H. Boalt, Sandusky, Ohio.

TRADE MARKS.

WHISKY.—Daniel V. B. Henarie, San Francisco, Cal.

WHISKY.—E. Martin & Co., San Francisco, Cal.

TEA.—Williams, Blanchard & Co., San Francisco, Cal.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

APPARATUS FOR BURNING HYDRO-CARBON OILS.—J. R. Lee, Grass Valley, Cal. The object of this invention is to provide a device by which a more perfect combustion of hydro-carbon oils is secured, when they are employed in the furnaces of steam boilers, and also to assist and promote such combustion by the employment and utilization of exhaust steam within the furnace. A series of shallow troughs are placed in the furnace, preferably in a transverse position. The oil is fed into these troughs, so as to have little depth, and there burned. A pipe, or series of pipes, arranged around the interior of the furnace, receives a portion of the exhaust steam and throws it into the fire in fine jets; while steam, introduced in like manner behind the bridge wall, serves to increase the draft as may be desired.

BALE-TIE.—J. E. Perkins, S. F. This device for securing bales of cotton, wool, hay or other material which is to be held together in a bundle, consists of a strap of iron which is folded back upon itself at one end and holds a stout link in the bight. The strap being passed around the bale at the desired point, the other end is passed through the link, and after being drawn as tight as possible, is bent back upon itself, forming a bight over the link, and is secured by slipping a movable band over this bight.

GANG PLOW.—J. W. Sursa, San Leandro, Cal. The object of this invention is to provide an improvement in gang-plows, in which, by a peculiar arrangement of the axles of the bearing wheels and their connecting link, the plow frame is maintained in a horizontal position at all times,—when one wheel runs in the furrow and the other on the land, or with both wheels on a level,—and this by the use of the single lever which raises and depresses the plows, without altering a bolt or other part of the device. The simplicity of the device, together with its great efficiency, will recommend it highly to the attention of farmers.

HOSE-SPRINKLER.—W. Anderson, S. F. This very neat, simple and effective device is illustrated and described on another page.

## Industrial Progress in Australia.

There are so many points in common between Australia and California that an occasional glance at the material progress of that country cannot fail to have an interest to every intelligent reader on the Pacific Coast. Especially is this the case at the present time, just as we are being brought into such intimate commercial relations. It is with this view that we here present a few facts by way of encouragement and instruction to our Pacific Coast readers, which we glean from a late number of the *Sydney Herald*:—

### The Vine and Wine in New South Wales.

The reputation of New South Wales for wine of great excellence is now established, as the awards at Paris and London in 1851–56–62 and 67 testify.

In 1860, the vine occupied 1,583 acres—622 being devoted to wine. The produce was 99,791 gallons of wine and 700 gallons of brandy. In 1870, 3,906 acres produced 460,324 gallons of wine and 1,637 gallons of brandy. At one time it was questioned whether the wine would keep—that question has now been answered in the affirmative; while regret is expressed that the acreage cannot be increased so as to reduce the price sufficiently to bring it within the reach of the middle and laboring classes.

### Sugar Cane.

Sugar cane has long been struggling into notice. The settlers show a natural timidity in dealing with novelties. They are given to wheat, barley, oats and potatoes. The cane, therefore, had to meet with and overcome much prejudice, until 1867, when, after much writing and talking on the subject, public opinion was brought to a fever heat, and the settlers went boldly in for its cultivation; and 116 acres produced 17,786 lbs. of sugar. In 1870, 3,917 acres produced 3,563,703 lbs., which would have been much greater but for the want of machinery. That want has since been fully supplied.

The settlers, as a rule, are dependent on capitalists to erect machinery. The mill owners purchase the cane at $2.50 a ton, cutting it for them, and in many instances advance money to them while the cane is growing.

The preparatory expenses in trenching and planting do not exceed $100 an acre—seldom go beyond $60. The cane comes to maturity in twelve months after planting, and yields from 30 to 40 tons to the acre. If tended with skillful husbandry the return will be from 50 to 100 tons.

The expense, the second year, will not exceed $25 to the acre; while the weight of the cane from the rattoon crop will be greater.

### Wool.

In consequence of the low price of the inferior sorts of wool, great attention is now being paid to the production of a better quality. A sheep on the natural grasses needs about three acres to feed in; but on artificial grasses one sheep to the acre, the year round, is supposed to be a fair proportion, supposing the land to be good. Should meat-preserving create a great demand for fat sheep, it will be profitable to grow artificial grasses and lucerne on the sea-board lands.

### Horned Stock.

The principal breeds of Great Britain—short horn or Durham, Hereford and Devon are to be found here in perfection. A walk through the cattle sheds of the Agricultural Society of New South Wales would induce a lover of stock to believe himself in England. Pedigree stock is much sought for and realises a high price.

It is generally admitted that the Hereford travel better than the short horn, and better endure periods of dearth and drought. A vast quantity of the cattle of this colony have to travel from 500 to 800 miles to the slaughter house. This quality is a consideration of the utmost consequence, for fatigue and privations of travel are often such as to reduce a fat bullock to very lean state before he presents himself to the butcher.

The cattle station property of the colony is of two kinds: breeding and fattening. The breeding country is pretty much confined to the table lands—high and comparatively cool—extending from north to south. The fattening land is found in the salt bush country west of the mountain range as far back as the Darling, where three acres to one fattening bullock is considered fair,—store cattle are generally sold at from $10 to $15 a head; fat cattle, weighing about 600 lbs., $35 to $40 a head.

## Fata Morgana at Santa Cruz.

The Santa Cruz *Sentinel*, of April 1st, says: On Wednesday morning last, one of the finest mirages that it has been our good fortune to see made its appearance in our bay; in fact the picture partook more of the *Fata Morgana* than mirage. Standing on the bluff, near the light-house, we watched the beautiful scene for hour after hour. It was one of those scenes which at times makes its appearance on the coast of Messin. The entire beach, with its narrow line of yellow sand extending from Point Pinos entirely around to this place, and the many landing places and towns became visible, looming up like gigantic castles. The houses in Monterey, twenty-two miles distant, appear to hang in the air, and as if gently rocked in a sea of glass. The mountains back of that city, and the light-house, formed a splendid background. Far away on the right could be seen an ocean steamer, which, at times, seemed to be four or five stories high, with heavy roll plowing her way to the Golden Gate, and the bay towards Moss' Landing, the buildings of the landing constantly growing taller and taller, the steamer *Monterey* making her way to this city. In the immediate fore-ground were five or six schooners tacking in different directions, and passing and repassing each other, adding to the beauty of the scene. We watched this shifting kaleidoscope, while it changed into every imaginable shape. The line of sand beach became rough, and waves like those seen on the intervening bay seemed to roll along the shore. The opposite shore ran up massive columns, supporting a stupendous entablature, which grew wider at the top, then changed and represented beautiful waterfalls or precipitous bluffs. This would give place to a city, whose magnificent buildings would appear to rock, then rising, would remain a moment suspended high in the air, then disappear, while another picture was forming on the water's level. A gentle breeze was blowing at the time, and the day was warm and clear.

STEAM WAGONS, says the *Territorial Enterprise*, are to be put upon the road between Egan Cañon and Toano, and will be employed in hauling salt from the marshes at Egan Cañon to Toano; returning will bring goods of all kinds. The extensive coal mines lately discovered in the Rocky Mountains will facilitate this new enterprise.

FINAL SURVEY.—Deputy U. S. Surveyor McKim has been ordered to make the final survey of the Kennedy, Amador, Maxwell and Lincoln mines in Amador county.

PACIFIC COAST INCREASE.—The census reveals the fact that the population of the Pacific Coast has increased fifty-eight per cent, in ten years. That does not look very much like retrogression, especially as New England, in the same period, only increased eleven per cent. By our mode of reckoning, that section of the country ought to be "gone in" indefinitely, but it is not; on the contrary, we believe that it is very well satisfied with itself.

GRAY SQUIRRELS.—The Los Angeles *News* says that a couple of gray squirrels, with bushy tails, and apparently identical with those found in "the States," were killed a few days since, near that city. It is believed they are the first, of the kind observed on this coast. The *News* adds "There is a species, however, found among the pine trees on the mountains in California which, though almost identical in appearance with the squirrel of the Western and Southern States, yet differs from it in the possession of a well-formed clavicle or collar bone. Those recently killed by our friends *may* have been of this species, which is supposed to be the only one of the squirrel family possessing such an anatomical peculiarity."

HEATING RAILROAD CARS.—A Berlin engineer has invented an apparatus for heating cars by means of chemical reagents. Experiments on the Berlin-Potsdam Magdeburg road, according to the *Arbeitgeber*, showed the practicability of the plan, and the apparatus is to be introduced there.

LITTLE RHODE ISLAND is the first, and so far the only State which has responded to the Act of Congress requesting the several States to send to Washington statues of their most distinguished citizens. Rhode Island has sent two statues,—of General Greene and of Roger Williams.

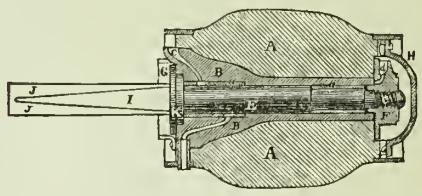
# MISCELLANEOUS.

## Improvement in Hubs and Axles.

Mr. C. R. Donner, of Sonora, has invented an improved wagon-axle, by means of which wheels can be made to last a long time without running loose, and by which the end motion can be taken up when it becomes too great. The construction will be easily understood from the accompanying illustration and description.

The hub, *A*, contains an axle-box, *B*, within which the axle turns. This box is provided with an oil-cup or opening, *C*, (one for small wagons, or two, as here shown, for large ones) and passages from this open at various points within the box so as to thoroughly lubricate the spindle, *E*. Within the box, *B*, near each end, are two steel supplementary boxes, *a*, *a*, which the spindle bears in as it turns, and which are also pierced with holes for lubricating.

The nut, *F*, which serves to retain the wheel in place on the spindle, has a sleeve which extends inward and rests against the shoulder at the end of the spindle. The threads of the screw, *c*, are cut only in the outer part of the nut, the shoulder not being provided with threads, so that when the parts wear and allow too much




end motion, the end of the sleeve, *F*, can be filed off, allowing the nut to be turned up closer, thus compensating for the wear. An oil-cup, *d*, may also be provided for the nut.

The cover, *G*, on the inner end of the wheel, protects the moving parts from dirt; and the cap, *H*, at the outer end, fits over the nut, *F*, being secured with lugs and a spring catch. The spindle may be made of steel and is drawn out to a wedge-shape, as shown at *I*, and has a double collar, as at *K*. The iron portion of the axle, *J*, clasps this wedge and is welded so as to extend under the collar, making a strong joint which requires very little labor on the part of the blacksmith.

A patent for this useful invention was granted last month, through the SCIENTIFIC PRESS Patent Agency, to Mr. Carlos R. Donner, of Sonora, Tuolumne Co., who may be addressed for further information. The patentee stands ready to prove the value of his device from actual working, and more than this cannot be required.

ANOTHER ARTESIAN WELL.—Mr. Samuel Adams, succeeded in striking a magnificent stream of water a few days ago at the depth of 188 feet in this city. The pipe is seven inches and the flow of water sufficient for all irrigating purposes. There is no part of the city, where artesian water has not been successfully obtained, varying in depth from 60 to 190 feet. There are now twelve or thirteen artesian wells in the limits of the city, and we believe there are none who have attempted to get water but what have succeeded.—*San Bernadino Guardian*,

PAPER CAR-WHEELS.—The Pullman Car Company is running a car, on the Chicago and North-Western road, with what are called "paper wheels." The wheels have steel tires and cast-iron hubs, and the paper is introduced in the way of filling under the tires, for the purpose of deadening sound and diminishing the force of concussion. According to the *National Car Builder* the wheels have been running since July last. The paper is said to be superior to wood for the purpose, being stronger and lighter, and free from knot-grain, or sap. It does not expand or contract, but remains in the condition in which it is put in. It is cheaper than wood, and can be molded into any form by pressure.

# SHEEP HUSBANDRY.

## SHEEP RAISING IN CALIFORNIA.

Wool growing has already become one of the leading interests in California. The increase of sheep in this State for the past few years has no parallel either in the history of this business in the older States, or in any other portion of the world.

The raising of sheep for wool here was first undertaken in 1853; and two years later, in 1855, there were shipped from this city 350,000 pounds of wool. This amount was doubled the year following, and in 1857, had increased to 1,100,000 pounds. From that time to the present the increase has been steady, until the annual aggregate has reached 20,000,000 pounds or 10,000 tons, sufficient to load 10 first-class ships, if it was all sent away.

Ten thousand tons of wool from a State whose agricultural population does not exceed 350,000, and with not a twentieth part of its arable land improved is a most satisfactory showing.

If anything like this rate of increase is continued for ten years longer, our annual aggregate will reach not less than 170,000,000 pounds, or 85,000 tons—equal to the aggregate product of the United States, at the present time. From present indications, past experience, and the well known facilities for wool growing in this State, there is every reason to believe that our wool product will actually reach 100,000,000 pounds inside of ten years, and about equal in value our present gold crop.

Our wool field is vast—almost beyond computation. Our mountains furnish the finest wild land for sheep raising which can be found in the world. Very little shelter is needed for sheep in this State. As a general thing none whatever is used; although we believe there would be economy in employing it to some extent. Neither are there any scabby herds here, or other pestilential diseases which requires so much care and involve so much loss in other countries. Moreover, our sheep are not confined to the niggardly one fleece a year; but yield themselves, almost universally, to two clippings, with an aggregate yield of fully twice as much as is realized from the flocks of the Atlantic States.

The average profit of California flocks, over and above interest on investment, shepherding, shearing, freight, etc., is not less than $1 per head, on the most ordinary breed. The profit is much larger from improved breeds, with but very little proportional increase in outlay of capital. To this must be added the increase of the lambs, which will nearly if not fully double the above figure.

We believe the above estimate of profit is is within the limit of true figures; and the showing, if it could be properly placed before the sheep growers of the East, could not fail to impress their minds, particularly those in the Middle and Northern States, that they there labor under the most depressing disadvantages, as compared with those engaged in the same business in this State.

## THE WOOL SEASON.

The wool crop of the State promises a large increase over that of last season. The flock masters in the San Joaquin valley, are busily engaged in taking off the spring clips from their large flocks. The Tulare *Times* says the effect of the organization of the Wool Growers' Association in that county will be to promote the advancement of the sheep raising interest, and the introduction of the highest grades of wool-bearing animals.

A friendly contest is going on between J. A. Patterson and B. F. Pennebaker, two well-known and large sheep raisers of that county, as to the wool-producing qualities of their respective flocks. Each shear 400 ewes, and those yielding the greatest number of pounds will carry off the prize.

The *Delta* of the 22d ult. gives a certificate signed by J. St. Clarie, Alex. Z. Scott, Wm. A. Carothers and M. Flieschman, certifying to the fact that they assisted in shearing, sacking and weighing the wool from 400 of J. A. Patterson's ewes, which aggregated 4,163 pounds. If the result of Mr. Pennebaker's shearing has been announced, we have overlooked it.

The same paper says that the parties named proposed to shear on the succeeding Saturday two bucks, in competition; and adds that other parties who may desire to test the question as to who it is that has the best wool growers are requested to each bring forward a couple of their best sheep.

The San Diego *Union* of a late date, says: "Wool continues to come in. Mr. W. G. Hill, of the Cajon Rancho, brought in yesterday 4,000 pounds, clipped from 1,100 sheep. It was sold to A. Pauly & Sons. Sublett, Meredith & Co., also of the Cajon, brought to market a few days since, 7,000 pounds of wool, clipped from 1,600 sheep, which was bought by Gordon, Stewart & Co."

## SHEEP HUSBANDRY A NECESSITY.

Sheep-husbandry is a necessity. There is no substitute for the animal with the "golden hoofs"—none which can so cheaply supply the elementary wants of a dense population. France has as many sheep as souls, in the Empire. England could almost as safely part with the air breathed by one-fourth of her people, as with her sheep—the meat, wool, hides and manure they yield; and while we are glad to see large flocks transferred to and established on the plains of Kansas, Nebraska, and other sparsely populated States and Territories of the West, the older States, where lands have lost their virgin freshness and fertility, can ill afford to submit to further reduction. The great bulk of the best wool grown in the world is grown by small flocks, in the midst of the most densely peopled regions. It is so now in the United States, and so will it continue to be. On the whole, therefore, we look in the future of the woolen industry hopefully, and with abiding confidence.—*Reynolds, Reed & Co.'s Wool Circular.*

Road Steamers for City Locomotion—In a paper read before the New York Society of Practical Engineering, in March, J. K. Fisher proposes to use steam carriages instead of locomotives, for city travel. After remarking that at 8½ miles per hour they are safer than horses at 6 miles, he says:—"But if undergrade streets, floored with cast-iron, be made, steam carriages can run in them at 40 miles an hour. They will run whole journeys without stopping, passing way carriages; but the railway trains stop at every station. The cost of each stop is half a cent per ton. Steam carriages, weighing 6 tons, and stopping seldom, will work at less cost on such lines. And when a carriage gets to the end of the iron street, it can run over common roads to the houses of passengers. For the up-town and suburban traffic, they can give an average speed of 25 miles per hour—more than double the speed attainable by the proposed imitations of the Metropolitan system. And they will pick up passengers on all routes, whereas passengers must walk long distances to the railway stations."

Test for Blood Stains.—The *Journal of Applied Chemistry* says:—"J. W. Gunning has discovered that acetate of zinc will completely precipitate the coloring matter of blood from solutions. The flocculent precipitate must be washed by decantation, left to evaporate and dry on a watch glass, and if blood was present the microscope will reveal delicate and beautiful hæmin crystals. The acetate produces precipitates even in extremely dilute solutions, as for example, when a person has washed his bloody hands in a pail of water, and the solution is perfectly colorless."

Mountain Fruit.—According to the *Territorial Enterprise*, a large number of apple and peach trees, willows and rose bushes, etc., are being raised from the seed and slips near Hunter's Station, on the Truckee. It will not be long before the most elevated mountain valleys will be able to raise their own fruit.

# POULTRY NOTES.

## HOW TO RAISE TURKEYS.

A correspondent of the *Country Gentleman* treats the subject of "how to raise turkeys" and gives his experience in that line. He is farmer for Hon. John Wentworth, Chicago, Ill. He says:

"Mr. Wentworth sent to the West and got me wild turkeys from three different places. None of them were at all domesticated. We made two large enclosures, and winged the wild ones, confining the wild males with the tame females, and wild females with the tame males. The experiment was a success, nearly every egg hatched, and scarce a turkey died. In the fall we turned out the wild ones with the main flock, and not one went away. They were not separated afterwards, and last season they were left to their own course. The most of them stole their nests, and many would hide their young. But in due time they all came home, and two years' experience has demonstrated to us that the best way to raise turkeys is to give them the wild cross and let them alone. While we have no difficulty in driving them into barns and sheds by day, they are perfectly inaccessible by night; they not only fly to the tops of the highest trees and buildings, but they are alive to every attempt to approach them. The wild cross gives a richer flavor to the meat, and a more glistening bronze to the color."

## PROFITABLE FOWLS.

We find the following in the Stockton *Independent* of the 3d inst:

We noticed yesterday, at the residence of John Sedgwick, five light Brahma pullets and one rooster, all of enormous size, considering the fact that they are only nine months old. The rooster weighs eleven pounds, and the pullets average eight pounds each. It is said that Brahma chickens grow until they are eighteen months old. From five pullets, 143 eggs were obtained during the months of January and February; 114 in March; five eggs on the 1st inst, and three before 10 o'clock yesterday morning. An accurate account is kept of the number of eggs gathered daily, and the date on which they are found in the nest is marked with a pencil on the shell of each. The original price of the brood was $90, and the sum of $50 has already been realized from the sale of eggs alone, and quite a number of chickens produced likewise.

Mr. Sedgwick appears to take as much pride in his Brahma fowls as Bonner is reported to take in his horse Dexter. The premises are finely arranged, and well supplied with troughs of approved patterns, convenient nests and plenty of water. In the yard, there is a portable fountain, which serves the double purpose of showering the ground and driving bugs from the earth.

## NEW VARIETY OF FOWL—ROYAL JAVA.

This breed of fowl comes from the island of Java, and resembles the Brahmas very much in appearance, and is about the same size, but black in color. The cock will weigh, when full grown, from eight to ten pounds and the hen from seven to ten. They are an excellent table fowl and good layers, quiet and easily reared. They are all feather-legged, and stand low on their legs. The inside of the feet is yellow, and their flesh is very yellow. They are as tough and hard as the Brahma, and the chickens can be reared without any trouble and are in every respect equal to the Brahma, and in some respects more desirable, as they are not inclined to set as often and are easily broken up when they are inclined to. They are a very showy fowl, as their plumage is a fine, beautiful greenish black; and are more active than the Brahmas in their movements, and do not break down so early. In the cock will often be found a shading of red in the hackle feathers, and in both cocks and hens now and then a feather tinged with gray. I disposed of a hen last week that weighed ten pounds. The chickens mature early, and begin to lay (if hatched in April and May) in October and November. Their eggs are about the size of the Brahma, rather smaller if anything, and of the same color. I have reared this breed two years, and prefer them to the light Brahma for the climate, and they are spoken highly of by all that have them. I have two trios of this breed to dispose of, and shall have eggs for those who want in April and May, or before if desirable.—*Maine Farmer.*

# THE SWINE YARD.

How to Raise Large Porkers.—To produce large hogs they must be fed from birth as much as they will eat. It will not do to let them shirk for themselves in the summer, and then expect to make large hogs of them, as "fat as butter," by feeding them a few weeks in the fall. A writer on hogs, says,: "The finest porkers I ever saw were kept growing right along through every day of their lives till slaughtered. More is commonly lost in winter than at any other time. See that they have a dry, warm, sheltered place, plenty of good clean litter to keep them warm, a very regular supply of wholesome food, (not trash) and a clean place to stay in. With this kind of management, such pigs as you would have next spring, would astonish your slip-shod, careless neighbors at your "wonderful luck;" and if corresponding care were continued through the season, you could show such porkers as would surprise them still more.

Variety of Food for Hogs.—All domestic animals thrive better on a variety of food, and this fact is better seen in the hog than in any other description of farm stock. An experiment detailed in *Deitz's Farm Journal*, where hogs were fed on cooked potatoes and oats, the excrement showed by the iodine test, that a large portion of starch was passing off undigested. By the addition of a small amount of peas to the feed, the iodine test show that all the starch was appropriated to the animal economy. When hogs are fed for any length of time on the same food they become "glutted," and the addition of even a single article of food to what they have been accustomed to, shows a marked improvement. If they are fed on corn they should have pumpkins or potatoes. Access to grass should be allowed them when they do not have a variety of food.

Hog Wisdom.—A Chester county, (Pa.) correspondent of the *Southern Planter* says:

No animals deteriorate faster than swine. The trough is a great element in the character of a hog; he is amazingly like a dandy. To keep him in first-rate trim, he soon eats his head off, yet if he has to hunt his food, even with the slightest effort, he soon becomes too enterprising, to be a fine specimen. As soon as a pig becomes enterprising, he ceases to be a "Chester County White." Dame Nature soon fits him to his "new order of things;" his nose lengthens, the disposition to use it also increases, his legs grows longer, his sides flatten, his hams lose their plumpness, and in one or two generations he is a match for any ordinary hog. If you want to keep up the breed of good hogs, keep no more than you can keep so lazy that they will not grunt.

## PORK RAISING IN LOS ANGELES.

The *News* recently commented upon the astonishing fatuity of those farmers who, with lands that produce one hundred bushels and upwards of corn per acre, sell that product at seventy-five cents per cental, when home-made bacon finds ready sale at from fifteen to twenty-five cents per pound. *Widney's Real Estate Advertiser* has the following remarks on this topic, which are worthy of consideration by our farmers:

Experiments during the last five years, show that this climate is peculiarly well adapted to curing pork, and that the hams and bacon are superior to any other in the market. Owing to the large quantity of corn raised and to the fact that the climate is so well adapted to cure the meat, this will be the pork metropolis of the Pacific coast. Corn-fed bacon cannot be produced in any other place on the coast; this leaves us without competition as to the quality of the article. Los Angeles hams bring several cents more per pound than other hams. Were a company to permanently establish this business, and enlarge their facilities as the business requires it, they would realize large profits, and at once open up a market for corn.

How A Hog Sweats.—A hog sweats, not like a horse or a man, but through his fore legs. There is a spot on each leg, just below the knee, in the form of a seive; through this the sweat passes off, and it is necessary that this be kept open. If it gets closed, as is sometimes the case, the hog will get sick. To cure him, simply open the pores. This is done by rubbing and washing with warm water.—*Rural World.*

# Agricultural Notes.

## CALIFORNIA.

Suffocating Squirrels.—Many devices are resorted to to get rid of these troublesome pests. We have already in previous numbers given several ways of heading them off, and a correspondent in to-day's issue gives his method of preparing a deadly dose of phosphorus for them; and now here comes Dr. Carothers, of Santa Clara, through the columns of the San Jose *Mercury*, with still another method for "suffocating" them, which may be substantially described as follows: A liberal sprinkling of dry sulphur is spread upon a piece of old bagging of suitable size for a charge, and as much coal oil poured carefully over it as the sulphur and cloth will fairly hold without dripping. The cloth is then lighted at the mouth of a squirrel hole and thrust in with an iron rod as far as may be practicable, the combustion being maintained, and the smoke and fumes driven downward, by the draft from the mouth of the hole. After sufficient time allowed for combustion of the charge, the mouth of the hole is well stopped with earth, and also the mouths of any other holes from which the smoke and fumes may be seen issuing, indicating an underground connection. The stopping of the holes will not only confine the poisonous fumes and make their work effective by excluding the restorative elements of the atmosphere, but will be likely to defeat any such effort as a partially suffocated squirrel might make to escape from the death doom of a poisonous dungeon. Dr. Carothers has been applying this plan of extermination in his fields adjacent to town, where the squirrels are very numerous and destructive, and is certain that it is effective, as he has not yet found, out of several hundred holes, a single one that has been re-opened since it was stopped with earth, after the sulphur and coal oil fumigation.

The test of this plan, upon a limited scale, can be made at once by every farmer, with so little trouble, that we hope it will not be neglected a single day, for if it prove, as we think it will, more effective than those commonly employed, much of our little crop in prospect may be saved to us, that the squirrels would otherwise consume.

The Wire Worm.– Mr. Harmon Bay informs the Chico *Enterprise* that the wire worm has made its appearance in several of the wheat fields of his section. It is a small yellowish worm, about the size of a darning needle, and attacks the main stem of the grain just under the ground, and wherever it works is very destructive.

Chilled to Death.—Capt. Seymour, Chief of Watch on Mare Island, lost a valuable cow of the Durham breed, from the chilling weather on Friday morning last. She was valued at $150.

Unfortunate with Horses.—The Hon. Nathaniel Coombs, of Napa City, recently lost his fine young horse "Tophet"—a first-class race horse—by lung fever. Mr. Coombs has been unfortunate of late years. He lost the splendid race-horse, Strideaway, by poison, his fine Lodi colt, Primero was thrown out of training by striking his leg, and now Tophet is gone. Mr. Coombs is one of our oldest turfmen and stock breeders, and has very fine stables at Napa City.

More Tule Reclaimed.—Another stretch of about 900 acres of tule land is to be reclaimed in Solano County, lying on Nourse's slough, north of Suisun bay and east of Fairfield.

Penns Grove Grain.—Some specimens of thrifty grain from Penns Grove Ranch, in the Petaluma valley, has been exhibited in this city. A stool of wheat was exhibited, with stalks thirty inches high; also Norway oats twenty-six inches high. The growth is represented as being very luxuriant; but not better than may be found in many other localities in that valley.

Large Asparagus.—Mr. A. Cleveland of Alameda county, is supplying this market with a mammoth species of asparagus, with stalks about an inch in diameter.

Sugar Beets in Santa Cruz County.—Messrs. Ford & Sanborn and Messrs. Blackburn & Waters, have planted some sugar beet seed near Watsonville, with the object of raising a few tons of beets, to be tested at the Alvarado mills. If sufficient saccharine matter be found it is expected that a mill will be put up in hat neighborhood by another year.

Wine and Wool.—Two car loads of wine, and two of wool, left Sacramento on the 5th instant for the East.

More Vegetables for the East.—Another car started East from Sacramento on the 5th inst., loaded with asparagus and other vegetables, and a small lot of salmon.

West Brothers, of Stockton made 15,000 gallons of wine last year. Their vineyard, which we have already noticed, covers about 50 acres of ground—35 of which are in bearing condition, 15 being yet young, but of choice varieties. Col. Wilder, when here, said of the sherry wine made at this vineyard:—"I find it equal to much of the choice wine of old Spain."

Time for Transplanting Orange Trees—The Santa Barbara press publishes a letter from Mr. O. W. Childs, of Los Angeles, giving the proper time for transplanting orange trees. As the idea seems to prevail here that it is growing too late to set out orange and lemon trees, we republish the letter for the benefit of many of our readers:

"In relation to late orange tree planting: March and April are months in which most of such trees are transplanted here. I wait usually until April fogs make their appearanc, since foggy weather is fine for moving trees, and you can transplant orange or lemon trees easily, even in the month of May, with success. January and February are, perhaps, the worst months, especially if we have cold wet weather. In fact the roots of lemon and orange trees will rot before they will grow in cold, wet ground."

Almond Culture.—The San Jose *Mercury*, in noticing the fact that much attention is being paid to the culture of the almond in Santa Barbara, suggests that more attention should be given to it in Santa Clara and other counties, adding:—"We believe with proper care it would be made highly profitable. The writer has several almond trees at his place near the Guadalupe which are literally loaded with almonds nearly half grown. The trees are but four years old, but the bodies are six inches and over in diameter."

The Olive Crop of Santa Barbara promises to be by far the largest crop of that fruit ever raised there.

The Fruit Prospect.—The San Jose *Mercury* says the prospect is most encouraging for an immense crop of fruit in that section. Apricots are now as large as nutmegs, and the trees are loaded as we never before saw them. From present indications there will be an immense yield of cherries, peaches, plums, prunes, nectarines, and in fact all kinds of fruit produced in that valley. Strawberries are just coming into market.

We hear of similar reports from nearly all portions of the state.

A Large Corn Crop is being planted in Los Angeles county, and it is said that all the available water in the rivers will be used for irrigation. If the present prices for this serial continues until the next crop comes in, the Los Angeles farmers, and all others who have planted corn, will reap a rich harvest.

Artesian Wells.—Mr. George Wiggin of Pacheco, has, within a few days succeeded in reaching a fine vein of artesian water on the property of Dr. L. C. Frisbie, at the Government Ranch. The well is sunk to a depth of 215 feet, and flows an inch and a half stream of water.

Mr. Samual Adams of Los Angeles, has also succeeded in striking a magnificent stream of water at a depth of 188 feet. The *News* says there are now twelve or thirteen fine artesian wells in the limits of the city, and there are none who have attempted to get artesian water but have succeeded.

A Mammoth Mushroom was brought to San Francisco the past week, which measured three feet in circumference. The circumference of the stem was 18½ inches. This huge fungus was found, with many others nearly approaching in size, on the ranch of T. L. Smith, on the bank of Coyote river, San José.

Cotswold Sheep for Mutton.—The crossing of the Cotswold with the common merinos greatly increaes the value of the carcess for early marketing, as well as adding to the length of staple of the fleece. An instance is cited in an Atlantic paper of a Cotswould lamb which was dropped at Peabody, Mass., on the 21st of February, 1870. It was killed when three months and seventeen days old, and weighed 108 pounds. It sold for $21.60, or twenty cents a pound. If our farmers would raise such sheep they would find it much more profitable than marketing the scrubs which form the most of the mutton which finds its way into the market of this city. The price of improved breeds of sheep is now within the reach of all. The Buckley Bro's. sold last week, at their ranch, to San Francisco dealers, delivered on the ranch, five hundred quarter breed Cotswold lambs, at two dollars per head. This sale is worthy of being brought to the notice of sheep breeders generally. It is gratifying to observe that so many of the sheep raisers of this county have turned their attention to the improvement of the breed of their stock, and are satisfied that all will reap great advantages by continuing to breed up to a high standard of perfection.

Sage Brush Pastures.—Now that it is almost certain that feed for stock will be short in nearly every portion of California the present summer, says the Stockton *Republican*, owners of cattle and sheep are casting about to find feeding grounds for their herds. As in 1864, large bands of cattle will be driven to the tules, which, in dry seasons especially, afford splendid pasturage, but their ranges are not of sufficient extent to accomodate all. The next best thing to be done then, is to go to the sagebrush plains of Nevada. There the range is unlimited, and the subsistence never failing. The Sacramento *Record* informs us that already arrangements have been made to ship 3,000 head of cattle by rail to Nevada from Livermore Valley, to be fatted for the market.—*Alta.*

Vitality of Grape Vines.—A lady having occasion to use a support for an ivy plant which she was raising in a pot, took an old grape vine cane and thrust it into the earth. Some time afterwards, wishing to move the ivy, she pulled up the old cane and found to her astonishment, that it had sent out shoots, and was making vigorous efforts to take root itself by the side of the ivy. This bit of grape vine had been used for a long time as a cane, and for years, which no one in the family could number, had ben lying about the house. This may be true, but it is open to serious doubt, at least.

Tanneries.—Benicia has three excellent tanneries, owned and worked by Brown & McKay, Stewart Bros., and Gough & Campbell. They easily turn out 30,000 sides of leather per annum, and if worked full up to capacity, would make 40,000 sides of leather annually and of the best quality.

Rascally Lions.—The *Sentinel* says Mr. Charles Mastin, who resides near the turnpike road, on the head waters of Bear Creek, recently lost upwards of thirty Angora and Cashmere goats by the depredations of California lions. Two goats were taken in daylight, in plain view of Mr. Mastin, who was pruning grape vines in an adjoining field. The lions are unusually numerous.

## OREGON.

The Oregonians say they can do better by selling their wheat directly to European shippers, than to convert it into flour for this market, or ship it here to be transhipped to Europe.

The rain fall at Portland during March, amounted to 9.75 inches.

Shade Trees.—It is said that more than 2,000 shade trees have been planted this spring along the public streets in Salem. Owners of property there never did a more sensible thing.

The agricultural reports from Eastern Oregon are highly encouraging.

The lands of the Oregon and California Railroad Company have been transferred to the Oregon and European Land Company.

Oregon Agricultural Society.—It appears from the financial exhibit of the State Agricultural Society as published in the *Farmer*, that the gate receipts at the last State Fair were $8,510. Entrance fees amounted to $1,471.10. The Treasurer reports only $81.18 on hand.

Going Eastward.—The *Oregonian* learns that quite a number of the old settlers on the South Yamhill river, are selling their farms and buying cattle with which they will emigrate to Willow Creek and Ochoco valleys, Eastern Oregon, as soon as the season is sufficiently advanced. Private letters from Ochoco, report that the winter has been very rough in that valley in the way of wind, rain and snow; the wind has blown terrifically.

Valuable Cattle.—A gentleman from the Dalles informs the *Oregonian* that a Dr. Mitchell, of that place, has sold thirteen head of imported cattle, young and old, for $3,000 coin. A couple of these were the young bulls exhibited last year at the State Fair. This is another significant fact in favor of raising fine blood stock.

The Land Fever, according to the *Sentinel*, has been running high for some weeks in Jackson county. Homesteads, pre-emptions, private entries and school lands, have been the prevailing theme among the speculating men of the country.

Cashmere Goats.—The Oregon City paper reports that Mr. C. W. Cook, who recently visited this city, took back with him twelve fine blooded Cashmere goats. These goats are regarded very valuable for their fine coat of pure white wool.

The Willamette Valley.—A correspondent of the Oakland *Termini*, writes as follows of this beautiful and productive valley:—The Willamette Valley is 12 miles long by about 50 miles in width, and contains about 2,000,000 acres of good tillable land. It is one of the richest agricultural sections of the State. Well watered by the Willamette, running its entire length, the Santiam, Clackamas, Yamhill, Pudding, Mary's, and creeks of lesser note, with an abundance of rain, always insuring a crop; no better place for the enterprising farmer can be found. The attention of the farmers here is mostly turned to raising wheat, oats, barley, flax, etc. Fruits of all kinds and of the best quality grow here in abundance, and these productions all find a market and command a price in San Francisco. Some two years ago, several farmers shipped off a large cargo of wheat at Portland for Europe, hoping to find a good market for all their wheat; but the speculation proved not over remunerative, the expenses of shipping eating up all the profits. The amount of rain falling here in the winter keeps the grass green and tender nearly the whole year, and affords a good pasture at a cheap rate. Minerals of all kinds are found throughout the entire valley. * * * There is many a fortune awaiting the honest, industrious, enterprising farmer in the vast area of Oregon; many a fortune lies buried in her hills and valleys and mountains; her rivers bear along their swift currents wealth to those who will accept the offer. As yet this country is in a comparatively undeveloped state. Thousands of acres of good government land are to be found in the Willamette Valley, as well as in other parts of the State, of rich soil, that have never yet been touched. Immigration and the outlay of capital is only needed to make this one of the first States in the Union.

## MISCELLANEOUS.

Hogs in Cincinnati.—The total number of hogs packed in Cincinnati this season, as reported in the *Price Current*, is 498,000, against 347,000 last year.

Numbers of Swiss emigrants are colonizing in Tennessee, and are going into the manufacture of cheese, with all the necessary implements for which they are fully provided.

Large Yield of Corn.—It is reported that Isaac L. Sahler, of West Brandywine, Pa., raised last year on one acre, 131 bushels and 26 pounds of shelled corn.

Large Hennery.—A man in Lowell, Mass., encouraged by the success of Warren Leland, has completed preparations for keeping 3,000 hens.

The Prong Hoe.—Dr. Thurber says Hexamer's prong-hoe is of great value "for loosening the soil after a rain, and all rather deep working of the soil that is to be done by hand."

The Oleander Poisonous.—We clip from the Cincinnati *Gazette* an item which calls for investigation:—

It may surprise some of our readers to know that the oleander, so popular as a house and yard plant, is extremely poisonous. Dr. T. L. Wright, in a communication to the Bellefontane (O.) *Republican*, says that he was called to attend a child a few days ago, who had eaten some small fragments of an oleander bush that had been clipped off. The symptoms were sudden and violent, and nearly fatal. Deathly prostration, sunken eyes, great pallor, incessant vomiting, extreme thirst and purging were the predominating symptoms. An old medical work quoted by the doctor, after describing the poisonous qualities of the plant, adds: "When handled in a close room, when the stomach is empty, it causes a numbness, coming by degrees, which shows that something poisonous belongs even to the smell of it." The "United States Dispensatory" mentions the fact that it is used by the French peasantry as a rat poison, and that while the deadly principle exists both in the leaves and bark, it is more active in the latter.

Mammoth Melon.—E. T. Medearis, of Mt. Sterling, Ill., writes the Prairie *Farmer* that one of its Colorado subscribers sent him a few seeds of the Colorado Mammoth Muskmelon last year, and that from three plants he obtained all the melons his family wanted. He thinks them as good as any of the small melons. His largest melon weighed 21 lbs., and was 2 feet 5 inches long, and 2 feet in circumference. Grown on white oak ridge and manured slightly in hill; no extra cultivation. Persons having anything in the flower or vegetable line that they wish to exchange for a few melon seeds can make the exchange by addressing him.

# Home and Farm.

## How to Destroy Gophers.

Ed. Press:—Having read of many methods for the destruction of that little depredating rodent—the gopher, none of which on trial, have proved efficacious,—I have at length, after much experimenting, hit upon a prescription which I think, if adopted generally, will go far towards eradicating these abominable pests.

Place over a slow fire a vessel containing water; within this vessel place a can containing one pint of syrup. When the syrup is heated to about 90°, drop in a piece of phosphorus about an inch in length and stir slowly with a wooden stick, the phosphorous will dissolve in about one minute. Now stir in common white flour until the whole is of the consistency of good thick paste; let it cool and it is ready for use.

Take potatoes, (carrots, beets, onions, etc., may answer, but nine have had the best success with potatoes); slice them up, handling as little as possible, and smear on, with a wooden or metallic knife, some of the compound. Go around in the morning, when the holes will be found open, drop in a slice of potato, thus "buttered," close the opening with a clod, and the work is done. Caution should be exercised in making the mixture, not to get it too strong of phosphorus; it should not smoke when exposed to the air; and be exceedingly cautious in keeping this poison out of the reach of children, on any animal you don't want killed. Phosphorus, is a dangerous article, and should only be handled by very careful individuals.

Ameilius Kamp.

San José, March 28th, 2871.

## Uncle Sam's Farm.

In spite of the immense grants to railroads, the United States is still the greatest land owner in the world, and is literally rich enough to give us all a farm. East of the Mississippi there are still about 60,000,000 acres of public lands not yet disposed of, chiefly in Iowa, Wisconsin, Minnesota, and Michigan, and west of that river—not including our Alaskan purchase—there are 993,742,562 acres, distributed as follows:

| | |
|---|---|
| Iowa, Missouri and Arkansas | 16,000,000 |
| Dakota and Wyoming | 145,295,284 |
| Montana | 86,904,605 |
| Kansas | 43,148,876 |
| Nebraska | 52,523,627 |
| Colorado and Idaho | 117,800,000 |
| New Mexico and Utah | 124,140,000 |
| Nevada and Arizona | 136,000,000 |
| Minnesota | 36,776,170 |
| California, Oregon and Washington | 201,000,000 |
| Indian Territory | 44,154,000 |

This would give a nice little farm of over twenty-five acres to every man, woman and child in the country.—*S. F. Call.*

Mixed Husbandry.—A statement at the Farmer's Club, Rochester, N. Y., by Mr. Wheeler, a revenue assessor, is to the effect that he had found that men who gave their attention chiefly to raising wheat (unless they had a family of boys to do the work) returned small incomes, while those engaged in mixed husbandry usually returned good incomes. Even the wheat growers made much of their profits out of the small amount of other crops and from their limited stock.

Blooded Stock and Bees in Utah.—Robert L. Campbell, Secretary of the Agricultural Society, at Salt Lake, writes us as follows:—

We have lately organized a Stock and Bee Association. Mr. Wm. C. Rydalch, in behalf of our stock interests, visited Canada this last winter and purchased about a dozen Durham bulls and cows. The stock association bought from Mr. Rydalch the prize Durham bull, "Duke of Northumberland" for about $5,500. After selling out his imported lot, Mr. R. has gone East again to buy more, and thinks of trying some of the Western or Southern States this trip.

Mr. W. D. Roberts, the bee agent, visited the Bee Convention held at Indianapolis last December, and represented the bee interests of Utah. He brought home about 250 stands of Italian bees; sold out, and has now returned East for more. When we settled this mountainous region, we attempted bee culture, but were not successful. Of late, the efforts of all who have given attention in that direction have been crowned with success, hence, there is a universal demand, and the Italian bee is invariably asked for.

## Hose-Sprinkler.

The accompanying illustration shows an exceedingly neat and useful apparatus, which is used as a sprinkler for vegetation and wherever a spray is beneficial or useful. The device is the invention of an engineer of this city and is manifestly a great improvement on the sprinklers which are commonly used. The drawing shows the sprinkler in operation, and also the essential part of the device which is represented as lying on the walk in the foreground.

The apparatus consists of three or more hollow curved arms, attached to a central cylinder which revolves upon the upper end of a vertical pipe to which the hose is attached. Holes are made at intervals through the vertical pipe in the track of the openings in the curved arms. These allow the water to be forced out through the arms when the holes in these arms are opposite the holes in the vertical pipe, but cut off the supply at other times.

The reaction of the water escaping from the ends of the arms, causes these to rotate, but instead of the stream being thrown in a circular track, as would be the case were

ANDERSON'S IMPROVED HOSE SPRINKLER.

the water fed into the arms continuously, the alternate cutting off and letting on the supply, effected by the means above given, causes the water to be distributed in a fine spray over the whole area from the center to the circumference. The apparatus is mounted on a neat tripod, and its effect when in operation is exceedingly pretty.

This sprinkler is economical of water, which it uses to the best effect, throwing the water in a fine spray so that it is all absorbed in the ground and does not run off. Hence, also, it does not need to be changed so often as other devices of the kind. It will water an area ten to fifteen feet in diameter with an easily obtained pressure, say, from a tank twenty to twenty-five feet high. It is an ornamental appendage to any grounds; is very durable, being entirely of brass; and is not liable to get out of order. The only possible danger is from overturning the stand, when one of the arms may be bent; but these are easily replaced.

These sprinklers may be seen in operation on the Plaza or on the grounds of Mr. Milton S. Latham, in this city. Mr. R. H. McGill, at Alameda, and Mr. Tubbs, at Brooklyn, are using them. At Oakland, Dr. R. E. Cole, Messrs. G. W. Armms, J. De Fremery, R. Gibbons, N. W, Spaulding, and others employ them. They give the best satisfaction wherever used and are rapidly increasing in favor.

A patent has been granted for the device, through the Scientific Press Patent Agency, to Mr. William Anderson, of this city. The sprinklers are manufactured and sold by W. T. Garratt & Co., corner of Mission and Fremont streets, S. F., to whom apply for further information.

## The Ferret and its Usefulness.

Editors Press:—I beg to offer you a few lines with regard to the ferret, which is a most useful little animal, both for town and country. It is the natural foe of the rat and rabbit tribe, and as such must be a friend to every farmer, besides which it offers every one an hour's amusement whenever they want it, or rather, I ought to say, an hour's exercise and excitement. Squirrels and gophers are poisoned and caught by means of traps, but these are slow, expensive and dangerous methods; the money expended in a dozen traps would purchase a ferret, and would catch five times as many animals in a less space of time. Poison is dangerous to other animals, as well as expensive.

A ferret put into a gopher or squirrel hole would master its inmate in a minute or two. For ferocious courage they are not even excelled by the thoroughbred bull-dog, which, with their great activity, gives them an advantage over much larger animals than themselves. Put a ferret into a corn stack and the rats leave *sans* ceremony,—aye, quicker than illicit distillers with an excisemen after them. You have only to keep a lookout with stick in hand and put a head on them. For people of combative or destructive tendencies this is a much better method of letting off steam than trying it on those *sui generis*. The gophers would either come out of their holes to let you "went for that infamous species of the genus *mus*," or also they would be throttled instantly, whilst squeaking dissatisfaction at their burglarious foe.

As squirrels have, I believe, only one entrance to their holes, I expect the introduction of a ferret therein would necessitate a breach of the peace. Ferrets are more pugnacious than "Nye" of immortal fame, and right or wrong, never grant right of way on the track they pursue. Rabbits have many entrances to their holes, so that it would be necessary either to net the holes or stand, gun in hand, ready for a snap shot. But this is dangerous sometimes, for a school-fellow of mine, who was of an excitable disposition, shot a fine ferret as it poked its head out quickly from a deserted rabbit hole. Nets are best for rabbits. They require to be about 42 by 30 inches in measurement, with a 2½ inch mesh. I do not know whether ferrets can be procured in San Francisco, but I know they can East.

The ferret belongs to the same tribe as the stoat, weasel, ermine, sable, etc. There are two kinds of them—one brown, the other white. They say the brown one was originally obtained from the polecat, a large and very savage species of the above family. It certainly resembles it in color and disposition, but is considerably smaller. This kind is the one chiefly used for rats, on account of its greater ferocity and strength. The white ferret was obtained from the stoat, and is the kind used for rabbits. It is much more docile in disposition than the former, and can be trained to a finer point, so that it will obey like a dog. But I have used the brown ferret for both rats and rabbits.

The female has only one or at most two litters of young during the year, from two to five at a birth. They are subject to a disease of the feet, if bred in, or not kept clean. They have a very strong smell, and consequently require to be kept in an outhouse or stable, and the sand or straw in their cage should be changed once a day. They are all harmless, unless teased at feeding time or hurt, when they will bite their master as soon as look at him; but then, though painful, there is no attendant danger thereupon. The largest are about 20 inches in length from tip of nose to end of tail; but they are not above 2 to 2½ inches in hight, their legs being very small; wherever a good-sized rat or gopher can go, they can. A small bit of meat is all they require each day. In conclusion let me say that this is indeed a valuable animal to every farmer and country resident, and I trust it will not be long ere they will be as common as they now are scarce.

E. W.

## Agricultural Operations in Montana.

Editors Press:—We have not got fairly about our spring's work here yet, though it is well under way in some of our valleys. As for that matter, however, we might have been doing "spring's work" all winter, for the weather has been mild and delightful, and our roads dry and dusty. Indeed, strange as it may seem, the lack of snow is our great drawback here in the Rocky Mountains. We have not had two inches of snow on the ground at any time in our valleys and foothills this winter, though it is said that there is enough in the mountains to make a more prosperous mining season than we have had for some years, and our farmers are preparing for an increased demand for agricultural produce, that a successful mining season will develop, by cultivating an increased area of land. In fact our people have been steadily paying more and more attention to agricultural pursuits, as their preconceived opinions in regard to climatic difficulties, etc., have vanished before *demonstrated* facts, which prove that, for bounteous yielding of the staple agricultural products, our valleys are second to no land on the continent.

We have raised as high as 87 bushels of wheat to the acre, and other grains in proportion, and I will not here go into figures in regard to potatoes, onions, cabbage, etc., for fear that I might shake your faith in the old proverb; but they yield enormously. But while Montana is great in an agricultural point of view, as a grazing and stock-raising country she is pre-eminent. Our cattle fatten on our foot-hills and in the mountains the year round, never having to be fed. Manage to live, you suppose? They are rolling fat all the time. Our "bunch grass" for fattening stock, exceeds anything that ever grew, and its great nutritious quality is maintained through the winter, as we have no rains after it ripens to bleach it out.

Still, notwithstanding our unrivaled advantages for stock raising, I would suggest to our herdsmen and farmers whether they are not over doing the business at present. Our people, seeing a money making business, are apt to go into it "all over," and from that very reason, by over doing it, are pretty sure to come out "all under."

Fair dairy cows are worth $75 here now, and have been for the past year, while scrub cows—inferior, and that have never been milked—are worth $50 and upwards. Now this is a higher price, taking into consideration the quality of the stock, than is obtained in the most thickly settled States of our Union to-day; and it is a question for our people to consider, whether such a state of things can be sound and permanent. While stock raising must be a highly remunerative occupation here, when carried on under proper conditions; still it seems that the present high prices cannot long rule, especially after we have railroad communication with the East, which it now seems probable we soon shall have; and when the crash in the present inflated prices comes, as come it surely must, those who have invested largely at present figures, will find they have made an unfortunate speculation; while those who commenced when prices were moderate, and depended on the increase of their stock, will find that they have made money at whatever figures prices may go down to.

Milton.

Lake Washington Coal Mine.—The Alaska *Times* learns that a Mr. Dinsmore has arrived at Seattle to close the bargain for the sale of the Lake Washington Coal Mine, which was sold some weeks ago to a company of capitalists in San Francisco, for the sum of $51,000.

## Grape Growing, etc., in the Mountains.

EDITORS PRESS:—Grape grafting has become general in El Dorado county. The "V" knife spoken of some time ago in a communication to the PRESS, by Mr. Briggs of Alameda county, is not in favor here; although the inventor is a resident of this place. The manner of grafting the vine is to dig the earth from around the roots to the depth of about four inches, saw off the vine, then split or saw the stump to the depth of about one inch, and with a sharp, thin-bladed knife, smooth each side next to the bark, and fit the scion which should have about three buds; after which the earth should be closely packed around the stump and graft, leaving one bud just at the top of the ground. I am told that from ninety-five to ninety-seven per cent. of vines treated in this manner grow and in most cases bear a small crop the same year.

Mr. W. B. Othick, of Coloma, informed me that he has taken 15 lbs. of flame colored tokay, from a graft of that kind, set to a California Mission grape root or vine; but from three to five pounds is a fair estimate for the vine to produce the first year.

### Are Vineyards Valuable in the Foot-Hills?

In an action of B. N. Bugbey, of the Natoma Vineyard, in this county, against the Natoma Canal Co., for damages in going through Mr. B.'s land, that gentleman showed by several witnesses that his vineyard was worth more than $250,000; that 85,000 to 90,000 vines produced from 600 to 800 tons of grapes worth at least $50 per ton, or more than $30,000; and after the Commissioners had taken testimony for more than twenty days, and had also visited the premises, they rendered an award in favor of Bugbey and others, of over $19,000 or nearly $2,000 per acre for the land used by the Canal Co.

C. D. Brook, of Diamond Springs, whose vineyard and peach orchard I have spoken of in a former communication, in a contest before the Land Office at Sacramento, in proving title, testified that his place was worth more than $12,000 and a witness for Brook, an old resident of the county, testified that in his opinion the place was worth $19,000. B. N. Bugbey, said in his examination that he could afford to pay $25 per ton for grapes delivered at Shingle Springs and considered them worth twice that amount when delivered at his place in Folsom.

It is no wonder, that in view of such facts as these more vines are being planted out this year than at any other time before.

Fruits of all kinds paid the producers better last year than ever before; hence the effort at this time to increase the number of vines and fruit trees.

For the year ending the first of May next, there will have been manufactured from 10,000 to 12,000; gallons of brandy, in this county, which at this time finds a ready market at from $1.50 to $4.00 per gallon. This wide margin in price is caused by the amount manufactured and its reputation in the market. B. N. Bugbey's make, distilled by the Johnson process and put up in nice eighth pipes—22½ gallons, of uniform strength and color, readily commands the highest figure: Many manufacturers pay no regard to the size or condition of packages, allowing them to range from 10 to 200 gallons capacity each, and the strength varying from 8° below to 30° above proof, some with and others without coloring; and under a combination, it is said, of liquor dealers in San Francisco, the price has run little if any above $1.25 at the manufactory.

But the combination game of the dealers is now played out: for I know that orders have been received here from the East to purchase all that can be procured in the county—the price ranging from $1.50 to $2.00 in coin, per gallon.

J. W. Foster & Son., of this place, ship their wine to Chicago, where it nets them about $4 currency. That manufactured by B. N. Bugbey, of the Natoma Vineyard, Foster & Son., of Placerville, R. Chalmers and W. D. Othick, of Colman, and C. G. Carpenter, of Diamond Springs, is sought after by Eastern purchasers.

In a former communication to the PRESS I spoke of J. W. B. Dickson's shipment of two car loads of brandy and wine to his brother at Meadville, Pa. Dickson has now filled another order from his brother for 2,000 gallons of brandy at $1.50 per gallon, he furnishing the packages. This, he tells me he is going to ship by Panama, believing it will go quicker by that route than by rail, and at much less freight. By contract the last shipment was to have been delivered in 17 days; but was over 40 days in transit.

Fruit trees are late this spring in putting forth their blossoms, but appearances indicate a full crop.

### Wheat in the Foot-Hills.

T. J. Patut, a farmer residing near Gold Hill, last year raised on five acres of ground, 166 bushels of fine seed wheat, said by judges to be the finest ever raised in the county. Patut summer fallows, and this year he has one field of 17 and another of 23 acres of wheat sown on land prepared in that manner, and from present appearance he will harvest 40 bushels per acre. All who have adopted this mode—summer fallowing—unite in saying that a good crop of wheat or barley can be grown with certainty every alternate year in our foothill counties.

### The "Early Rose" Potato

Has been grown in this vicinity with success. From 27 lbs. planted by Mr. McKay in May last, in nine weeks he gathered 490 pounds.

### The Mines.

Notwithstanding the small amount of rain the past winter, mines have been more successful about here than for a long time previous. The Hook and Ladder company has not cleaned up in six months; but have paid thousands for water in that time. Blacklock & Co. are doing remarkably well, so are Hancock & Co., each using some 300 inches of water when at work. I know of one claim that has paid over $200, for every ten hours they have used water, and their water bill amounted to thousands in the last year at $20 per day. Some of the porphyry claims, I wrote you about when they were first discovered, one year ago, have paid enormously to the owners—while some have been a total failure.

There is quite a flattering prospect of a new canal being constructed the coming summer, which will insure a large and lasting supply of water. If my hopes are realized El Dorado will take an advanced position that will be hard to check, and will make her one of the wealthiest mining counties in the State.

Through the PRESS you invite your correspondents to send their photographs. To that invitation I intend to respond, it being about the second time that such a request has been made of me; the first having been made by a young lady of the "Hub City," some twenty-five years ago; but I palmed of the *original* on her, and although we have resided in California near twenty years, she has not as yet applied to the courts for redress. E. N. S.

Placerville, April 3, 1871.

## Wood Preserving.

There was laid on our desk, last week, a thin piece of wood, on which was pasted the following information:—

This piece of Stow Foundation Pavement was preserved by the Pacific Wood Preserving Company, and laid in New Montgomery street, in the city of San Francisco, during July, 1869. It was taken up March, 1871, and was cut from one of a hundred blocks laid in a body, to show the durability of the Stow pavement preserved by the Robins' process. All the blocks of preserved wood were found to be sound. The blocks are worn not to exceed one-eighth of an inch by the twenty months' service, which would give a durability of not less than twenty years, without repairs.

Works for preserving wood are on Berry street, near Fourth, San Francisco.

The wood is certainly in an excellent state of preservation and but slightly worn on the upper surface. The Robins' process, alluded to above, consists in placing the wood in air-tight chambers, connected by a goose-neck with a large still containing the oil of coal-tar or crude petroleum, as may be desired. The coal-tar or petroleum vapors, generated in the still, pass into the air-chamber, drive the air out of the wood, it is claimed, coagulate the albumen of the sap and fill the pores of the wood with creosote or carbolic acid. The wood is said to be thoroughly saturated with the preservative elements and protected against moisture.

# GOOD HEALTH.

## Water in the Stomach.

The first effort of nature when water has been received into the stomach, is to remove or take up from it all the elements of nutrition which it may contain. If it contains sugar or meat or anything else which may go to feed the system, those elements, if the stomach is in a healthy condition, are first abstracted and digested, and whatever of inorganic matters, it may contain, not needed in the system, are cast off by the excretories, or at least the effort is made to so dispose of them by those organs.

Sometimes minerals or other poisonous substances are taken into the stomach in such a form that the assimilative organs take hold of them and distribute them throughout the system, before the excretories can act. Poison is thus diffused in the system, more or less rapid in its action, according to its nature and the quantity present.

We often drink infinitessimal quantities of poison—generally disorganized vegetable or animal matter—in the water which we imbibe. The sickness in low swampy neighborhoods is generally due more to the water than the atmosphere. It was the deleterous substances in the waters of the Chickahominy swamps, *drank* by the soldiers, which decimated our army there—not the malaria of the atmosphere.

We have already alluded in previous issues, to the unhealthy nature of partially decayed food. Nothing but organized matter seems to aid in building up the system. Meat, flour, corn, barley, etc., when taken into the stomach in their natural condition, undecomposed by either cooking or any other exposure, are immediately digested; but when decomposition commences before they enter the human stomach, that decomposition is only accelerated there, and they are converted into poisons.

Sugar is produced from the cane or beet *without decomposition*, and is therefore a healthy nutriment. Alcohol is the result of the decomposition of sugar from molasses, corn barley, etc., and, is therefore poison. Medicines are generally poisons, taken into the system to accomplish certain specific objects, apart from building it up; alcohol is thus employed as a stimulus—its origin from decomposition precludes the possibility of its utility as nutriment. If taken in excess, like all other stimulants—which are always poisons—it is followed by a more than correspoding depression of power. Alcohol is a *goad*, a *whip*—good for proper use, but dangerous in proportion to its excessive employment. People cannot be ever careful in selecting good water, nourishing food, or too cautious in avoiding stimulants.

## In-Growing Toe Nails.

We described a mode of treating this painful trouble, a few weeks since, by filing the nail down, on the principle that one cause of the disease was an unnatural thickening of the nail. We now append the following upon the same subject from the *Herald of Health*:—

The most painful of the diseases of the nails is caused by the improper manner of cutting the nail (generally of the great toe), and then wearing a narrow, badly-made shoe. The nail beginning to grow too long, and rather wide at the corner, is often trimmed around the corner, which gives temporary relief. But it then begins to grow wider in the side where it was cut off, and as the shoe presses the flesh against the corner, the nail cuts more into the raw flesh, which becomes excessively tender and irritable. If this state continues long, the toe becomes more and more painful and ulcerated, and fungus (proud flesh), shoots up from the sorest points. Walking increases the suffering, till positive rest becomes indispensible.

*Treatment.*—We omit all modes of cutting out the nail by the root, and all other cutting and torturing operations. Begin the effort at cure by simple application to the tender part of a small quantity of perchloride of iron. It is found in drug stores in a fluid form, though sometimes in powder. There is immediately a moderate sensation of pain, constriction, or burning. In a few minutes the tender surface is felt to be dried up, tanned, or mummified, and it ceases to be painful. The patient, who before could not put his foot on the floor, now finds that he can walk upon it without pain. By permitting the hardened, wood-like flesh to remain for two or three weeks, it can easily be removed by soaking the foot in warm water. A new and healthy structure is found, firm and solid, below. If thereafter the nails be no more cut around the corners or sides, but always curved in across the front end, they will in future grow only straight forward; and by wearing a shoe of reasonably good size and shape, all further trouble will be avoided.—*Bostwick's Medical and Surgical Journal.*

## An Important Surgical Success.

On Thursday last, it was our pleasure to see, "bottled up," in the office of Dr. E. J. Fraser, at No. 108 Stockton street, an immense cancer, which he had a few days previously removed from the breast of a lady, from Alameda county.

We were so much interested in the case, that we visited the lady in person, (as she is still in the city under treatment) and from her received the following history:—

She is now 52 years old. About a year ago she discovered a small lump in the left breast. As it grew rapidly she employed the best medical skill she could find, to remove it if possible; but it continued to grow till it involved the entire breast, making a dark red tumor, as large as a child's head. It also extended across the breast-bone, and was rapidly progressing towards the other breast. The left arm was swollen to twice its ordinary size, was very painful and so nearly useless, that she could only with great difficulty, dress herself without assistance. The glands of her neck were swollen and very sore and painful, and there was a severe burning pain between the shoulders and under the shoulder blades. A large crack, half an inch deep and three inches long, extended across the breast, which discharged the peculiar cancer juice quite freely. It was an open cancer.

She had applied to several surgeons to have it removed, but no one could be found who dared to undertake so formidable an operation.

The whole mass was removed by the aforesaid surgeon in 17 days, by the use of a paste, of his own fabrication, without the loss of a drop of blood or a night's rest.

It is now sixteen days since the tumor was removed. The sore is fully two-thirds healed and looks healthy. The pains and swellings are all gone, her appetite is good and general health very much improved. On the whole it looks to us as though the cure would be perfect.

We are informed that all the different varieties of cancer, as well as lupus, are treated by this method with a success equalled by no other.

BONE FELON.—Of all painful things can there be any so excrutiatingly painful as bone felon? We know of none that flesh is heir to. As this malady is quite frequent and the subject of much earnest consideration, we give the latest recipe for its cure, which is given by that high authority the London *Lancet*:

"As soon as the disease is felt put directly over the spot a fly blister, about the size of your thumb nail, and let it remain for six hours, at the expiration of which time, directly under the surface of the blister, may be seen the felon which can instantly be taken out with the point of a needle or a lancet."

GOOD HEALTH is essential to a well-directed mind.

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SAN FRANCISCO:

Saturday, April 15, 1871.

## OUR WEEKLY CROP.

We send out this week a very nice Farm Wagon for our friends, that they may ride about our place. We take them on a tour for Collecting and Planting Mulberry Seed, for ascertaining information with regard to Protection for Tea and Silk Culture, and for Good Apples. Then we transport them to our library of Mechanical and Scientific Progress.

Here we look over the late Inventions, learn some interesting facts about the Industrial Progress of Australia, peep out at the Fata Morgana, and add to our vehicle an Improved Wagon Axle. Then we visit the Sheep Ranch, the Poultry Ranch and the Swine-Yard. We traverse the whole coast collecting Agricultural Notes.

A practical friend tells us How to Destroy Gophers, a cotemporary gives statistics concerning Uncle Sam's Farm, and a Salt Lake acquaintance writes concerning Blooded Stock and Bees in Utah. We ride to our lawn and witness the operation of a new and useful device, a Hose Sprinkler, just introduced. Here we witness the operations of the Useful Ferret and glance at Agricultural Operations in Montana.

Grape Growing in the Mountains forms a subject of considerable interest. The Department of Good Health is filled with valuable matter. The Vineyard is prospering well, as we see. The face of the Inventor of the Sewing Machine smiles a greeting to us.

The Home Circle is still unbroken and charms with stories in prose and rhyme, and the precepts of Domestic Economy are continued.

Once more we visit the Vineyard to witness the method of pruning, and then separate with a joke apiece from the Humorous man, to lighten up the Market Reports.

ARRIVAL OF SILKWORM EGGS FROM JAPAN. The silkworm eggs, which we mentioned two weeks since as *en route* to this city from Japan, have arrived. They consist of 135,000 cards, costing in Japan $675,000. The eggs were contracted for in Japan by a French house, at five dollars per card. Through the embarrassment of the war in France, the house was compelled to cancel all orders by telegraph, and could not meet engagements already executed. The Japanese merchants, eleven in number, on whose hands the eggs were left, immediately purchased a vessel with which they have arrived at this port in personal charge of their property. The eggs are reported to be fresh and in prime condition.

GONE EAST.—Mr. A. T. Dewey, the senior member of our firm, has gone East for a short time, to visit the "old folks." Any personal communications to him during the next two or three weeks, should be directed to Westfield, Massachusetts.

THE late rains are everywhere reported as having given new confidence in a considerable yield; but another rain will soon be needed as much as the last one to secure crops from nearly a total failure throughout a large portion of the State.

## IRRIGATION DITCHES.

The Calaveras and San Joaquin Water Company, lately incorporated, propose building a canal, 8 feet deep, 40 feet wide at the top, and 30 feet wide at the bottom, from the Mokelumne river, near Camanche, to Bear creek, San Joaquin county, thence to the Calaveras river, and thence to Stockton. It is claimed that the canal will irrigate at least 350,000 acres of land.

The Merced Irrigation Canal is being constructed by Wm. G. Collier & Co., work having been commenced in February. This is to be 50 feet wide, with a fall of one foot to the mile, and to extend from the mouth of the Merced river to Bear creek, near the Lone Willow, (where the latter stream will be dammed) to Farn's creek. From a point high up on this creek a canal will be cut along the hillside to a point about five miles above Snelling, to the Merced.

The San Gorgonio Canal Company, of San Bernardino county, has lately been incorporated. It proposes to divert and distribute the water flowing into San Gorgonio Pass.

RUINOUS PROFITS.—Much complaint is made at the high figure at which asparagus, and some other vegetables are held by middlemen and hucksters in this city. It is claimed that they ask two or three prices over what is paid to the producer, and yet the market is glutted. There are thousands who would buy such articles almost daily, if they could get them at a fair price. The excessive profits demanded by the middlemen often ruin the market to no advantage to themselves, while the producers are the chief sufferers. This same complaint is made in most other large cities. Is there no remedy?

TEA CULTURE IN CALISTOGA.—Although the failure of the tea plants at Calistoga last year gave an unfavorable impression to the culture, still, according to the *Alta*, renewed efforts are being made this year. New plants in better condition have been set out. Some of last years' plants are living, and irrigation is now provided. Under careful management this tea plantation promises success. Some reference will be found in another column with regard to Mr. Her Schnell's experiment in tea culture in El Dorado county.

A DEADLY POISON.—It is acknowledged by some of the medical journals of the day that there is a poisonous compound so deadly and active, that a letter containing some of it in an imperceptible quantity, will cause the reader to fall dead almost instantly with all the symptoms of asphyxia. One or two well authenticated instances are recorded.

NAHL'S ART GALLERY.—The "opening day" of this gallery brought hosts of lovers of art to the new photographic rooms of the Nahl brothers, on Montgomery street, opposite the Lick House. A visit to the place, last Wednesday, by invitation of the artists, whom the coast honors, formed a delightful episode of the week. The paintings, drawings and photographs, nicely and artistically arranged in the well appointed establishment, were convincing evidences of the talent and taste of the proprietors, to whom we wish the reward which they merit.

SUGAR FROM THE BOX ELDER.—Very nice sugar has been made in Warren county, Iowa, from the sap of the box elder. We made a brief notice a few weeks since of the manufacture of sugar from the box elder, which produces a sap, containing almost as much saccharine matter as the maple.

STRAWBERRIES are beginning to come in quite freely. The small fruit crop promises to be very abundant, the present season in this vicinity, if not generally, throughout the State.

## State Geological Surveys.

We learn, through the columns of a valued cotemporary, the *U. S. Min. and R. R. Register*, of two facts concerning State geological surveys, which are illustrative of what we should call practical sense and of profound stupidity. We incorporate the matter furnished by the paper alluded to into the following article.

One fact, which illustrates the fanatic stupidity, is the action of the Senate of West Virginia with regard to the State geological survey. A bill instituting the survey had passed the House, but failed in the Senate,—not on the grounds of practicability or impracticability, of expense or usefulness; but because of the opposition of several profound theologians and senators who declared that Geology was opposed to Religion. A friend suggests that those men are impious who call irreligious the hand-writing of the Creator impressed on the pages of Nature.

The other more interesting fact is the publication of the Report of Progress of the Iowa geological survey. This contains a novel feature which, we think, might be adopted elsewhere; in California, for instance. It appears that the State geologist contributes popular letters concerning his work to the newspapers from time to time, and thus the public get instruction concerning facts of interest to them which, where the scattered population possesses but few books, is of great importance. We think this an excellent plan. If our geological survey would thus furnish to the papers, and we humbly offer our columns for the purpose, reports from time to time and popular articles relating to geological facts, we believe they would benefit the public and help the cause of science.

PATENT EGG CASES.—Persons who ship or handle eggs in large quantities, will find it to their advantage to make use of Steven Bros.' Patent Egg Cases. These cases hold about 30 dozen eggs each, which are self-counting, (so that no mistake can be made) while they can be packed with the greatest ease and facility. Eggs shipped in these cases sell more readily; and are less subject to damage from being broken. No packing material is required. This is a California invention, and was patented through the SCIENTIFIC PRESS AGENCY, February 26th, 1867. The cases sell by the quantity at from $3 to $3.50 each. Parties desiring further information, should apply to the proprietors, as above, at the Union Market, on Howard street, in this city.

CHANGE IN WINES.—Mr. West of Stockton informs the *Farmer* that he finds that wines of all kinds made from the Mission grapes run to sherry—even heavy port, after a while, becomes sherry. The opinion is expressed that if these wines were passed through the new heating process, they would be increased in value from 50 to 100 per cent. There is a newly patented process, simpler and more effective than the "heating process," which will soon be introduced to the public on this coast, and by which all new wines, brandies and other spirituous liquors, of whatever kind or make, may be improved fully to the per cent. named above, and at a mere nominal cost. The process has already been thoroughly tested and proven.

THE HOWE SEWING MACHINE.—We give in another place an interesting history of the sewing machine and of its inventor. In the article, allusion is made to the "Howe machine," one of the very best, as there indicated. In the new building adjoining the "White House," on Kearny street, near Post, —at No. 113, one of the finest commercial buildings in this city—is the office of the machine and also of Butterick's pattern agencies. The elegant fittings, extensive display of goods and excellent machines render it one of the most attractive salesrooms on the coast.

## What We See and Do in Tulare County.—No. 2.

Peas that were planted upon an irrigated flat in the fall, have continued to blossom and grow all winter, though a little frost in January spoiled some of them; others are fit for the table now. We have just set out tomato vines, some in bloom. Cabbages are badly affected by lice. Beets do finely. I wonder if some of your readers have not failed to learn how good for table use the young mangel's and sugar beets are, especially the yellow globe variety. We raise them for stock by sowing the seed thick in beds, early in the fall, so that they are fit to transplant by this time, being from a quarter to half an inch in diameter. I set out some yesterday, cut off the tops and long roots, then followed the plow with a bunch in my left hand and pushed them down in the mellow soil with the right hand, about fifteen inches apart, in every third furrow. I think this is less expensive and better than sowing the seed in the field, after which the work of hoeing out and must be done. I tried some both ways last year. We are having fine weather now, plenty of feed, and the grain looks well; but we want more rain soon—another two inch storm. ISAAC B. RUMFORD.

Orange Grove, Vandalia, Tulare Co.

THE CABBAGE WORM.—The papers in various parts of the State are noticing the re-appearance of the pestiferous cabbage vermin, which has wrought such destruction to that plant during the last two or three years in the Eastern and Western States, and which last year made its first general appearance in this State. These vermin appear upon the leaves in vineyards, riddling them into skeletons, or so destroying them as to greatly dwarf their growth, and render them unfit for culinary purposes.

Various devices have been tried to destroy them; but generally, to very little purpose. A correspondent has communicated a remedy which he thinks is sure destruction to them, wherever it can be made attainable. It was tried last year by a gardener near Downieville, with perfect success, although his neighbors all around, had their plants almost entirely destroyed. He simply turned a stream of cold water upon the plants through an open hose, under large pressure, so that the mere force of the water drove them from the leaves, and so beat them into the loose soil that they were drowned or otherwise killed by thousands. Two or three applications of the kind are sufficient to get entirely rid of them. None, however, but certain kinds of cabbage plants will stand such rough usage. He cultivated a variety, which is remarkably hard in this particular, and which is supported on a very strong stem.

CASTOR BEANS VS. GOPHERS.—"C. W. T. C.," in relation to our query of last week with reference to the efficacy of planting castor beans in gardens, as a preventive to the incursions of gophers, writes us from San Gregorio, as follows: "I heard the same story several years ago, and undertook to clear my garden at the San Gregoria House. I raised a number of fine bushes, that made quite a show in the garden, and that was all I got for my trouble; as I still had plenty of work for my gopher traps, and sometimes close to the bushes. The gophers did not cut them, but had no repugnance to forage for what they did like close around them."

THE CUT WORM.—Mr. Morgan Covel, of Los Gatos, writes us that his way of destroying the cut worm is to take a light about 10 o'clock at night, when the worms would be at their work, and pick them off and burn them. He has long practiced this mode of destroying them to good advantage. This would no doubt do for gardens or small fields; but it is impractical when large tracts of lands are infested with these troublesome pests.

## INCREASING THE VINEYARDS.

We have no means, as yet, of estimating correctly the number of vines that have been set out this season, but it is undoubtedly much larger than in any previous year. The impulse which the war in Europe has given to this industry, and the improved system of managing the wine-making business in the State, which has been introduced quite generally of late years, is adding very rapidly to the number and size of our vineyards.

### The Orleans Hill Vinicultural Association

Have a vineyard in the foot-hills of the coast range, in Yolo county, about thirty-five miles nearly west of Sacramento. The number of vines now in the vineyard is about 40,000, mostly of two varieties of grapes—the Risling and the Orleans. They have just finished planting out their cuttings this season, which number 40,000—thus doubling the number of vines in their vineyard. They are also preparing a large quantity of land for an additional extension next year.

This company have adopted or selected the two above-mentioned varieties of grapes, which they propose principally to cultivate for wine-making. They have planted this year of the Risling 15,000, and of the Orleans 25,000 cuttings. The land of the vineyard is hilly, and the soil is well mixed with lime or chalk.

There is so much chalk mixed in the soil that the workmen can pick up lumps of chalk in almost any part of the vineyard, with which to chalk mark the stakes, with numbers of hills in rows, etc. These lumps are so pure and soft they can be cut easily with a knife. The company set the Risling vines on the north and northeast slopes of the hills, while those of the Orleans are set on the south and southwest slopes. The latter kind of grapes have been found by experience to do best in a warm and sunny exposure, while the former do better in a cool and more shady locality.

The vines are set four feet apart, each way, and much pains is taken to survey and lay off the ground, so as to make it most convenient to plow and cultivate, and also to locate the roads so that all points of the vineyard will be easy of access with the wagon to gather the grapes. The plan of

### Preparing the Ground

And planting cuttings, adopted and practiced by this company, is a most excellent one; and it will be well for other vine-growers to adopt and practice the same. In the first place, the ground is plowed and subsoiled from 12 to 15 inches deep, and then well cultivated or furrowed down smooth. Stakes of redwood are then set just where the vines are to be planted. Holes, two feet in diameter and twenty-two inches deep, are now dug close by the side of these stakes, and all on the same side of them, while the stakes are left standing. The surface dirt taken from the hole is then returned to the bottom of the hole, and the bottom dirt is deposited on the surface; thus entirely changing the relative position of the soil. This being done, the planting of cuttings commences.

### Manner of Planting the Cuttings.

The cutttings are made just twenty-two inches long or equal to the depth of the holes. The operator has an iron rod about three feet long, with a split or crutch in the lower end. He places the but or lower end of the cutting within this split and holding the iron in the right hand and the top of the cutting in the left, he places the lower end of the iron and the bottom of the cutting on the ground close by the side of the stake, and presses them at an angle of about forty-five degrees, down into the loose earth with which the hole has been filled, until the hard earth at the bottom of the hole is reached. He then holds the cutting in its place and pulls the iron from the ground, and with it works and presses the soil closely or compactly about the cutting, and the work is completed for that cutting; and so he goes to the next.

### The Advantages of this Mode

Of setting cuttings are obvious:—The bottom of the cutting from which the root must start rests upon the packed or compressed earth, pressed down and packed by the iron and cutting as they are forced through the soil. The top of the cutting is left about an inch below the surface, so as to protect it from the drying sun. The rich surface soil being in the bottom of the hole forces the growth of the roots and plant, while the soil being loose above absorbs and retains the moisture during the season.

We can recommend this mode of planting cuttings to all who propose to start new vineyards or extend old ones.

There are but few districts in European countries where the soil is composed of the same or similar chalky ingredients of that occupied by the vineyard of their company, and the principal of these are the far famed Johanagan and Champagne districts, from which the best and dearest wines of the world are made.

In the foot-hills of the coast range this kind of soil is prevalent, and as the climate of this country is so much superior to that of Europe, we believe the day is not far distant when the wines of the coast range will rival the very best European.

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THE PACIFIC RAILROADS.—We are indebted to the kindness of Senator Stewart for a copy of his Report in relation to freights on the Pacific railroads. The gist of the report is that the interests of the government are clearly connected with having the Pacific railroads remain as at present, and are best served by patronizing the roads to the full extent of the public business. Mr. Stewart has also sent us the Report of the Judiciary Committee with regard to whether the railway companies are bound to reimburse the government for interest on the bonds received from the U. S. before the maturity of the principal thereof. A negative answer is given.

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IRRIGATION FOR THE ORANGE.—Will the semi-tropical fruits grow without irrigation? The Los Angeles growers say the orange tree will, after the first year or two, and that irrigation, continued after the tree begins to attain size and strength, is positively harmful.

## The Inventor of the Sewing Machine.

It is said that we are producing the astounding number of one thousand sewing machines every working day at an average cost to the purchaser of sixty dollars each. Sixty thousand dollars daily paid for this substitute seems almost incredible. Yet we are told that there are single establishments which employ over five hundred machines; we know that there are millions of families in the United States, most of whom have or intend to have one; and we cannot visit any city of large size in the civilized world without stumbling across the familiar article.

To the man whose face appears on this page, is due the credit of inventing the machine which annually saves millions of dollars in labor. Prof. Renwick said on oath, in 1860, that he believed the saving of labor then amounted to nineteen millions per annum.

Elias Howe, Jr., the inventor of this wonderful machine, was born at Spencer, Massachusetts, in the year 1819. As a youth, he

was considered a jolly fellow, disinclined to extra exertion or steady labor, and not at all of the stuff to make a hero of. Yet he passed through a most dramatic life, underwent the toils and privations reserved for the inventor and made the more poignant by the knowledge of the great yet unrequited merits of his device, and produced one of the revolutionizing inventions of the age. It is a satisfaction to know that he finally received his reward.

In 1843, he set to work to invent a machine which should do what his wife was obliged to do daily, and in 1844 he had made a model which would actually sew. Aided by a kind friend (for he was poor) who wished to help him and was not disinclined to make a sudden fortune,—by George Fisher, a coal and wood merchant of Cambridge, Massachusetts,—he completed in May, 1845, a working machine, one which could be put into a box of a capacity of a cubic foot and a half, but which could sew at the rate of 300 stitches per minute. But this mechanical success was far from being a financial success. Although he proved the utility of the device in practice and before the public, he could not sell a single machine.

Failing to introduce it in the United States, Elias Howe, with his brother, went to London, where a certain William Thomas bought a part right for a mere song and engaged his services. For the sum of $1,250, William Thomas secured that which enriched him. Yet after a few months he took a course which drove off his benefactor, and Elias Howe was left almost penniless in London, with a sick wife and three children in America.

After suffering extreme want, this inventor returned to America in 1849, with $2½ in his pocket, to see his wife die. Among his friends again, however, he was enabled to get the means for a proper subsistence, and to war against the infringers of his patent right. Nine years after making his first machine, his right was legally established, and from that time fortune commenced to smile on him, and at the time of his death, Oct. 3d, 1867, he was a wealthy man.

While it has been proved incontestibly that Howe was the first inventor of the sewing machine, it is allowed that one or two others also invented a like machine, without knowledge of Howe's work, but at a later day; and that many valuable modifications have been since made. Yet it is agreed by disinterested and competent persons that Elias Howe, in his first machine, carried the invention farther on towards its complete and final utility than any other inventor has ever brought a first-rate invention at the first trial.

Among the late inventions of importance the "Mill's Treadle" must be mentioned. Many objections have been made to the use of the sewing machine by women, on the ground that physical injury results only too often. The treadle in question, which is attached to the Howe machine, according to the positive certificates of many prominent physicians of this city, entirely obviates the objections mentioned, and must therefore be awarded an important place in the history of the machine,

The sewing machines now offered to the public are really wonderful. They perform nearly all that the needle ever did. They seam, hem, tuck, bind, stitch, quilt, gather, fell, braid, embroider and make button holes. They are used in the manufacture of every garment worn by man, woman or child, from the stoutest to the most delicate. A very interesting collection of shoes, gaiters and lady's boots was sent to the Paris Exposition. There were all degrees of delicacy, from the stout Balmoral to the boot of kid, satin or velvet; and every kind of stitch had been employed in their manufacture. Some of the stitches were so small that they could not be distinctly seen without a magnifying glass, and some of them were as coarse and strong as those of men's boots. The special wonder of the display was that *every* stitch in every one of the beautiful shoes was executed by the machine,—by what is called the "Howe Sewing Machine."

We could speak at much greater length of this device, of its capabilities, its great utility, the saving of labor which it effects. But we have no space for more. Among the literature on the subject may be mentioned a most interesting article contributed some years ago by James Parton to the *Atlantic Monthly*, which we have used in part in our remarks.

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EXCELLENT READING.—Among the enterprising ventures of publishing houses to furnish the general public with really first-rate magazines, the course of the Leonard Scott Publishing Co., of New York, (No. 140 Fulton street), stands pre-eminent. By making special arrangements, they are enabled to furnish four of the leading British reviews,—the *London Quarterly*, *Edinburgh*, *Westminister* and *British Quarterly*,—and *Blackwood's Magazine* at low prices to American readers. These publications employ the best writers of Great Britain, and the subject matter is not only excellent in style, but solid and carefully prepared. Genius, taste and ability are called upon to consider the leading topics of the day and to present them in a comprehensive manner to the reader. The magazines cost in all but $15 a year, less than they do in England, a fact due to the energy of the American house named above.

BY OUR LADY EDITORS.

Grandmother Dale's Stories.

## The Broken Window.

BY NELL VAN.

[Written for the PRESS.]

Grandmother Dale sat in her comfortable chair by the fireside, one cool afternoon towards the close of August, rocking herself leisurely while knitting. We were all spending our summer vacation at the cottage, which had been the early home of mother, Aunt Eliza, and Uncle Fred.

Now, however, grandmother lived alone with her maid—dear kind Christie—and Tom, who attended to the cows and outdoor work. It had been our custom ever since our babyhood, to spend some portion of the summer time with grandmother, at Merridale Cottage, as it was called. There cousin Alice and I would swing together by the hour under the self same tree, where her mother and mine had passed so many hours in the same enjoyment. Very fond were we of each other, and seldom were we found separate during those delightful days spent at the cottage. Our homes were widely separated, and my father was neither wealthy nor a prosperous man in consequence of having been an invalid from early manhood. The home of Alice, on the contrary, was one of luxury and magnificence. A beautiful country seat in a town mostly occupied by retired merchants. She was a dear, loving girl of about my own age, and our tastes were so similar, that we enjoyed the same books, and were attracted by the same people. She and her brother Albert were aunt Eliza's only children, while George, Harry, and little Sarah, were uncle Fred's. Six happier children never lived than were we during those summer months, and grandmother often said it filled her heart with gladness to have us there, and we were, she thought, the most peaceable little people she ever saw.

We had all been out whortleberrying (or huckleberrying, as we children liked to call it), on that quiet summer afternoon, and came home to find the house very quiet, and the dear old lady sitting alone and knitting. In we came, with our tin pails and quart measures filled or partly so with the luscious fruit, our lips and teeth bearing testimony to the fact that our search had not been unsuccessful if our pails had not. Passing through the large and airy kitchen, we found the table spread for supper, and the gingerbread and johnny cake, which the maid had just drawn from the oven, filled the air with a fragrance justly appreciated by the fresh healthy appetites of childhood.

Entering the sitting room to display our treasures to dear grandmother, before consigning them to Christie's care, little Sarah threw herself on a stool at the old lady's feet, saying, "See my berries, gama, oh, I am so tired." Two of the boys still lingered on the lawn in front of the house, tossing balls at each other, when crash went Harry's ball through the window. "Ah!" said grandmother with a shudder, and a look of deep distress, "I have such a horror of broken windows; would you mind, Minnie darling, finding Tom, that I may send him directly for the glass, that he may set it before milking time." I hastened to the farm to summon Tom who was accordingly dispatched on his errand, while I, being of a curious and inquisitive nature questioned grandmother why she was so particular about the immediate replacing of the broken pane. "Well, my dear little Minnie," said she caressingly, ing, am so scrupulously particular about "you shall know why I, in my housekeep- broken windows. When I was a girl and lived in my city home I received my first lesson in thrift, if one may call it such.

A family who lived near us, with whom we had no acquaintance, occupied a large dismal looking house with dingy blinds. Their name was Judah, and the house was familiarly known as the "Judah mansion." The inmates were an old man, two grown sons and a daughter, who was at the time of my recollection a beautiful girl with large thoughtful eyes. Her complexion was very pale and delicate while her jet black hair was banded over her temples and shone like satin.

There was a domestic in the house who was her only companion during the tedious business hours, while her father and brothers were away. She therefore spent much of her time looking out of the front parlor window, and seemed to enjoy the quiet idle life she led, dull and monotonous though it would have been for us—gay, giddy, pleasure-loving romps, as we were. Involuntarily we ceased our merry chat, and checked our laughter, as we neared the Judah house and saw sitting there the marble-browed maid, gazing out with those intense eyes. Always at the same window did we see that sad yet youthful face, as we passed to and from school.

One day we noticed that a pane of glass was broken in the favorite window; but even that did not drive the girl from her accustomed seat. Day after day we saw her there, and wondered as the fall winds whistled through the trees why the window remained unrepaired. Months passed on and we noticed a hectic flush at times on the girl's cheek, and a hacking cough came on, while her face grew thinner and more transparent and her eyes more lustrous. Still she was ever seen sitting at the broken window looking out in her listless way. In early spring we missed her from the spot; and a strip of black crape streaming from the bell-pull in the Judah house told the sad tale that death had come to claim his own.

Slowly they bore away the lifeless form, followed closely by the three bowed forms, whose deep set eyes and heavy brows gave them a stern expression, fearful to look upon. Many were the conjectures of the neighbors respecting the death of the beautiful girl, and unanimous was the conclusion that her early decline was chiefly owing to the cold contracted by continual exposure to the draught from the broken window. Whether or not the father and brothers shared a similar suspicion through the closed blinds, we noticed the window remained untouched for months after their dear one's death.

But, Minnie, did not Christie call us to supper? I think it must be ready, and here comes Tom with the glass and putty; so now we will have no hectic cheeks nor cough from sitting by a broken window in grandmother's cottage, shall we Alice? And little Sarah, where is she? Oh, there she is at the table, emptying her tiny pail of berries into her bowl of milk, leaves, stems, and all. What a funny little puss she is! Where is Harry, the rogue, who, by his ball has awakened a train of thought, the relating of which has, I do believe, brought tears to the eyes of our gentle Alice, while Minnie has grown quieter and more sedate for my story."

"Call in the boys, Christie, and let us all have some berries and milk for supper." "Well, Harry, my boy, where is the naughty ball that broke grandma's window?" Looking up into grandmother's face, the little fellow said:—"The ball was not naughty; but the hand that threw it, dear grandmother; and, indeed, I did not mean to toss it so near the house. Will you forgive me and let me pay for the glass from the pocket money which father gave me?"

"That will be all right, my boy," said the dear old lady, pressing a kiss upon the boy's noble brow, and patting him gently. "What would the world be without little boys?" "And what would it be without such a grandmother?" we all echoed."

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PRECOCIOUS CHILDREN. — The distinguished Dr. Spurzheim says: "Experience has demonstrated that of any number of children of equal intellectual powers those who receive no particular care in childhood, and who do not learn to read and write until the constitution begins to be consolidated, but who enjoy the benefit of good physical education, very soon surpass in their studies those who commence earlier and read numerous books when very young. The mind ought never to be cultivated at the expense of the body; and physical education ought to precede that of the intellect, and then proceed simultaneously with it, without cultivating one faculty to the neglect of others; for health is the base, and instruction the ornament of education."

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"CULTIVATE not only the cornfields of the mind, but the pleasure grounds also" was a motto of Dr. Whatley's.

### Nine Years Old.

I'm nine years old to-day,
  Almost grown up, you see;
And I know enough to tell
  That nine is three times three.
And what are three times seven?
  If you can't tell I can;
It means six feet and freedom,
  And every inch a man.

I think I know my tables
  Very perfect for a boy;
But learning them, be certain,
  Was not a special joy.
However, that's all over,
  And I'm just three times three;
Nearly as tall as mother—
  Almost grown up, you see.

This morning father said
  That years don't make the man—
That nothing but the heart and mind
  Made one, or ever can.
But give me three times seven,
  And I will risk the rest;
Though mother says that of one's life
  The boyhood is the best.

I'm nine years old to-day—
  Almost grown up, you see;
And, whatever may be lacking,
  There's no baby about me.
I mean to study hard,
  And learn everything I can;
So that when I'm three times seven
  I'll be every inch a man.

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## HOME LIFE.

Of all happy households that is the happiness where falsehood is never thought of. All peace is broken up when once it appears there is a liar in the house. All comfort is gone when suspicion has once entered—when there must be reserve in talk and reservation in belief. Anxious parents, who are aware of the pains of suspicion, will place general confidence in their children, and receive what they say freely, unless there is a strong reason to distrust the truth of any one. If such an occasion should unhappily arise, they must keep the suspicion from spreading as long as possible, and avoid disgracing their poor child while there is a chance of its cure by their confidential assistance. He should have their pity and assiduous help, as if he were suffering under some bodily disorder. If he can be cured he will become duly grateful for the treatment. If the endeavor fail, means must of course be taken to prevent his example from doing harm; and then, as I said, the family peace is broken up, because the family confidence is gone. I fear that from some cause or another, there are but few large families where every member is altogether truthful. But where all are so organized and so trained as to be wholly reliable in act and word, they are a light to all eyes and a joy to all hearts. They are public benefits, for they are a point of general reliance; and they are privately blessed within and without. Without; their life is made easy by universal trust; and within their home and their hearts they have the security of rectitude and the gladness of innocence.—*Harriet Martineau.*

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## CHILD ANGELS.

For what are these child-angels made, that are sent down to this world to bring love and rapture, and go from us in such bitterness and mourning? If we believe in Almighty Love we must believe that they have a merciful and tender mission to our wayward souls. The love wherewith we love them is something the most utterly pure and unworldly of which human experience is capable, and we must hope that every one who goes from us to the world of light, goes holding an invisible chain of love by which to draw us there. Sometimes I think I would never have had my little daisy grow older on earth. The little child dies in growing into womanhood, and often the woman is far less lovely than the little child. It seems to me that lovely and loving childhood, with its truthfulness, frank sincerity, its pure, simple love, is so sweet and holy an estate that it would be a beautiful thing in heaven to have a band of heavenly children, guileless, gay and for ever joyous—tender spring blossoms of the Kingdom of Light. Was it of such whom he had left in his heavenly home our Savior was thinking, when he took little children up in his arms and blessed them, and said, "Of such is the Kingdom of heaven?"—*Mrs. Stowe.*

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A SHARP young woman says there is nothing more touching in this life than to see a poor but virtuous young man struggling with a weak moustache.

## YOUNG FOLKS' COLUMN.

### HISTORY AND DOWNFALL OF A HAT.

The following contribution to our "Young Folks' Column" is from a little girl 13 years old:

The first I remember of my existence, was being in a show window in a shop on Broadway. I was in the company of a large collection of hats, and was perched on the highest point in the window. Many persons in passing, greatly admired my glossy appearance, and I was soon acknowledged to be the most elegant hat in the the shop, though many of my acquaintances were very handsome. I, being a new arrival, the most of the hats crowded around me to enquire my name, and learn my former history, and were much interested in hearing of my long journey, and of my descent from a Parisian family of great distinction; some of my brothers having graced the brow of the Emperor.

So in honor of such a distinguished arrival among them, they concluded to give a grand party. Invitations were issued to their friends in the windows on that block, and as we were to have a large company, preparations were being made for several days previous. At last the evening came, and as soon as the shop was closed for the night, the guests assembled; the gas was now turned up, and the window was brilliantly lighted.

During the evening I was introduced to many distinguished guests, though there were none so rich and rare, and none who had so lately come from the hands of the great Parisian artists. It was now nearly time for the reopening of the store, so our guests having departed, we made haste to get ourselves in our former positions.

In the morning, the crowd was again passing by, and a great many were attracted to our window by the beauty of myself and friends. Presently two little match boys stopped and were admiring the hats, when suddenly the gaze of one was attracted to the highest pinnacle whereon I stood; and with glistening eyes and gaping mouth he exclaimed: "Sam, I say, Sam, ain't that a jolly fine hat? Don't I wish I was a man, wouldn't I have such a hat as that? I mean to save all my money and buy me one like it some day."

Before I could catch a reply, they were crowded aside by many anxious gazers. The next, who viewed my handsome proportions, was an old man with peaked chin and nose, and whose looks were silvered with age. He wore a very nice hat, but seemed to be wishing to lay it aside, and don the one in the window which attracted so much attention. Presently he entered the store, and wished to examine me more closely; after trying one on, turning round and round, scanning himself in a large mirror, he professed to be much pleased with his appearance, but was disappointed on enquiring my price to find it to be twenty dollars.

The next person who made his appearance, was a young clerk, who having seen me, entered the store, put his hand in his pocket and threw twenty dollars on the marble counter. I was then placed in a nice hat-box and sent to his room. Towards night he entered, and having brushed his hair, perfumed his moustache and handkerchief, donned his blue necktie and white kids, and squeezed his feet to his entire satisfaction, he placed me on his head and descending to the street, called a carriage and started for the theater. He arrived there in safety; but soon after having fallen in with some of his associates, he indulged too freely in wine, "between the acts," and by the time the play was over, he was pretty merry. He now called a cab, was helped in, and started for home; but he could not keep his head steady, and it kept knocking about until my top was knocked in, and my edges all rubbed. At last I fell off into the mud, but the cabman picked me up and put me on my owner's head, giving me a knock that pushed me over his eyes.

When we got home, I was pulled off and dropped on the floor, where I was carelessly left all night. The next morning, I was picked up and violently shaken around the room by my owner's little dog, and was at last taken by Miss Betsey Brown when she came to sweep the room, and thrown into the gutter. I was soon found by some ragged little urchins, who used me as a foot-ball. After they were tired, they they threw me back. The next morning I was picked up by the street scavenger, and carried out of the city, where I am left to perish, lamenting my sade fate.

# Domestic Economy.

## Artificial Appetites.

The tone of the stomach may be destroyed by insensible degrees—that is, without the individual experiencing any pain or any considerable uneasiness. Most people think their own experience or appetite the best test in regard to the fitness of any suitable food for their own use; and yet it is a well established fact, and patent to every medical man, that oftentimes things which *appear* to set well on the stomach, really produce very important disturbances, if not in the stomach, at least elsewhere in the system. In fact, the "tone of the stomach" may thus be entirely changed or destroyed. Such a condition of that organ is often caused by an excessive use of spices and stimulants of various kinds. It is thus that the taste for putrid food, to which we made reference last week, is acquired.

In support of the position that many of our *tastes* in civilized life are artificial rather than natural, it is quite common to refer to the same thing in domestic animals, who are taken away from the teachings of nature, and compelled to acquire artificial tastes and appetites, in order to render them more useful to man. Cows, sheep and horses are thus, in some places, as a matter of necessity, economy or convenience taught to eat fish—which, in their natural state, they will not touch.

As an instance, in case of the horse: Many years ago, when hay was scarce in the upper portion of Michigan, and along the shore of Lake Superior, the settlers were compelled to feed their animals, even horses, upon fish; and it is related of this region by Capt. Maryatt, in his "Diary," page 55: "You will see horses and cows disputing for offal; and our landlord told me that he had often witnessed a particular horse wait very quietly while they were landing fish from canoes, watch his opportunity, dart in, steal one, and run away with it in his mouth!"

Greasy Food.—Hamilton, in his "Men and Manners," makes a remark, the truth of which must strike every thinking man who has witnessed the propensity for grease which is so common among Americans generally. "The national propensity for grease," he says, "is inordinate. It enters largely into the composition of every dish, and constitutes the sole ingredient of many. The very bread is, generally, not only impregnated with some unctuous substance, but when sent up to the breakfast table, is seen to float in a menstrum of oleaginous matter.

This is floating toast, we suppose, which some people fish for with a fork, or a spoon, in an ocean of butter. Luckily he has said nothing of the 'short bread' and 'puddings' stuffed with grease; and of the Yankee 'doughnut' fried in grease. In Alabama they grease everything with pork fat. Even bacon swims in pork grease. The negroes actually drip with greasy perspiration."

## Milk and Its Adulteration.

The climate and season of the year have much to do with the amount of milk rendered by each animal; those contingencies also materially affect the nature and composition of the milk. In hot and dry seasons the quantity is less, but the quality is richer. Cold weather favors the production of sugar and cheese in milk, while hot weather increases the yield of butter.

An animal milked three times a day will yield a larger quantity than one milked twice, and more at two milkings than one in a day. But milk drawn but once a day is richer than that drawn thrice or twice.

From these observations it will be seen that the detection of adulterated milk is extremely difficult. The truth can be comparatively reached by ascertaining the minimum density of pure milk, and seeing whether the density of the suspected samples be above or below that. A lactometer—the instrument employed to determine the density,—costs but a trifle, and any child that can read figures can be easily taught to use it. By the use of such an instrument, a standard degree of specific gravity can be fixed, up to which all must come, and down to which anyone may adulterate, without detection.

Milk is variously adulterated—by the addition of water, chalk, starch, gum, etc., or by the extraction therefrom of cream. When water is added or cream extracted, the fluid has a bluish, flimsy look, which the adulterator endeavors to mask by the addition of chalk, starch, or a peculiarly prepared gum. The lactometer fails, for reasons well known to the expert, to detect, with any degree of certainty, any of these adulterations; but they can all be detected and their quantity determined by careful chemical examinations The cost of such examinations, however, preclude their general practicability.

How to Detect Wine Made from Cider.—Evaporate slowly a small quantity of the suspected wine to dryness; then gradually expose the residue to a slightly increased temperature, and if it has been made from cider or largely adulterated therewith, a peculiar smell of baked apples will be apparent.

How to Detect Chicory in Ground Coffee.—Pure coffee when sprinkled on the surface of water, remains there for sometime, and does not sink; but if chicory is present it will almost immediately sink, and tinge the liquid a brownish yellow. Again:—Chicory contains so much gummy matter that if the fingers be moistened, and a little of the suspected coffee be taken up between them, and well pressed together it can be moulded into a slightly adhering pleiet, while pure coffee will not adhere at all.

## Sugar, Starch, Etc.

Sugar and starch have very nearly the same chemical composition, but in some of their physical properties they are very different. Sugar is soluble in water, while starch is only diffusible through it. Sugar undergoes the process of fermentation, starch does not; sugar has a sweet taste, starch is almost tasteless. Starch, however, is convertible into sugar, and then assumes all the characteristics of other sugar, being capable of fermentation and of thus being converted into alcohol.

It is converted into sugar by the juices of the mouth and stomach, and this is the first process of digestion, with starch. Sugar, therefore, is more quickly prepared to be absorbed into the blood, and better adapted as a heat-giver for the young, and in warm weather, when the digestive organs are enfeebled. This is indicated in children by the almost universal love which they manifest for food containing it, and Nature furnishes it in the milk of all animals, and in the summer in fruits and berries and green vegetables, clearly indicating the importance and the appropriate use of sugar.

Sugar assumes three different forms in common articles of diet, which are very nearly alike in chemical composition, and have also the same peculiarities. These are called cane sugar, grape sugar, and milk sugar.

They vary in composition as follows:—

| | Carbon. | Hydrogen. | Oxygen. |
|---|---|---|---|
| Cane Sugar | 12 | 10 | 10 |
| Grape Sugar | 12 | 12 | 12 |
| Milk Sugar | 11 | 12 | 12 |

They are all alike sweet and soluble in water; but the cane and milk sugars differ from the grape in that they do not ferment till they have first been converted into grape sugar.—*Philosophy of Living.*

Sugar is found in almost all plants at certain periods of their growth and development. It circulates largely in the sap of trees and plants, just before they unfold their buds, and in some species—as the maple—in such quantities that the sap is drawn off for the manufacture of sugar.

Vegetables also contain more or less sugar, as the beet, the melon, etc. All grasses contain sugar just before the seed is formed, but it is nearly all used up by the plant in forming the seed; hence the importance of cutting grasses in the bloom. By so doing, the sugar is retained in the stalk for the use of the cattle. If allowed to go into the seed, it would be converted into starch, which, though almost identical with sugar, as shown above, is much less nutritious. The sugar cane is nothing but a huge grass, and holds the same relation to other grasses, in the amount of sugar which it contains, as the maple does to other trees. If the cane was allowed to ripen its seed, it would contain very little or no sugar.

## Domestic Receipts.

To Prevent Mould.—It is a remarkable fact, not as generally known as it should be, that mouldiness is effectually prevented by any kind of perfume. Paste strongly impregnated with any of the essential oils will not become sour or mouldy. Books will not become mouldy in the presence of Russian leather.

Sure Death to Bed Bugs.—Take a teaspoonful of quicksilver, beat it up with the whites of two eggs, as for frosting, till the two are thoroughly and finely united, then apply with a feather to every crack or crevice in the bedstead or wall, where a bed bug can hide. Repeat it three or four times, and your work is done for two years at least.

To Make a Candle Burn Slowly.—When, as in case of sickness, a dull light is wished, put finely-powdered salt on the candle, till it reaches the black part of the wick. In this way a mild, steady light may be kept through the night by a small piece of a candle.

Icing for Cakes.—Take of the best white sugar one pound, and pour over it just enough cold water to dissolve the lumps; then take the whites of three eggs, and beat them a little, but not to a stiff froth; add these to the sugar and water; put it in a deep bowl, place the bowl in a vessel of boiling water, and beat up the mixture. It will first become thin and clear, and afterward begin to thicken. When it becomes quite thick, remove it from the fire, and continue the beating until it becomes cold, then spread it on with a knife. It is perfectly white, glistens beautifully, and is so hard and smooth when dry, that you may write very well upon it with a pencil.

How to Keep Butter Sweet.—It is the easiest thing in the world. Simply put it in clean jars and cover with a strong brine. This will keep pure butter a year, fresh and sweet, as we know by experience. It is almost equally good to put in oak casks, headed tight. This is equivalent to canning fruit. The brine, in case of jars, acts as a heading, keeping the air out. Butter to be thus preserved should be made properly. The buttermilk should be thoroughly worked out till you have only pure "beads" coming out as clear as rain water. Care should be taken, however, not to work so much as to destroy the "grain," else your butter will be tough, and "heavy" in winter and "greasy" in summer. Such butter cannot be kept in good order for any length of time by any possible expedient.

## Mechanical Hints.

How to Straighten Saws.—If the saw has a "back" take it out by placing it betwen two pieces of wood in your bench-screw, and knocking the back with a piece of hard wood from the end that comes up to the handle. Take the the blade, and see where the buckle is in the front; it wants hammering upon the back of the blade upon a smooth flat iron or anvil, with a smooth-faced hammer, commencing from the back in a line with the centre of buckle, in this wise: one blow outside edge, then so that the blows may fall in a triangle, then one, two, three, a little farther; and by taking particular notice of the effects of each blow you will very soon find out where to expend your labor to the greatest advantage to obtain your end. Do not hurry, but take it quietly. It is a thing that has puzzled a great many, but nothing is easier, with a few effective blows well directed. But one in the wrong place and you may put four cross buckles where there was only one; if you lose temper and hit at random, your saw will be spoiled.—*Cabinet Maker.*

The Railway Car is the advanced and improved form of carriage. It represents in its finest forms what may be called the highest degree or perfection of the carriage. The other extreme is probably best illustrated by the old-fashioned *drag* which is merely a frame of wood that is drawn along bodily on the ground. An interesting paper might be written on the gradual development of carriages from the dray to the finest approved silver palace car. Upon the application of steam to traveling purposes, the ordinary stage-coach first answered the place of a vehicle. Then a train of coaches became necessary. Then as the train grew longer, several coaches were united, but they still retained their old form of construction and the same arrangements of wheels. One by one these original traces of the coach disappear, the wheels were placed on trucks, the framework of the body was changed, and now the railway car is essentially original.

# Life Thoughts.

The greatest of all mistakes is to live for time, when any moment may launch us into eternity.

Success rides on every hour—grapple it and you may win; but without a grapple it will never go with you.

Never ridicule sacred things, or what others may esteem as such, however absurd they may appear to be.

Never show levity when the people are professedly engaged in worship.

Work is the weapon of honor, and he who lacks the weapon will never triumph.

Always take the part of an absent person who is censured in company, so far as truth and propriety will allow.

Borrowed garments seldom fit well. Haste often trips up its own heels. Men often blush to hear what they are not ashamed to do. What is not needed is dear at any price.

It was a saying of Socrates that every man had need of a faithful friend and a bitter enemy; the one to advise, the other to show him his faults.

A man should never put a fence of words around his ideas, because many who would otherwise give him a fair hearing, lack resolution to climb over such a rugged enclosure.

They who doubt the truth of religion because they can find no Christian who is perfect, might as well deny the existence of the sun because it is not always noonday.

He who waits to do a great deal at once, will never do anything.

## Men who Live Forever.

Mr. Beecher, in a recent sermon, said: "Men who establish academies, colleges, universities, live forever, and live, too, in a way that an angel might be proud to live. They who established Harvard—who, with heavenly arithmetic, can compute what their money has done since they have gone home? Is the name of Yale not familiar to every intelligent man on the continent because he endowed that college? His name will be carried down thousands of years. Cornell's name is rescued already. Vassar's, Astor's and Drew's names would not have sounded far down, had they not a due inspiration that taught them to found seminaries for the discovery and propagation of knowledge among the masses of men. And this is the reason, I say, that men ought not to be poor if they can be rich. There is a power in wealth when it is guarded by benevolence which should not be despised. Having such a sword as that with which to slay ignorance, no man ought to refuse to draw it from its sheath. Whoever can organize wealth and endow institutions of learning, is using wealth to a good purpose. We may rise to a higher grade and to more familiar ground, since it is more frequently inculcated in the pulpit. As virtue and spirituality are higher than physical qualities, as the wealth of society lies more in the goodness of Christian families and Christian institutions than in ease, or abundance, or pleasure, so the most worthily prolongs his life to an afterday, who so lives as to give force and perpetuity to spiritual influences."

A Word to Boys.—Truth is one of the rarest virtues. Many a youth has been lost to society by allowing falsehood to tarnish his character and foolishly throwing truth away. Honesty, frankness, generosity, virtue—blessed traits! Be these yours, my boys, we shall not fear. You are watched by your elders. Men who are looking for clerks and apprentices have their eyes on you. If you are profane, vulgar, saloon going, they will not choose you. If you are upright, steady and industrious, before long you will find good places, kind masters, and the prospect of a useful life before you.

Courage in Every-Day Life.—Have courage to discharge a debt while you have the money in your pocket.

Have the courage to do without that which you do not need, however much your eyes may covet it.

Have the courage to speak your mind when it is necessary you shoud do so, and hold your tongue when it is prudent you should do so.

Have the courage to make a will and a just one.

Have the courage to tell a man why you do not lend him your money.

Have the courage to "cut" the most agreeable acquaintance you have, when you are convinced that he lacks principle. "A friend should bear with a friend's infirmities," but not his vices.

# THE VINEYARD.

## SUMMER PRUNING.

There is a great diversity of opinion among vine-growers in this country as to what amount of summer pruning is best for the vineyard. Also as to the best time for doing this pruning. Some contend that cutting the vine back destroys the equilibrium between the vine and the roots—that it is contrary to nature and tends to weaken the vine and shorten its life. Others say that judicious pruning is indispensable to the production of good fruit, and that it is impossible to destroy the balance of power between the roots and top, because the growth of the roots is governed by the growth of the branches. It is not strange that there should be a diversity of opinion upon most all subjects connected with the culture of the vine, since our people have learned or had their experience under so many different circumstances.

Some of our vineyardists are from Germany, some from France, some from Italy, Spain, Portugal, some from the Eastern and some from the Western States. All who have had any experience in vine culture before engaging in the business in California have brought with them the notions and systems of culture of the country from which they came. Those who have taken up the business here—and this class compose the greater number of vine growers of the State—have had their experiences under as many different circumstances as there are different localities and climates in the State. Hence we say it is not strange that there should be a great difference of opinion on most all subjects connected with the business, and this difference of opinion and practice is very striking in reference to summer pruning.

The vine will produce fruit, to some extent, under most all circumstances and most any mode of treatment, and the same variety of vines undoubtedly require different treatment in different countries, and in different soils in the same countries. Some varieties of grapes require a warm, sunny exposure, like the south and southwest side or slope of a hill, while others require a cool, shaded exposure, and will do better on the opposite slope of the same hill. Vines, that in Europe, where the atmosphere is humid and the temperature pretty even, night and day, require a southern and very drying exposure, might, in California, do better on a northern exposure; and still nothing but a practical test of this supposition would do to rely upon.

Thus it will be seen that the management of a vineyard in California is, or should be, different from the management in most other countries in which any of our vine growers have had experience—just as different as our climates and soils are different from the climates and soils of those countries. Hence no invariable or universal rule can be safely laid down or followed for any part of such management.

One important thing that should always be borne in mind, in the pruning of a vineyard, in this or any other country, is the fact that *grapes always grow on wood grown and matured the previous year, or on wood that is one year old.* Hence there are

### Two Leading Objects

To be kept constantly in mind, in all operations in the vineyard and especially in all the pruning operations.

First—To secure as large an amount of fruit, of good quality each year, as the vine, considering its age, its present strength and future good health will produce.

Second—To secure the growth in its proper place on the vine of a sufficient amount of good, strong, and well-matured wood, with plenty of large, plump, unbroken or dormant fruit buds, to insure a crop of good fruit each succeeding year. Whenever the knife or shears are taken up to be used on a vine these two objects should be remembered, and each cut with the knife or clip with the shears should be with a view to the attainment of these two ends.

Having called special attention to the leading objects of pruning the vine, which are the same in all countries, and adverted to the influences of soil and climate in different countries and in different localities in the same country, we will now speak more explicitly of the immediate subject under consideration.

### The First Year.

The object to be obtained, the first year after the cutting or year old vine is planted in the permanent vineyard, is to secure a good growth of at least one main cane, which shall form the future body of the vine or grape tree, as it may be called. We call it *tree* for the purpose of giving a better idea of what we want to secure by the first summer's growth. It is really a dwarf grape tree which we want to secure—with a body of good, sound, and smooth growth—standing erect, at least to the hight we wish our future vines to grow. This object, it is evident, can be best attained by throwing all the strength and growth of the young vine into this one cane or body.

If more than one bud starts from the cutting, *the upper end of which should always be covered at least an inch with soil*, let them all grow only till you can see which throws out the strongest shoot, and in the best position for the future body. Then pinch all the weaker shoots off, and keep them so pinched off during the first summer, thus throwing the entire strength of the vine into the remaining shoot. Keep this shoot erect or perpendicular by carefully tying it to a stake set in the ground for that purpose. The string or cord used should be soft and of good size, so that it will not cut or injure the tender cane. Of course the soil should be well cultivated, often, during the first spring and summer, so as to prevent the growth of weeds and to secure the best growth of the vine. But care should be had not to continue the growth so late in the fall as to endanger the tender growth to be cut by the first frost at its extreme end.

### The Second Year.

If a good stand or body has been secured the first year, the principal object to be attained the second year is to keep that body erect and give it as great a growth as possible. It should therefore be cut back to the desired hight soon after the leaves have fallen, in the fall—generally in this State in October—but the locality and season must govern as to this. If any lateral branches have grown below the point at which it is desired to form the head of the tree, they should now be carefully and smoothly cut off with a sharp knife, and all dormant buds below that point should also be removed. As to the proper hight to make the head of the tree there is some difference of opinion; but we would recommend that it should not be over 18 and not less than 10 inches above the ground. The principal reason in favor of low pruning is, that in the latter part of the summer, when the grapes are growing most rapidly, and approaching maturity, the thermometer shows that the atmosphere at from 6 to 12 inches above the ground is from 6 to 8 degrees warmer, both at night and in the daytime, than it is from 4 to 6 feet above, and that the grape will grow more rapidly, ripen earlier, and be sweeter and better.

Another reason is that the grape near the ground is not so likely to mildew. The head of the tree should be so formed as to balance, as near as may be; consequently at least two shoots, on opposite sides, should be allowed to grow the second year, and no summer pruning should be practiced this year, unless it be a little *pinching in*—if it be necessary to secure that balance of growth.

Form a good, smooth and perpendicular body and a well-balanced and symmetrical top or head and you have done all that is necessary for the second year. A vineyard thus formed will always be a matter of pride and mental satisfaction to its owner, and the future care and labor in attending it will be much lighter than if the vines were allowed to lean this way and that. Then, too, vines erect and symmetrical can hold up, unassisted by props, a much larger weight of fruit, and they will be able to bear and mature them much better without injury.

As we have now arrived at the most important point in the growth, care and pruning of the vine, we will defer the mode of treatment for the third year until next week.

## New Books.

SCENES OF WONDER AND CURIOSITY IN CALIFORNIA.—Illustrated with over one hundred engravings. A Tourist's Guide to the Yosemite Valley, etc. By J. M. Hutchings, New York and San Francisco. A. Roman & Co., Publishers, 1870, 8vo. pp. 292.

In this handsome little volume, Mr. Hutchings has managed to give very much of interest concerning the beauties and wonders in our State, described in a pleasant manner and handsomely illustrated. The book is well suited for a place on the parlor table, and will help to give a better idea of what there is out here on the Pacific coast to allure travelers. We could make many an extract, in order to give a clearer idea of the book, had we the space, and we open it at random for one—a short one. We hit upon an illustration of how the big tree was cut down in the Calaveras grove.

"This tree employed five men for twenty-two days in felling it—not by chopping it down, but by *boring it off* with pump augers. After the stem was fairly severed from the stump, the uprightness of the tree and breadth of its base sustained it in position. To accomplish the feat of throwing it over, about two and a half days of the twenty-two were spent in inserting wedges and driving them in, until at last the noble monarch of the forest was forced to tremble and then to fall, after braving 'the battle and the breeze' for nearly 3,000 years. In our estimation, it was a sacrilegious act; although it is possible that the exhibition of the bark among the unbelievers of the Eastern part of the continent and of Europe may have convinced all the 'Thomases' living that we have great facts in California which must be believed sooner or later. This is the only palliating consideration with us for this act of desecration."

THE ARCHITECT'S AND BUILDER'S POCKET Companion and Price Book, etc. By Frank W. Vogdes, Philadelphia, Henry Carey Baird. 1871. For sale by A. Roman & Co. S. F.

This convenient little book is designed to afford to the building fraternity those facilities and advantages provided for civil and mechanical engineers by similar works. It is neatly and carefully prepared and has very much of practical utility to architects and builders. It contains a short but comprehensive epitome of decimals, duodecimals, geometry and mensuration; with tables of U. S. measures, sizes, weights, strengths, etc., of iron, wood, stone, and various other materials, quantities of materials in given sizes and dimensions of wood, brick and stone; a full and complete bill of prices for carpenter's work; and rules for computing and valuing brick and brick work, stone work, painting, plastering, etc.

SUGAR DROPS is the toothsome name given to a new syrup which is being introduced for household use at the East. It can scarcely be distinguished by either taste or appearance from golden syrup; yet it does not contain a particle of the juice of the cane, beet, or any other sugar producing vegetable. It is manufactured exclusively from starch, by a chemical process, without the addition of any saccharine matter whatever.

TOBACCO IN ILLINOIS.—A Rockford, Ill., paper announces with much parade the arrival in that town of "more than 200 wagon-loads of tobacco during the past five days."

# HUMOROUS.

WHAT have you to expect at a hotel? Inattention.

WHAT is the military definition of a kiss? A report at headquarters.

MEN are like potatoes—they do not know how soon they may be in hot water.

OLD Maids are described as "embers from which the spark has fled."

ON the Hudson, before the recent thaw, "stilt skating" on irons thirty inches high was fashionable.

JUDGE HOAR says that a lawyer tries first to get on, then to get honor, and lastly to get honest.

WHEN you hear a man say "life is a dream," tread on his corns and wake him up. Life is real.

WHY is a baby like a sheaf of wheat? Because it is first cradled, then thrashed, and finally it becomes the flour of the family.

PLANTING.—Mrs. Farnham, of Wisconsin, has just buried her sixth husband, and the papers call her a successful planter.

## ANOTHER AMATEUR EDITORIAL FARMER.

C. W. Fay, of the Trenton (N. J.) *Sentinel*, is after Mr. Horace Greeley's agricultural laurels. Here is a sample of what *he* knows about Farming:

The proper time to pull hemp is on any Friday that a good judge may select. Castor oil beans succeed best in the bowels of the earth. They will soon work their way out. The best preparation for hops is a toad or two in each hill. They will make the vines fairly jump. The usual time to put in rye is early in the morning. Some husbandmen, especially those in the city, continue to run at intervals of half an hour until bedtime. The practice is only allowable in case of a dry season. In reaping wheat, never take it by the beard. It is found to go against the grain. Buckwheat is not healthy food. It is apt to cake up the stomach. Corn in the ear is apt to affect the hearing. If eaten green will make the voice husky. When dealt out as army rations the kernel should always be served first, and then the men private-ly. Never plant your potatoes early. It is the early potatoe that gets the worm. It is uphill work with them after that. To be certain of the right kind of squashes, compare them with your head. In adopting this rule I first mistook pumpkins for squashes but by continued, careful comparison, I soon learned to detect the difference. But for some new beginners it requires great caution. In making cider out of apples, I found it is a pretty tight squeeze, notwithstanding my long connection with the press. Never drink cider made from crab-apples. It is pretty certain to "go back on you." If you would lay in a supply of old wine, be sure to make it of elder-berries.

MISAPPREHENSION. — An enterprising farmer, always on the lookout for information regarding his profession, seeing a work advertised under the title of "Rain on the Mown Grass," sent for it, and found it was a volume of sermons.

THE coal troubles remind us of an old story: Scene, Boston; time, morning; "Is it cold, Billy?" "Werry cold, father." "Is the gutters froze, Billy?" "Werry hard, father." "Dear, dear! Put up the coal two-pence a pail, Billy. God help the poor!"

SMART BOY.—A little boy had a great liking for water. His mother told him not to go on the wharves or near the water—"for, Freddy, if you should get drowned, we should never know what had become of you." "Oh; yes, you would, 'cause 'twould be in the papers."

LATE PLOWING.—A correspondent asks us what we think of late plowing. Plowing should not be continued later than ten or eleven o'clock at night. It gets the horses in the habit of staying out late, and unduly exposes the plow. We have known plows to acquire spring halt and inflammatory rheumatism from late plowing. Don't do it.

SEEKING A SHELTER.—An Ohio paper tells a story of a bull and heifer which not being afforded shelter by their inhospitable owners, went to a distant field on the farm and deliberately eat their way into a hay-stack, where they were found after twenty-four days a little the worse for bad air, ventilation being imperfect, but doing as well as could be expected under the circumstances.

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF Barometer Corrected. | Temp. Air. | Rel. Hmdty. Saturn'n 100. | Force of Vapor. | Amount of Cloudiness. | THER* Maximum. | Minimum. | Range. | WIND. Direction f'm which it moves, and the Forces. | | R'N† Gauge 50 ft. ab've surf'ce |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MARCH AND APRIL. | INHS. | DEG. | ℉ C. | INHS. | 0-10 | DEG. | DEG. | DEG. | DIR-TION. | F'CE. 0-10 | INHS |
| Sunday.. 2 | 29 864 | 66 | 45 | .286 | 5 | 77 | 46 | 31 | S. | 1 | .... |
| Monday..3 | 29.889 | 61 | 63 | 357 | 10 | 76 | 46 | 30 | S. E. | 1 | .... |
| Tuesday 4 | 29.895 | 63 | 67 | 385 | 8 | 74 | 51 | 23 | S. E. | 2 | 0.068 |
| Wedns.. 5 | 29.834 | 56 | 81 | .375 | 10 | 55 | 54 | 5 | S. E. | 2 | 0.330 |
| Thurs... 6 | 29.874 | 50 | 76 | .280 | 5 | 55 | 43 | 12 | S. & N. | 3 | 0.159 |
| Friday...7 | 29.983 | 49 | 65 | .201 | 5 | 57 | 38 | 19 | S. E. | 3 | 0.116 |
| Satu'day.8 | 29.943 | 52 | 50 | .186 | 2 | 60 | 38 | 22 | N. W. | 2 | ... |

* Thermometograph. † Rain.

REMARKS.—In our observations last week we encouraged the hopes of a speedy fall of rain, in which we have not been disappointed, as our table shows. Although partaking of the character of spring or April showers, of circumscribed extent, still about an average of an inch has fallen over the greater part of the agricultural region of the State, which is enough to relieve the present needs of the growing crop. In only one season (1856-57) of the past 21 years has the rain failed in April; so that if we receive but half the average of this month, which is one and a quarter inches, and are spared by the fierce north winds, a reasonable harvest may yet be expected.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., April 13th.

FLOUR—has been in only moderate demand and that for local use—very little enqniry for export has been noticed.

Transactions embrace 2,000 bbls. Cal. extra and 4,000 Oregon extra at current rates.

We quote local brands, superfine, $6.25@6.50; extra, $7.25@7.50. Oregon extra at $7@7.50.

WHEAT—The market has remained very dull notwithstanding the large advance of Liverpool rates, and a corresponding improvement here. Teh market for good shipping has advanced from $2.60 to $2.65. At the close strictly choice is quoted at $2.75, which rate it is reported a distillar has paid for 300 tons.

The Liverpool market has met with a most extraordinaiy improvement and is now telegraphed at 12s. 6d., an advance of 6d. since the 5th instant. New York rates are reported as nominal.

BARLEY—Prices continue to remain about as before the late rain; choice brewing being held firm at $1.75, at which figure we note a sale of 700 sks.

OATS—Have met with a still further advance and may now be quoted at $1.70@1.80 for light, and $1.85@1.95 for good to choice. A still further advance to $2.00 is looked for within the coming week.

CORN—Has made a most remarkable advance. We noted an improvement of 30c last week and to-day we add 50c more—making 80c for the two weeks. It is now quotable at $2.50.

CORNMEAL—Is quotable at $2.75@3.25.

BUCKWHEAT—Still remains at $3.25@3.50.

RYE—Quotable at $2.25@2.37½—at which latter figure a sale is noted.

FEED—Remains with but little change. We quote: STRAW, $8@9; BRAN, $30 strong. MIDDLINGS, $37½ for feed; OIL CAKE MEAL $33.

HAY—Is in steady demand. We quote ordinary to choice at $13.00@17.00 ₱ ton—an advance of $1.00.

HONEY—Los Angeles, 5-gall. cans, $12@16, and Porter's, 2 lb do, at $4 ₱ dozen.

POTATOES—The present range of good quality of California is from $1.60@$1.90. An effort is being made to concentrate the stock on hand and advance the price, before the new crop comes in.

HOPS—Demand light—prices nominal at 8 @12½c. for California crop of 1870.

HIDES—We quote Dry, slaughterer's stock, 16@18 c; Salted, 8@8½c. Sales during the week 1,550 Cal. dry. Telegraphic reports from New York quote Cal. hides at 22@22½c.

WOOL—The receipts still continue quite free. Sales for the week aggregate 525,000 lbs. We quote good to choice, shipping at 22@28c ₱ lb. Among the sales for the week have been one of $30,000 lbs. for one of our local mills, and 12,000 for another. The dealings in the New York market have been moderate for a few weeks past. Cal. has been sought after, but with light sales; but telegraphic reports yesterday qnote the market more active wtth an upward tendency. Cal. fall rating at 27@30 and spring at 31@34c for clean. The sales of Cal. for March were 1,343,500 lbs.

TALLOW—The extremes may still be quoted from 7½@8c., with large stock in hand.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 16@16½c; Oregon, 16@17; Chicago 16½c; California Hams, 13@14; Oregon do, 16@17c; California Sngar-cured Hams, 18@19c; Oregon do, 18@20c; Eastern do, 22@24½c; California Smoked Beef, 13@14c.

BEANS—Jobbers are asking the following rates: Bayo, 2½@2¾c; Butter, 2¼@2½c for small and 2¾c for large; small White, 2¼; Red, 2¼@2½c; Pea, 2¼c; Pink, 1¾@2c ₱ lb.

VEGETABLES—Asparagus is selling at 5@6c and Rhubarb at 2@4c ₱ lb.

NUTS—California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 6@7c; Hickory and Walnuts, 12½c; Brazil, 15@18c ₱ lb, Cocoannts $8@10 per hnndred..

FRESH MEAT—In good supply with slight decline. We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11c ₱ lb.
Do 2d do 8@ 9c ₱ lb.
Do 3d do 7@ 8c ₱ lb.

VEAL—Is steady at 10@ 12½c—the latter for strictly choice; second quality 8@9c.

MUTTON—Has declined to 6@7 ₱ lb.

LAMB—More plentiful, and may be quoted at from 10@11 ₱ lb.

PORK—Undressed is quotable at 6@7¾c. for grain fed; dressed, 10½@11. Poorly fed and soft descriptions, 9@10. The supply of hogs on foot has been increased, about 1,000 having come to hand during the week.

POULTRY, ETC.—In good supply, and prices but little changed. Spring Chickens $5@7; Hens $7@7.50; Roosters $7.50@8.00; Ducks, tame, $7@8 ₱ doz; geese, tame, $2.00@$2.50 ₱ pair; live tnrkeys, 18@20c ₱ lb.

WILD GAME—Hare $2.50@3.00; Rabbits, $1.25; Dncks $1.50@2.50; Geese $2@2½.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 20@28c.; Cal. ferkin 27½@30c,

CHEESE—In fair snpply, at unchanged rates. California new, 10@14c., Eastern, 16@17c. for new; old Cal. 5@8c.

EGGS—California fresh, 28@30c; Oregon, 22@24..

LARD—California Lard, 11-lb tins, 15@16c; Oregon, 15@14½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $2.50@$3.00; Oregon, $1.75@$3.00; Pears, per box, $2.50@$4.00; Oranges, per 1,000, $25@$45; Tahiti oranges $30 per M.; Lemons, per box, $12; Cal. Lemons, $3@4 per 100; Pears scarce, choice Apples scarce; Strawberries, 25@36c; Rhubarb, 5@4c; Asparagus, 5@9c.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Qnince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—There is at the present time a good demand for Mowers, and if the crop prospects continue favorable, Harvesters, Threshers, Reapers and other seasonable implements will be in active demand as the season advances. Stocks are said to be liberal, and prices rule low for all kinds of goods in this department of trade.

BUILDING AND FENCING MATERIALS—The local trade has maintained a moderate degree of activity dnring the period under review. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lmmber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongned and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding aud battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12@13c, for old and new respectively, ₱ lb; Raisins, layer, $4.00@4.75 per box; Currants, Zante, 10½@11½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13½@4½c; Oregon do, 16½@17c; Bacon, California, 16@17c; Oregon do, 15@16½c.

### TABLE OF MISCELLANEOUS.

| | | | | | | |
|---|---|---|---|---|---|---|
| Sugar, crsh'd, lb | $ 14 | @$ 14½ | Hemp Seed, lb, $ | 7 | @ | 9 |
| Hawaiian, do. | 9 | @ 12 | Castor Beans, lb. | 4 | @ | 4½ |
| Coffee, Cos. R, lb | 14½ | @ 15 | Castor Oil, gal. | 1 75 | @2 00 | |
| Rio, do | 16 | @ | Linseed Oil, gal | 1 05 | @1 10 | |
| Tea, Japan, ₱ lb. | 50 | @ 90 | Broom Corn, ₱ lb | 3 | @ 5 | |
| Green, do | 50 | @1 00 | Beeswax, ₱ lb | 27 | @ 30 | |
| Rice, Haw'n, ₱ lb | 8½ | @ 9 | Peanuts, ₱ lb | 5 | @ 7 | |
| China, do | 6 | @ 7½ | Corn Meal, cwt. | 2 50 | @4 00 | |
| Coal Oil, ₱ gal. | 50 | @ 60 | Onions, cwt | 1 50 | @3 50 | |
| Candles, ₱ lb | 14 | @ 18 | | | | |

## Leather Market Report.

[Corrected weekly hy Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, April 13.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

| | |
|---|---|
| City Tanned Leather, ₱ lb | 26@30 |
| Santa Cruz Leather, ₱ lb | 26@30 |
| Country Leather, ₱ lb | 25@28 |

CALF AND KIP SKINS.—The unsettled state of affairs in France still keeps French stocks high, with an upward tendency. Domestic Skins have not changed.

| | |
|---|---|
| Best French Calf Skins, ₱ doz | $75 00@100 00 |
| Common French Calf Skins, ₱ doz | 35 00@ 75 00 |
| French Kips, ₱ lb | 1 00@ 1 30 |
| California Kip, ₱ doz | 60 00@ 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ 1 25 |
| Eastern Calf for Backs, ₱ lb | 1 15@ 1 25 |
| Sheep Roans for Topping, all colors, ₱ doz | 8 50@ 13 00 |
| Sheep Roans for Linings, ₱ doz | 5 50@ 10 50 |
| California Russett Sheep Linings | 1 75@ 5 50 |
| Best Jodot Ca f Boot Legs, ₱ pair | 5 25 |
| Good French Calf Boot Legs, ₱ pair | 4 50@ 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 |
| Harness Leather, ₱ lb | 30@ 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ 72 00 |
| Skirting Leather, ₱ lb | 34@ 37½ |
| Welt Leather, ₱ doz | 30 00@ 50 00 |
| Buff Leather, ₱ foot | 22@ 25 |

## San Francisco Retail Market Rates.

FRIDAY, April 14, 1871.

### MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Butter, Cal fr. lb | 35 @ 40 | Wool Sacks, new | 40 | @ | 90 |
| Pickled, Cal. lb | @ | Secoud-hnd do | 67½ | @ | 70 |
| do Oregon, lb.. | @ | Wheat-sks, 22x36 | 13½ | @ | 14 |
| Honey, ₱ lb | 25 @ 30 | Potato G'y Bags. | 23 | @ | |
| Cheese, ₱ lb | 20 @ 25 | Second-hnd do | 16 | @ | |
| Eggs, per doz | 35 @ 40 | Deer Skins, ₱ lb. | 15 | @ | 20 |
| Lard, ₱ lb | 18 @ 25 | Sheep sks, wl on | 50 | @ | 75 |
| Sugar, cr., 7 lb | 1 00 @ | Sheep sks, plain. | 12½ | @ | 25 |
| Brown, do, ₱ lb | 10 @ 13 | Goat skins, each. | 25 | @ | 50 |
| Beet, do, 7 ₱ s. | 1 00 @ | Plums, dried, lb. | 15 | @ | 30 |
| Sugar, Map. lb. | 30 @ 35 | Peaches, dried, * | 15 | @ | 30 |

### PRODUCE, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Codfish, dry, lb | 6 00 @ 12½ | Barley, cwt | 1 65 | @1 70 | |
| Flour, ex. ₱ bbl. | 7 00 @7 90 | Beans, cwt | 2 00 | @ 3 00 | |
| Superfine, do. | 5 50 @6 00 | Potatoes, cwt | 1 50 | @2 00 | |
| Corn Meal, 100 lb. | 2 75 @4 05 | Hay, ₱ ton | 15 00 | @18 00 | |
| Wheat, ₱ 100 lbs. | 2 75 @3 00 | Live Oak Wood. | 10 00 | @12 00 | |
| Oats, ₱ 100 lbs | 1 60 @1 75 | | | | |

### FRUITS, VEGETABLES, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Pine Apples, † | 5 00 @9 00 | Egg Plant | | @ | |
| Bananas, ₱ lb | 3 00@5 00 | Garlics | 5 | @ | 8 |
| Cal. Walnnts, lb. | @ 20 | Green Peas, ₱ lb | 8 | @ | 12½ |
| Cranberries, ₱ g | 75 @1 00 | Green Corn, doz. | | @ | |
| Cranberries, O.* | @1 00 | Sugar Peas, ₱ lb | | @ | |
| Apples, No. 1, lb. | 4 @ 5 | Lettuce, ₱ doz. | 12 | @ | 25 |
| Pears, table, ₱ lb | @ 12½ | Mushrooms, ₱ lb | 8 | @ | 15 |
| Oranges, ₱ doz. | 50 @ 75 | Horseradish, ₱ lb | | @ | 20 |
| Lemons, ₱ doz. | 75 @1 00 | Okra, dried, ₱ lb | 37 | @ | 50 |
| Figs, dried, ₱ lb | 15 @ 20 | Okra, green, ₱ lb | | @ | |
| Asparagus, wh.* | 12 @ 15 | Punpkins. ₱ lb. | 3 | @ | 4 |
| | | Parsnips, † bnchs | | @ | 25 |
| Artichokes, doz. | 75 @1 00 | Parsley | | @ | 25 |
| Brussel's sprts, * | 12 @ 15 | Pickles, ₱ gal. | 50 | @ | 75 |
| Beets, ₱ doz. | 20 @ 25 | Rhuharb, ₱ lb. | 12 | @ | 15 |
| Potatoes, ₱ lb | 2 @ 3 | Radishes, † buns | | @ | 25 |
| Potatoes, sweet,* | @ 5 | Green Peppers,* | | | |
| Potatoes. new | @ 06 | Red, do | | @ | 25 |
| Tomatoes, ₱ lb.. | | Summer Squash | | | |
| Broccoli, ₱ doz. | 1 50 @2 00 | Marrowfat, do. | 4 | @ | 6 |
| Cauliflower, † | 2 50 @1 25 | Hubhard, do.. | | @ | 5 |
| Cabhage, ₱ doz. | 3 00 @1 50 | String Beans, lb. | | @ | |
| Carots, ₱ doz. | 10 @ 25 | Dry Lima, shl. | | @ | 8 |
| Celery, ₱ doz | 75 @1 00 | Spinage, ₱ bskt. | 25 | @ | 50 |
| Cress, ₱ doz bun | 20 @ 25 | Salsify, ₱ hunch | 25 | @ | 12 |
| Dried Herbs, b'h | 25 @ 50 | Turnips, ₱ doz. | | @ | 25 |

### POULTRY, GAME, MEATS, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Chickens, apiece | 75 @1 00 | Tongues, pig, ea | | @ | 15 |
| Turkeys, ₱ lb | 20 @ 25 | Bacon, Cal., ₱ lb | 18 | @ | 20 |
| Ducks, wild, ₱ p | | Oregon, do | 18 | @ | 20 |
| Tame, do | 1 50 @2 00 | Hams, Cal, ₱ lb. | 18 | @ | 20 |
| Teal, ₱ doz | | Hams, Cross' s c | | @ | 25 |
| Geese, wild, each | 37½@ 50 | Choice D'ffield | | @ | 25 |
| Tame, ₱ pair | 3 50 @4 00 | Whittaker's | | @ | 25 |
| From Chicago. | @ | Johnson's Or. | | @ | 25 |
| Hens, each | 75 @1 00 | Salmon, ₱ lb | 10 | @ | 12 |
| Snipe, ₱ doz | 1 25 @1 50 | Smoked, new,* | 10 | @ | 12 |
| English, do | 2 50 @3 00 | Pickled, ₱ lb. | 6 | @ | 8 |
| Venison, ₱ lb | @ | Rock Cod, ₱ lb. | | | |
| Quails, ₱ doz | | Perch, s water, lb | 10 | @ | 12½ |
| Pigeons, dom. do | 3 00 @3 50 | Lake Big. Trout* | 20 | @ | 25 |
| Wild, do | 1 50 @2 00 | Smelts, ₱ lb. | 6 | @ | 8 |
| Hares, each | 40 @ 50 | Herring, fresh.. | | | |
| Rabbits, tame.. | 50 @1 00 | Sm'kd, 100 lbs. | | @1 00 | |
| Wild, do, ₱ dz. | 1 75 @2 00 | Tomcod, ₱ lb | | @ | 25 |
| Squirrel, ₱ pair. | 25 @ 38 | Terrapin, ₱ doz. | 5 00 | @6 00 | |
| Beef, tend, ₱ lb. | 20 @ 25 | Mackerel, p'k, ea | | @ | 20 |
| Sirloin and rib | 18 @ 20 | Fresh, do | | | |
| Corned, ₱ lb.. | 10 @ 12 | Sea Bass, ₱ lb | | @ | |
| Smoked, ₱ lb. | 15 @ 18 | Halibut | 62 | @ | 75 |
| Pork, rib, etc., lb | 12½@ 15 | Sturgeon, ₱ lb | 4 | @ | 5 |
| Chops, do, ₱ lb | 12 @ 15 | Oysters, ₱ 100 | 1 00 | @1 25 | |
| Veal, ₱ lb. | 15 @ 20 | Chesp. ₱ doz. | | @1 00 | |
| Cutlet, do | @ 20 | Turbot | | @ | 40 |
| Mutton chops,* | 12½@ 15 | Crabs ₱ doz | | @1 00 | |
| Leg, ₱ lb | 12½@ | Soft Shell | 37 | @ | 50 |
| Lamb, ₱ lb | @ 12½ | Shrimps | 10 | @ | 12 |
| Tongues, heef, ea | @ 75 | | | | |

* Per lb. † Per dozen. * Per gallon.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, April 14, 1871.

IRON.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb

| | | |
|---|---|---|
| Scotch and English Pig Iron, ₱ ton | $34 00 | @$35 00 |
| White Pig, ₱ ton | 37 50 | @ 40 00 |
| Refined Bar, had assortment, ₱ lb | — 03 | @ — — |
| Refined Bar, good assortment, ₱ lb | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 21 to 27 | — 05 | @ — 06½ |

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb.

| | | |
|---|---|---|
| Sheathing, ₱ lb | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | — 22 |
| Composition Bolts | — 21 | — 22 |

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

| | | |
|---|---|---|
| Plates, Charcoal, IX ₱ box | 12 00 | — — |
| Plates, I C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 10 00 | 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | — 42 |
| STEEL.—English Cast Steel, ₱ lb | — — | — 15 |
| QUICKSILVER.—₱ lb | — — | — 85 |
| LEAD.—Pig, ₱ lb | — 06 | — 07 |
| Sheet | — 09 | — |
| Pipe | — 10 | — 11 |
| Bar | — 08 | — 09 |
| ZINC.—Sheets, ₱ lb | — 10½ | — 11 |
| BORAX.— | — 25 | — 35 |

## Wool Prices in New York.

BROWN'S CIRCULAR, April, 1871.

### DOMESTIC FLEECES.

NEW YORK, MICHIGAN, INDIANA AND WISCONSIN.

| | | | |
|---|---|---|---|
| Saxony Fleece | 50@52 | Quarter-bld Fleece | 46@50 |
| ¾ and Full-bld Merino | 47@50 | Common Fleece | 44@47 |
| Half-bld Fleece | 48@50 | Combing Fleece | 55@58 |

OHIO, PENNSYLVANIA AND VIRGINIA.

| | | | |
|---|---|---|---|
| Choice Set'd Saxony Fl. | 60@67 | Quarter-bld Fleece | 50@53 |
| Saxony Fleece | 54@57 | Common Fleece | 47@50 |
| ¾ and Full-hld Merino | 51@54 | Combing Fleece | 55@58 |
| Half-bld Fleece | 52@55 | | |

IOWA, VERMONT AND ILLINOIS

| | | | |
|---|---|---|---|
| ¾ and Full-hld Merino | 46@50 | Quarter-bld Fleece | 45@48 |
| Half bld Fleece | 46@50 | Combing Fleece | 52@55 |

MISSOURI, KENTUCKY AND TENNESSEE.

| | | | |
|---|---|---|---|
| Washed Fleece | 46@50 | Unwashed Combing | @ |
| Unwashed Fleece | 35@39 | Canada Fleece | 48@60 |

### TUB-WASHED WOOL.

| | | | |
|---|---|---|---|
| Choice | 60@63 | Inferior and Burry | 45@50 |
| Fair | 55@58 | | |

### PULLED WOOL.

| | | | |
|---|---|---|---|
| N. Y. City extra Pulled | 43@46 | Country extra Pulled | 48@52 |
| N. Y. City super Pulled | 44@48 | Country super Pulled | 48@53 |
| N. Y. City No. 1 Pulled | 28@32 | Country No. 1 Pulled | 30@35 |
| Lambs' Wool | @ | Canada Pulled | 45@50 |
| Western super and ext. | 40@45 | | |

### CALIFORNIA.

| | | | |
|---|---|---|---|
| Spring Clip, fine | 33@36 | Fall Clip, lw gds & b'ry | 19@24 |
| Spring Clip, medium | 33@36 | Extra Pulled | 35@40 |
| Spring Clip, lw gds & br. | 25@32 | Super Pulled | 40@44 |
| Fall Clip, A 1 | 24@28 | Low Pulled | 30@35 |

### TEXAS.

| | | | |
|---|---|---|---|
| Fine | 33@38 | Inferior | 20@25 |
| Medium | 32@37 | Very Burry | 17@22 |
| Low | 25@30 | | |

### FOREIGN WOOLS.

| | | | |
|---|---|---|---|
| Cape of Good Hope | 32@35 | Buenos Ayres Merino | 33@37 |
| Mestiza Pulled, X & XX. | 57@67 | Buenos Ayres Mestiza | 31@35 |
| Mestiza Pulled, low gds. | 45@52 | | |

A FLORENCE SEWING MACHINE, hut slightly used, and good as new, for sale at 10 per cent. less than its cost—$67.50. Part of the money may he paid in installments by a person who gives good recommendations—in the city, or in tbe country near San Francisco. To he seen at tbis office. apl-bp-tf

## Meteorological Observations in Tulare County.

[Reported expressly for the PRESS, by ISAAC B. RUMRD, of Orange Grove.]

| FEB'Y, 1871. | Ther. 6½ | 1 | 5½ | Barometer. 6½ | 1 | 5½ | Ins of R'n | Remarks. |
|---|---|---|---|---|---|---|---|---|
| We. 1 | 48 | 57 | 60 | 29.27 | 29.18 | 29.22 | | Clear. |
| Th. 2 | 42 | 61 | 55 | .34 | .29 | .27 | | Clear. |
| Fri. 3 | 41 | 66 | 62 | .25 | .20 | .13 | | Variable. |
| Sat. 4 | 46 | 62 | 58 | .28 | .22 | .19 | | Cloudy. |
| Sun. 5 | 50 | 55 | 51 | .23 | .17 | .18 | .05 | Stormy, wind east. |
| Mon. 6 | 46 | 56 | 53 | .30 | .30 | .30 | | Cloudy. |
| Tu. 7 | 46 | 60 | 57 | .38 | .34 | .33 | | Clear. |
| We. 8 | 40 | 55 | 55 | .38 | .36 | .38 | | Clear. |
| Th. 9 | 45 | 53 | 55 | .28 | .14 | .13 | | |
| Fri. 10 | 46 | 52 | 50 | .15 | .14 | .13 | .45 | Variable. |
| Sat. 11 | 46 | 55 | 53 | .16 | .17 | .20 | | Variable. |
| Sun. 12 | 41 | 61 | 57 | .38 | .40 | .35 | | Clear. |
| Mon. 13 | 42 | 59 | 58 | .36 | .25 | .20 | | |
| Tu. 14 | 46 | 55 | 49 | .22 | .21 | .21 | .25 | Variable. |
| We. 15 | 41 | 55 | 52 | .19 | .10 | . 7 | | Cloudy. |
| Th. 16 | 43 | 50 | 51 | .26 | .35 | .36 | .05 | Fair. |
| Fri. 17 | 44 | 58 | 53 | .46 | .43 | .37 | | Clear. |
| Sat. 18 | 41 | 66 | 65 | .35 | .20 | .16 | | Clear. |
| Sun. 19 | 48 | 58 | 57 | .19 | .13 | .10 | | Variable. |
| Mon. 20 | 52 | 64 | 62 | .20 | .20 | .14 | .05 | Stormy. |
| Tu. 21 | 47 | 51 | 51 | .09 | .10 | .06 | .80 | Stormy. |
| We. 22 | 44 | 42 | 43 | 28.89 | 28.90 | 28.97 | 1.25 | Heavy storm. |
| Th 23 | 35 | 45 | 47 | 29.18 | 29.29 | 29.20 | | Soil wet a foot deep. |
| Fri. 24 | 43 | 47 | 46 | .34 | .42 | .47 | | Cloudy. |
| Sat. 25 | 38 | 54 | 56 | .53 | .54 | .49 | | Fair. |
| Sun. 26 | 40 | 84 | 60 | .49 | .35 | .39 | | Fair. |
| Mon. 27 | 43 | 64 | 61 | 35 | .25 | .18 | | Clear. |
| Tu. 28 | 46 | 64 | 62 | .26 | .22 | .20 | | Clear. |

## Our Printed Mail List.

Subscribers will notice that their names are printed on colored paper and pasted upon each copy of the PRESS. This is done hy machinery, to expedite the issue of our paper, the regular edition of wbich has become too large to he convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriher has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that be bas paid to tbe 4th of January, 1872; 4j10, to tbe 4th of July, 1870. Tbe inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at auy time an early notice will secure their immediate correction.

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M. B. STARR—Pacific Coast.
THOS. POYZER—California.
WM. J. CLARK—California.
S. H. HERRING—California.
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Having seen the prospectus of the PACIFIC RURAL PRESS, and believing there is great need in our comparatively new agricultural districts of such a journal as therein proposed, the undersigned do not hesitate to state that from the standing reputation and success of its publishers, (Messrs. Dewey & Co., proprietors of the SCENTIFIC PRESS,) we believe the new journal will be worthy of universal trial by our agricultural and rural population, and that its publication will be fruitful of much usefulness to its subscribers and in forwarding the development of our natural wealth and prolific resources.

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SCIENTIFIC AND RURAL PRESS.—L. P. McCarty, traveling and corresponding agent for the "Scientific" and "Rural Press," papers published by Dewey & Co., San Francisco, was in town this week soliciting subscriptions.....Miners and farmers can get more information from these journals in relation to their special vocations than from any other publications now being issued in the State..... The "Rural" was commenced with the year and promises to become a very popular agricultural paper, having already gained an extensive circulation.—[Sonora Democrat.

RURAL PRESS.—L. P. McCarty, traveling agent for the San Francisco "Rural Press," is now in this town soliciting subscribers and collecting statistics and other information for the paper.....The "Rural" is a large, well-conducted paper, containing a great variety of important information to the farmer, gardener, mechanic, or merchant, and we are pleased to see that it is attaining a large circulation throughout the State.—[San Joaquin Argus, Snelling,

THE "Scientific Press," of San Francisco, is a journal that is in full sympathy and action with the progress of the age; while it notices all the late scientific discoveries and improvements, it does not neglect "the weightier matters of the law," the wonderful agricultural, mechanical, mining, and railroad progress at this time in our great and enterprising Pacific States.—[N. Y. World.

NEW PUBLICATION.—The "Pacific Rural Press" is devoted to the agricultural interests of the State, and from the extensive and reliable means of acquiring information possessed by Dewey & Co., through their correspondents, we have no doubt this paper will be, as its first number promises, a desirable acquisition to the farming public.—[Lower Lake Bulletin.

ALKALINE SOILS.—We have not seen the last number of the "PACIFIC RURAL PRESS" but learn from the Sacramento "UNION" that that journal has a very instructive article on the various methods of relieving alkaline soils from the superabundance of salts which they contain.—[Daily Enterprise, Virginia, Nev.

PACIFIC RURAL PRESS.—The paper will be quarto in form, and contain in each issue sixty-four columns of matter, and be devoted principally to agricultural and horticultural matters. The subscription is $4 per annum: clubs of ten $3. Address Dewey & Co., 414 Clay street, San Francisco.—[Placer Herald.

NEW PAPER.—The "Pacific Rural," published by Dewey & Co., in San Francisco, is devoted to agriculture, and fills a void long felt in its department of literature on the Pacific Coast.....We wish it success.....It should be on the table of every farmer and mechanic in California.—

THE RURAL is an excellent paper for the farmers and orchardists of California, and of this fact they will be convinced by an examination of the paper.—[Grass Valley Union.

SCIENTIFIC PRESS.—This excellent journal, published at San Francisco, entered upon its 22d volume last Saturday. It should be well supported by the miners and mechanics of the State.—[Amador Dispatch


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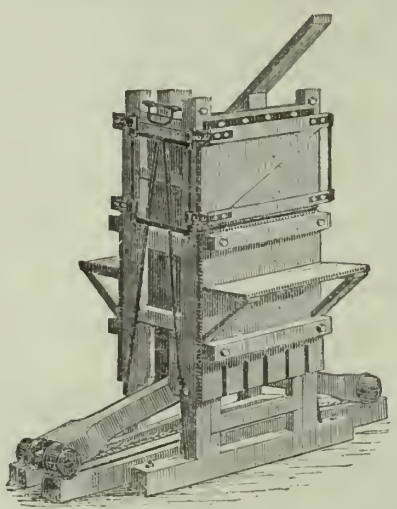

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Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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Just the kind needed on this coast, and merits an extended circulation.—[*Red Bluff Independent.*

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If the first number is to be taken as an earnest of what will follow, each week, we can advisedly say to all interested in agricultural pursuits..subscribe.—[*Vallejo Chronicle.*

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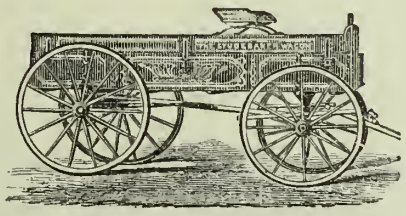

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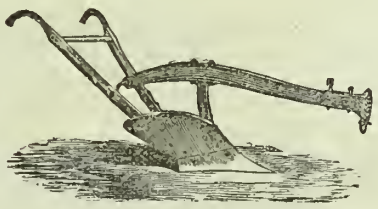

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Also, in the following stores; E. Cohn & Co., Marysville, Gibson and Cross' (saloon), Gold Hill, Nevada; P. Brown & Bro., Marysville; Wm. Klein, Marysville, J. M. Browne, Gilroy; and N. Wagner & Bro., Marysville.

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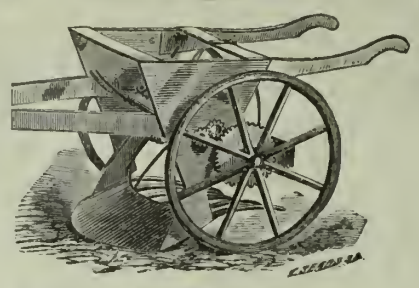

We ask special attention to this practical and useful invention. Nearly every farmer has felt the want of a machine to dig potatoes. This new invention fully supplies that want. The machine being made entirely of iron and steel, will last longer than the farmer who buys it. It is operated by a man and one or two horses, and digs one row at a time. The shovel part of the digger enters under the potatoes and raises them on to the fingers in the rear, where the dirt falls through and the potatoes roll back on to the surface of the ground. The machine is prevented from clogging by a reel which revolves above the fingers and carries through the potato vines, weeds, etc. A complete model can be seen in our office. Full particulars in regard to Machines or Rights furnished on application.

### P. Davis' Wire and Picket Fence.

Although about two hundred different styles of fences have been invented and patented in the United States within the past ten years, yet this Fence, for GENERAL FARM USE, stands at the head of the list. This is a Virginia invention, and the actual cost of the Fence complete in that State is less than fifty cents per rod. Three men can put up six hundred yards per day. You men who are idle, why hang about the city talking hard times when you can make from five to eight dollars per day building this Fence? We will make a present of ONE FARM RIGHT in each county on the Pacific Coast to farmers who will erect one hundred rods of the fence in good style within thirty days after the privilege is granted. We wish to employ several working men to travel in this State and Oregon. Price of territory, and circular with full description of fence sent on application.

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This Light takes the place of the Candle, the Kerosene Lamp and Coal Gas. Each Lamp is a perfect Gas Factory, making its own gas as fast as it is required, It is a safe, cheap and beautiful light. Circulars and full particulars sent on application.

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### Hunter's Improved Grain Separator.

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These Chickens were imported last year from T. C. Cooper's, in Ireland, and had received First Prizes at Birmingham Poultry Show last year.

They are pronounced by good judges to be the Finest and Largest in California. Orders left at WM. BOFER & Co's, 610 Sacramento street, will be filled in rotation. apl5-1m A. MARQUARD.

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The peculiar feature of this new Treadle is that the Foot-board is made Adjustable, both Vertically and Longitudinally, so that whatever the size or shape of the foot or shoe, the True Center of Motion of the Foot may Always be Brought to Coincide with the Center of Motion of the Treadle, and held there, thus Permitting the Feet to Move on their Natural Centers Without Having First to Overcome the Inertia and Weight of the Heavier Limbs.

In our opinion it possesses the following important advantages over the ordinary Treadle:

First—It saves the excessive labor and waste of power consumed in keeping up the rapidly alternating motion of the lower limbs and body whenever the machine is run with any speed.

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By the general adoption of this Treadle we believe the only serious objection to the foot-power sewing machine will be removed, and that so far from being prejudicial to the health of the operator, its use will prove as harmless and positively beneficial as other physical exercise, tending directly to develop the muscles of the calf of the leg, strengthen the ankle, restore the elasticity of the foot, and promote circulation in the extremities.

Signed,

H. H. TOLAND, M. D.,
President Toland Medical College.
G. HOLLAND, M. D.
H. H. HUBBARD, M. D.
J. CAMPBELL SHORB, M. D.,
Ex-Professor Physiology Toland Medical College.
C. M. BATES, M. D.,
Health Officer,
(Constituting the San Francisco Board of Health).
L. J. HENRY, M. D.,
WM. F. HALE, M. D.,
BENJ. D. DEAN, M. D.,
President Medical Society of City and County of San Francisco.
WM. T. GARWOOD, M. D.,
DAVID WOOSTER, M. D.,
R. BEVERLY COLE, M. D.,
Professor of Obstetrics Toland Medical College.
J. P. WHITNEY, M. D.,
Emeritus Professor of Physiology, University of the Pacific.
L. C. LANE, M. D.,
Professor of Surgery, University of the Pacific.
C. T. DEANE,
Professor of Diseases of Women and Children, Toland Medical College.

I have carefully examined the new Treadle attached to the Howe Sewing Machine, and consider it a most valuable improvement, doing away with most of the motion of the back and pelvis, which is unavoidable in operating the old style Treadle, and which has proven so detrimental to health. I cheerfully recommend it to those who work much with Sewing Machines, believing it will save them much suffering.

apl5-1m S. M. MOUSER, M. D.

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PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, APRIL 22, 1871. [Number 16.

## California Improved Farm Wagon.

Last week we illlustrated the celebrated Studebaker Thimble Skein Farm Wagon and gave a short history of the origin and success of the Studebaker Company and of the introduction of those wagons on this coast. For contrast, and as a basis of some considerations in favor of home manufactures, we this week give a cut of a California-made Improved Patent Truss, Axle, Thimble Skein Farm Wagon, manufactured by E. Soule, of Sacramento. Until within a few years past, in consequence of the great expense of importing in their bulky form ready-made wagons and of the length of time neccessarily consumed in the voyage here by water, the California mechanics held almost a monopoly in supplying the farmers and others on this coast with vehicles of all kinds and especially with farm wagons.

The importers of the raw materials, lumber and iron, used in the manufacture of these vehicles also had a good and profitable trade at almost their own prices. The importation by rail, only a few days from the shops, of wagons made at South Bend, Chicago and other Western cities, took our mechanics by surprise, and has very materially cut off their business and profits; so much so that some of them have become disheartened, and have abandoned the legitimate manufacturing business, and accepted agencies for the sale of imported wagons, using their own shops for setting up and preparing for sale wagons made in Indiana, Illinois, and other Western States, thus giving employment to capital and labor of those States in preference to our own.

At first sight it would seem as though our California manufacturers would generally be driven to adopt the same course, or to seek other sources of business for a livelihood. The manufacturers east of the Rocky Mountains, many of them, made large fortunes in supplying the Government and other extraordinary demands during the war, and are consequently in condition to take all advantages of the market in purchasing the raw materials. They have exteusive and well-organized shops and machinery, and can, by a judicious division of labor, use that machinery and labor to the very best advantage. They are in the immediate vicinity of an almost unlimited supply of hard timber, and but a short distance from the iron factories, so that all their purchases can be made from first hands and at the lowest figures and on the very best terms as to time, etc.

The capital employed in their business is worth but six or seven per ceut. per annum, and their business is so managed that interest on so much of that capital as is invested in stock or raw materials does not count against them until it is nearly ready to be turned again into cash, by the sale of the manufactured articles.

On the other hand, our manufacturers of wagons are generally men of limited means and have heretofore been compelled to buy their lumber and iron of the importers on this coast, and pay them a good round profit, and settle their bills at the end of each thirty days, so that the importers have made the money out of this trade, and not the manufacturers.

Their shops are generally small, the business being very much cut up between a great number; and so illy supplied with tools and machinery and facilities, that it is impossible to economise the means in their hands to good advantage.

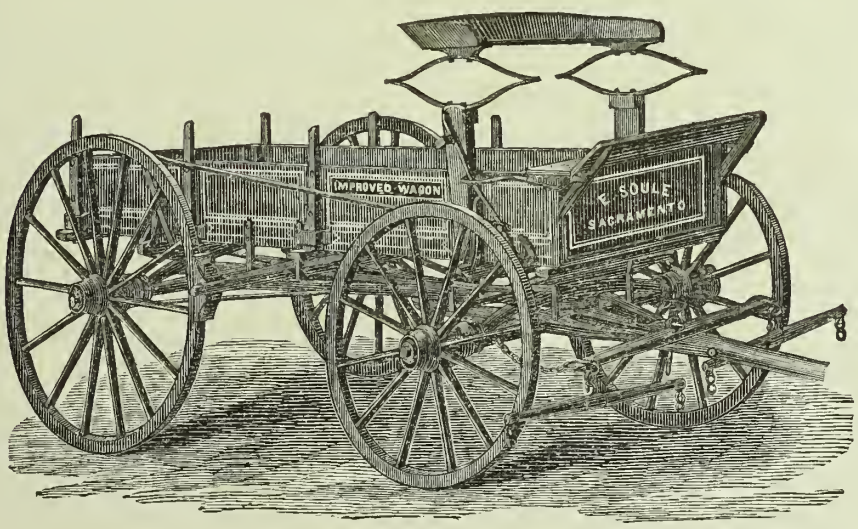
The capital employed in their business is worth here, from twelve to fifteen per cent per annum, and many of them are compelled to pay one and a quarter per cent. per month, and that compounded monthly for a large share of the money actually employed in their business.

These are some of the strongest consideration in favor of the importer and against the home manufacturers and it must be admitted that, at first thought they seem to be insurmountable. Yet we believe, and we are glad to find that many of our most careful, intelligent and prosperous mechanics fully coincide with us in this belief, that all these advantages can be overcome and California may, at no distant day, successfully compete with her most prosperous manufacturing sisters east of the Rocky Mountains, and not only supply her own people with all the farm wagons and other vehicles, but to do her full share in supplying the demand for the entire coast.

We have the figures to sustain this belief, but will refrain from presenting them this week, to present to our readers a very short history of the successful operations of the shop which turned out the Farm Wagon we illustrate on this page.

Mr. E. Soule, of Sacramento, a thorough mechanic, an intelligent man and self-sacrificing Californian, seeing the danger to this branch of California manufactures, in consequence of the importation and sale of the trans-mountain wagous, resolved finally to stand his ground and do what he could, single-handed, if need be, to maintain the manufacturing reputation and interests of this State, He counseled with the importers of iron and hard lumber and paints, and oil, and by his representation obtained large concessions from their former prices aud time restrictions; he talked with leading merchants and business men and interested them in his enterprise and enlisted their interest in his favor, or in favor of his plans.

Being thus sustained and encouraged he went into his shop in August last, and with four good and trusty mechanics commenced work, manufacturing his improved patent Truss Axle, Thimble Skein Farm Wagon. He exhibited his wagons at the State Fair for 1870, and received for them the first premium. He also exhibited an improvement of his own, on the thimble skein, and was awarded the first premium on that also. He has very much improved the Patent Truss Axle and has succeeded in getting up a wagon in all respects particularly adapted to the wants of California. He uses none but the very best Eastern second-growth timber and best quaility of iron, and employs none but the best mechanics about his shop. He is now selling three-inch Thimble Skein Farm Wagons at $150 to $160 each, making a fair profit on the business. He is now working eighteen men and if he had shop facilities, the orders for wagons being received by him would warrant the constant employment of forty.




SOULE'S PATENT CALIFORNIA FARM WAGON.

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Landsberger's Sparkling Wine.—A large number of invited guests assembled on Saturday last, to inspect the new and large wine establishment of J. Landsberger & Co. This is one of the most perfect and successful enterprises of the kind on the coast. The firm will soon be able to turn out 1,600 cases of champagne per month. They have at present about 100,000 gallons of wine on hand and 6,000 gallons of brandy. The number of bottles now in process of manufacture into champagne, is 62,500.

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The Agricultural Fair of Santa Clara county has been fixed for the 28th of August.

## Progress of the Northern Pacific Railroad.

The energy with which the building of this great thoroughfare is being pushed forward is an added guarantee of its early completion and its wise management. We learn from the financial agents of the road, Messrs. Jay Cooke & Co., that, at the present date, the grading is nearly finished for 226 miles, from Lake Superior, through Central Minnesota, to the eastern border of Dakota; trains are running over 130 miles of completed track; the Mississippi river is bridged at Brainerd and once more joined to the Lakes by rail, and track-laying is rapidly progressing westward. By September next, trains will run to the Red River, and the grading will probably be far advanced toward the Great Bend of the Missouri river in Central Dakota.

In the meantime, work has been commenced the present season on the Pacific coast; a large force of men is already employed in the valley of Columbia river, in Washington Territory, and hereafter the work of construction will be pushed both eastward and westward, toward the centre, with such rapidity as the best interests of the road may justify.

Including its purchase of the St. Paul and Pacific Road, the Northern Pacific Railroad Company has 413 miles of road in operation, and before the close of the present season the length of finished track will be at least 560 miles. The highway to the Pacific is being constructed at the lowest cost compatible with first-class work.

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Irrigation.—The valley of the Ganges and the plains of Italy each present a climate and soil very similar to that of California, and both are largely dependent on irrigation. The former sustains a population of over 20,000,000, upon land which is brought to the highest state of never-failing productiveness through a system of canals for irrigation, extending in every direction throughout the length and breadth of this plain, and under circumstances less favorable than those presented for a similar enterprise in California. The latter, presenting a still more circumscribed and irregular area, provided with a colossal and intricate system of irrigation, by which her plains, nearly one-third less in extent than California, are nevertheless made to sustain a population of fully 30,000,000, and much of it upon land that has been almost constantly cropped for two thousand years.

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Lilacs in Abundance.—We are in the receipt of a large bouquet of lilacs of different varieties, from Mr. A. D. Pryal's nursery, Oakland. Mr. P. has thousands of these bushes, now in full bloom upon his place, fairly loading the air for a long distance, with their delicious fragrance. The success of Mr. P. in the cultivation of this bush, and their beautiful appearance at this time, is a sufficient contradiction to the common opinion in this State, that this beautiful and cherished New England bush will not flourish in California.

## MECHANICAL PROGRESS.

HYDROSTATIC PRESSURE ON STEAM VESSELS.—The London *Artizan* has the following in reference to this power as a temporary aid, always at hand, in the working of steam vessels: "One of the great inconveniences in screw vessels when sailing is the dragging of the propeller. There are other obstructions and difficulties encountered in navigating, which are only to be got rid of by a temporary application of force. Steam cannot be expected to be constantly maintained against every emergency, and, indeed, is not always available. The hydrostatic pressure is always at hand, and requires no lighting of fires or any other preparation. It is not only ever present, but economic. It has only to be applied when required, and the waste water discharged into the bilge can be pumped out at any convenient opportunity. When the screw shaft has been some time at rest it cannot be started unless a considerable speed has been got upon the ship, not, indeed, less than five or six knots; but once started, the screw would continue to revolve until the ship's speed had fallen to about three knots. Indeed, every practical sailor will be very well aware of the immense advantages of being able to start the end of the screw shaft into motion or to continue it in action, under occasional circumstances, for a short period. An apparatus proposed by Admiral Inglefield has been manufactured in Clerkenwell, and was tested a short time ago. It consists of a hydraulic cylinder, to be placed on the keel of the ship, with a piston and rod, very much after the manner of the ordinary steam cylinder. Into this the water will be admitted, through an ordinary Kingston valve. The diameter of the cylinder is 30 inches; the length of stroke 12 inches; and the machine is capable of making from 18 to 20 strokes a minute. To the piston-rod of this cylinder is attached a plunger pump, of the diameter of 3 inches, thus giving an accumulated force in the pump of say 100 times the pressure in the working cylinder, or equal to 1,000 pounds on the square inch. The water is conveyed, from a chamber surrounding the pump, by a pipe to a 4-inch hydraulic ram attached to the end of the lever of a ratchet brace, the ratchet-wheel of which is keyed fast to the stern shaft of the propeller. There is a valve box attached to the ram cylinder, which is actuated by a pin in the ratchet lever, to which is connected a rod working the valve, thus causing a continuous action of the ram as long as the water pressure is permitted to act. * * The value of such a power, always ready as soon as the valve is opened, for any work, steering, turning turrets or screw shafts, raising guns, or, in ships provided with the proper wells, raising the screw bodily, is scarcely to be over-rated."

AMERICAN AND ENGLISH ENGINE BUILDING.—We clip the following from an article entitled "Iron Manufactures in Great Britain," by Prof. R. H. Thurston, U. S. N. A., in the *Journal of the Franklin Institute*:—"American engineers have been more successful than the British in securing small clearance, prompt closing of the cut-off valve, and in attaching the regulator to the expansion valve, while the latter exhibit a much better appreciation of the economical value of the steam jacket where high steam and great expansion are adopted. In both countries another requisite for economical practice—high piston speed—is gradually becoming fully recognized. One of the most interesting examples in this department of transatlantic engineering is found in the engines of Messrs. A. M. Perkins & Son, of London. This firm, which was founded by an American, is guaranteeing a consumption of less than two pounds of best coal per horse-power per hour with their mill engines, and claim, in some cases, to have brought the figure as low as one pound. These engines are of a peculiar form of 'compound engine,' the cylinders steam jacketed and vertical, the valve stems *rotating*, with their stuffing boxes placed at the ends of long shells surrounding the stems, the intention of the arrangement being to avoid burning the packing. Surface condensers are used and the feed returned to the boiler at the boiling temperature. The steam is cut off at an early point in the stroke by an independent cut-off valve. The boilers are composed of lap-welded tubes, 3 or 4 inches diameter and ⅜ to ½ inch thick, and are tested to 2,500 or 3,000 pounds per square inch. Where the condenser supplies an insufficient amount of feed water, the residue is furnished by a still. Steam is carried at from 250 pounds per square inch upward, the safety-valve on Messrs. Perkins' own boiler being weighted to 600 pounds per square inch."

COMPRESSED AIR IN MINING.—The *Colliery Guardian* says that the pumping and the coal hauling in the Holmes Colliery, near Rotherham, England, are now done by means of compressed air. We quote in reference to the pumping arrangements:—"The air is compressed on the surface by a double-cylindered steam engine, with 18-inch cylinder and 3-feet stroke, with two air compressing pumps, 20 inches in diameter and 3-feet stroke, worked direct from the steam engine. Near this steam engine is placed a large air receiver, while corresponding with this in the mine, at a distance of nearly one mile, are three receivers connected by short cast-iron pipes, so as to form one, this plan being found necessary in order that the receivers could be made on the surface, and connected in the pit without riveting, as safety-lamps are exclusively used at the colliery. At this part of the mine also is an air engine with two cylinders, each 14 inches in diameter, with a 12-inch stroke, working two double-acting force pumps 5 inches in diameter, with a 12-inch stroke. The compressed air is conveyed from the compressing engine on the surface to the air engine in the mine in 7-inch cast-iron pipes. The discharge pipes of the pumping apparatus worked by this compressed air are 5 inches in diameter and nearly 1,000 yards long, having a vertical lift of nearly 100 yards. The apparatus was first worked on the 6th of January last, and the steam engine was worked at the rate of fifty strokes per minute, a uniform pressure of 25 lbs. per inch being maintained for eight hours at the surface and at the underground receiver. The air engine was worked during that time at the rate of fifty strokes per minute, 160 gallons of water per minute being raised."

NEW ROTARY ENGINE.—Wm. Vickery, of Maine, has patented an engine which is thus described in the Chicago *Railroad Gazette*:—"It has within a circular casing two solid wheels separated by a partition. The circular casing is enough larger than the wheels to form an annular chamber to receive pistons fitting the same. Upon the top of the casing are placed the valve seats, and through these are the ports through which enters the steam. Each wheel has its own inlet port and valve. Drop valves compel the steam to work only on one side of the pistons. The drop valves are raised when the pistons pass by means of inclined surfaces on one or both sides of the pistons, according as the engine is designed to move in one or both directions, but are pushed down again by springs. The drop valves are between the exhaust and inlet ports, so as to be raised after the steam has been exhausted and before it is again admitted. The valve stems are attached to rocking shafts, which are pivoted to suitable supports. The shafts are pivoted to a cam set on the shaft of the two solid wheels of the engine, and so operate as to open and close the valves as required to admit and let off the steam."

LARGE BLAST FURNACE ENGINE.—The *Iron Age* of April 6th says that the proprietors of the Fulton Foundry at Pittsburgh "have contracted to build for the Vulcan Iron Works, of St. Louis, the largest blast furnace engine ever erected west of the Alleghanies. This will be a vertical, direct acting, condensing engine, sixty inches bore and nine feet stroke, with blowing cylinder one hundred and eight inches in diameter and nine feet stroke, with two fly-wheels, twenty-seven feet diameter, weighing twenty-five tons each."

MACHINE FOR MAKING RAILROAD SPIKES.—Two Ohio men have patented a machine which turns out,—according to the Marietta *Register*,—"75 well finished, smooth spikes, weighing 8 ounces each, per minute. Its capacity is fully 8 tons every ten hours, including all necessary stoppages. The spikes are superior in finish to any used on the railroads in this vicinity. A mill will probably be erected in Harmar, machines constructed, and the manufacture of spikes entered into on a large scale."

RAILWAY WATER TROUGHS.—Troughs for supplying locomotives with water, while in motion, have been laid on the Pennsylvania Central Railway, at Derry and near Johnstown. The troughs are 18 inches wide, 6 inches deep, and 1,500 feet long. The scoop will take up 2,200 gallons.

## SCIENTIFIC PROGRESS.

THE WHITE BESSEMER FLAME DUE TO HYDRO-CARBON.—W. Mattieu Williams is giving, in *Nature*, a series of articles on the chemistry of the Bessemer process. No. 3 of the papers is especially upon the brilliant white flame of the second stage, which is totally different from the carbonic oxide flame produced by the combustion of carbon *per se*. He considers the whiteness due in a considerable degree to hydro-carbon. We quote:—"We have one set of workshop facts and laboratory experiments which go to show that for the production of steel, hydrogen in the form of hydro-carbon is necessary. It is well known that coal gas, paraffin, and other hydro-carbons, are more efficient cementing agents than pure carbon. Dr. Percy found that the charcoal of sugar, which retained some hydrogen or hydro-carbon, readily converted iron into steel, but that the same charcoal failed to produce steel under similar circumstances, after it had been deprived of its hydro-carbon. It is well known that wood charcoal which has been several times heated in the cementing furnace, loses some of its power of cementation, and this has been attributed to the driving off of the hydro-carbon contained in the fresh charcoal. Again, it is found that when, by means of an acid, we dissolve the iron of steel or white iron away from its carbon, the residue is not simple solid carbon, but an unmistakable liquid hydro-carbon, an oil which, like other hydro-carbons, burns with a smoky flame. In this case it is possible that the hydrogen may be supplied to the carbon by the water or the acid. If so it presents an interesting case of the formation of what we usually regard as organic matter from inorganic materials. If, on the other hand, the hydro-carbon exists ready formed in the steel and the white iron, the conversion of grey iron into white iron, *i. e.* of graphite into this hydro-carbon, is a still more remarkable case of the same kind. It is true that the hydrogen may be detected by a direct combustion analysis, but this does not reveal the mode of its existence. * * In the case of the Bessemer flame, we have a constant supply of air to a diminishing supply of carbon, and therefore we may expect that there should occur in the white portion of the flame due to hydro-carbon a change corresponding to that which would occur in Mr. Wilkinson's photometric flame, if, instead of a constant supply of coal gas mixed with an increasing supply of air, he maintained the air in constant flow and gradually closed the gas-cock. In this case there would not only occur a gradual diminution of the brilliancy but also of the dimensions of the flame. Such is the change which takes place in the Bessemer flame towards the end of the blow, and it so far confirms the hypothesis that a *considerable portion* of the white flame is due to hydro-carbon. If it were due to the combustion of iron the white flame should increase towards the end of the blow, for it is then that the iron, when no longer protected by the more combustible carbon, begins to burn in a serious degree, just as I have shown that the full combustion of the carbon takes place after the bulk of the silicon has been oxidised."

PERIODICITY OF SUN-SPOTS.—The following is the substance of a communication on the periodicity and heliographic distribution of sun-spots, addressed by M. Zöllner to the *Astronomische Nachrichten* for March 2d:—The sun-spots are slaglike by the radiation of heat on the glowing and liquid surface of the sun; the products of the cooling having again dissolved, in consequence of the disturbance of equilibrium produced by themselves in the atmosphere. When these disturbances are not only local, but generally distributed, the formation of new spots is but little favored at the times of such general motion of the atmosphere, because then the most essential conditions of the surface are wanting for a severe depression of temperature by radiation, namely, the rest and clearness of the atmosphere. But when the surface has again gradually become quiet after the dissolution of the spots, the process again recommences, and acquires in this manner a *periodic* character, in consequence of the mean relationships of the surface of the sun, which may be considered as attaining an average in long periods. The distribution of the spots in area must, according to this theory, be determined by the zones of greatest atmospheric clearness, which, as has been shown, generally coincide with the zones of the greatest abundance of spots.—*Nature.*

VISION UNDER WATER.—Our issue for January 21st had an extract under the above head from a *Nature* correspondent, giving directions for preparing an *air-lens* by the aid of which perfect vision under water may be secured. The same correspondent sends another communication to the same journal for March 16th, making some corrections, which we copy:—"Further experience has shown me that the measurements I then gave were not so accurate as they might have been. Thus, the radius of curvature of the glasses in the air-lens to form a lens with a 2-in. focus in water is not 1¼ in. as first stated, but 1 in. only. Again, I somewhat underestimated the magnifying power of the anterior lens of our eye, formed by the aqueous humor, when I set it down as a lens with a focus of 2 inches; 1⅓ inch is more correct. In accordance with this, I find that for the most perfect vision under water, we require a glass lens of ⅝-in. focus in air (in place of 1 in. as formerly stated), or an air-lens formed with two segments of a hollow glass globe 1¾ in. in diameter, placed concavities outwards. Both these lenses have in water a focus 1⅓ in. long. These lenses are for fresh water. Sea water having a greater refractive power than fresh water, requires for perfect vision a somewhat *more convex* glass-lens and a somewhat *less concave* air-lens. I find that an air-lens made with segments of two glass globes of the diameter of 2 inches and 1¾ inches respectively, when immersed in sea water forms a lens of 1½-in. focus. But I should observe that good vision under water is obtained by lenses of various magnifying powers, ranging from 1⅓ to 2 inches focus; but for the distinct vision of small text-type under water, the higher magnifying power is required, and it also is the best for distant vision under water."

FOSSIL CETACEA AT ANTWERP.—The Belgian Government has carefully preserved all fossils met with during the extension of the Antwerp fortifications which has been going on for several years. *Nature* says:—"Parts of the Black and Grey Crags proved to be a complete charnel house—so abundant were the remains—and these have been quietly brought together and placed under lock and key for the last eight years. The richness of the fauna disinterred may be judged from the fact that it is stated that eight new genera of Ziphioid Cetaceans are indicated besides sixteen new species belonging to known genera. Many of the forms are represented by far more complete portions of the skull than have hitherto been known from these beds, also portions of the trunk, limbs, and lower jaw in connection with these. Portions of the skull of the fossil Walrus, tusks of which occur in the Suffolk bone-bed and have been described as Trichecodon, have been obtained, as well as remains of seals. All these specimens are under study by the Vicomte du Bus, and are not open to the inspection of even professional palæontologists. They are being carefully and freely engraved, and will soon, it may be hoped, be made known to the world."

THICKNESS OF THE SEDIMENTARY ROCKS. The *Geological Magazine* for March has an article by Mr. James Croll on the "Determination of the mean thickness of the sedimentary rocks of the globe." He remarks that it must be borne in mind that, from the continual action of denudation, the existing sedimentary rocks only represent a a fraction of the whole thickness of sediments that have been deposited. Taking the denudation of the area of the Mississippi as a guide, he estimates the wearing down of the land at one foot in 6,000 years, and the matter thus removed spread over the bottom of the ocean would produce a deposit one foot thick in 14,400 years. Taking the maximum thickness of British sedimentary strata as calculated by Prof. Ramsay, namely, 72,000 feet, to represent the mean thickness of all the sedimentary rocks which ever have been formed, the author thus gets 1,036,800,000 years as the age of the stratified rocks.

THE highest point ever attained by any balloon traveler, namely, seven miles, was made by Mr. James Glaisher, the English aeronaut, in an ascent made from Wolverhampton, on the 2d of September, 1862. At this height Mr. Glaisher became insensible, and Mr. Coxwell, his companion, nearly so.

# CORRESPONDENCE.

## Devil's Lake in Summer.

[Written for the PRESS.]

I wish you had been there—that pleasant August morning—to tumble with us into an old farm-wagon that could hold a dozen comfortably, and with lunch baskets and coffee pots and stray muskmelons and watermelons, the latter much too large for any ordinary basket, and to nestle into the soft, fresh, fragrant hay that formed our only cushion. A friend had kindly lent us a team and wagon for the day—for when one goes to visit Devil's Lake he should take a whole day for it.

By the advice of our friend we took a round-about road and dropped into a little rock-bound ravine called the Pewitt's Nest. Here the water ckme down over the smoothly worn sandstone rock, in a cascade of about 35 feet. On one side of the basin is a smaller one worn by eddies, in former times, far up the side of the precipice; but it is more suitable for the nest of the fabled Roc, than for our modest little pewitt.

The natural beauty of the cascade has been marred by the attempts of some early settler to turn the water power to some account; but the mill did not prosper and it is a ruin. After an hour's climbing around among the little ferneries, and gathering blossoms that seemed to cling tenaciously in dangerous nearness to the precipice, we again tumbled into the wagon, and the slow-paced old nags were whipped into a trot in the direction of Devil's Lake.

Our last winter's road, then all ice and snow, now lead among green hill-sides and shady trees. In California, unless we live in the mountains, we can scarcely imagine how the earth would look covered two or three feet deep with snow, for several months, with nothing but a few pines or firs that dare to look green. Neat, thrifty-looking farmhouses looked out occasionally from the groves; but the timber began to look thicker, and the rough hillsides warned us that we were approaching Minni-waukan. Yes! there, right in front of us, we can see the blue water, and toward the left is the Minni-waukan House—a stopping place for tourists and pleasure seekers.

In winter we might have procured skates there, and glided over the frozen, clean-swept little bay in front of the house; but now we want fishing tackle or a skiff, and have only to make our choice and soon the oars, or an oarsman, if we need one, are at our service. So unhitching our horses and tying them to the wagon to nibble their hay, we carried our lunch baskets and melons aboard of the green-painted "Warrior," and after some foolish screams from the girls at the rocking of the boat, our oars shoved us out on the smooth surface of the lake.

Oh, how grandly the water reflects the Devil's Pulpit! I pictured to myself his Satanic majesty, with his usual adornment of horns, hoofs, fiery breath and general dark countenance, as he must have looked when he occupied that pulpit and proclaimed to his admiring imps—well, we don't know any of us what he *did* preach, and I like to think that it is all a myth, that the only devil we ever knew was the inward devil of wrong-doing and unkindness. But then one can picture to himself even a myth. It was after all but the mind's picture, and soon faded away as we passed beneath the rock, and I saw the little ferns and flowers clinging to its dark sides and trying to beautify it, I said to myself:—"If he ever had any preaching to do he would doubtless have chosen some less beautiful place, than this grand old rock."

We crossed the lake and landed at the upper end of the T; and, as it was near dinner time, we agreed upon a swim. So we got into the boat again, and started for another part of the lake, leaving the girls to brave the elements as they chose. Minni-wauken has steep, precipitous banks in most places, but in some parts the descent into the water is very gradual. Such a place we found, and were soon tumbling about in the clear water or treading its sandy bottom. If it is not so exciting as bracing yourself with bated breath for an incoming breaker on a Santa Cruz beach, you don't get your nose and eyes full of choking salt water.

Our swim gave us such an appetite that we could scarcely wait for the coffee to boil before attacking the sandwiches and cold chicken, and the score of good things that came out of the ponderous baskets. Some of the boys had jumped into the boat, and made a speedy voyage to Happy Valley. It was a prosperous undertaking, too, if we may judge by the baskets full of ripe plums, peaches and apples which were added to our store. After dinner the lazier ones stretched themselves for a nap in the cool shade, while the more adventurous crossed the lake and climbed, gathering huckleberries *en route*, by a round-about way to the pulpit, looked across to Eagle Cliff, and gazed into the bottomless pit—a near and appropriate adjunct to the Satanic Pulpit.

I tried all sorts of ways to account for the wild and promiscuous distribution of rocks and rents. The lake is truly a wonder, so small, and yet so deep, in many places over a thousand feet, deeper even than Lake Superior. Its surroundings indicate quick and hot work in its construction; yet this little gem lies in the midst of a country of but few hills, no mountains, great prairies, and no indications whatever of volcanic agency for hundreds of miles. Here this curiosity lies, awaiting the geologist who is to discover what convulsion of nature could have caused such a singular falling in of the surface.

But I had almost forgotten my promise about the Indian legend which was related to us as we sat for a half hour's rest on a cliff near the Bottomless Pit, and looked across the lake to Eagle Cliff, the scene of the melancholy tragedy which forms the basis of the story. But if I redeem my promise this time, my young readers, the editor who kindly furnished me this column and a half, will think I intrude on his "Home Circle" too long, so I postpone to my next the relating of the story as I heard it from the lips of my friend on that pleasant August day. BADGER.

## Petaluma Home Institute.

EDS. PRESS:—Knowing that whatever is of value to the farming population, is of deep interest to you, I take the liberty of calling your attention to this newly established school. One great want felt by many of our agriculturists, is a school to which they can send their young children, as well as those more advanced, and who can in some measure look after the younger. Most of our boarding schools receive only girls, or boys, so that younger brothers cannot be cared for by elder sisters. This institute will obviate that difficulty, as the proprietors have arranged to board young ladies, and lads under fourteen years of age. This strikes me as supplying a very important feature in California education. Orphans can thus be brought up in a family together, without the painful and unwise separation that the ordinary methods impose.

In regard to the character of the teachers, it is not too high praise to say that they are thorough in every department which they undertake. There is no *sham*, and *no shoddy* about them. Mrs. A. A. Haskell, Assistant Principal, is too well known to need any commendation among old Californians. She for a long time occupied a similar place in Miss Atkins' popular school at Benicia, and her old pupils are now sending their young daughters to her, feeling the fullest assurance that they can implicitly trust them to her guidance.

The Principal, Mrs. Mott, is a lady of whom all who know her, speak in terms of unqualified praise. She was at one time a pupil of Maj. John Lynch, of Circleville, Ohio; none who have ever come under the spell of his teaching, but have gone out zealous and competent educators. By a singular coincidence, Miss Atkins is now Mrs. Maj. Lynch, and the old assistant of one, and the pupil of the other, are now united in a most important educational enterprise here.

The terms are lower, as per catalogue, than in any similar school in the State, and undoubtedly some reduction would be made where several pupils are sent from the same family. As everybody will want to know these terms, I asked and obtained permission to take a schedule from which I make the following abstract: Tuition for highest grade, $6 per month; for intermediate, common English studies, $4 per month; primary, $3; ancient and modern languages, $6; piano music, $5; drawing and painting, $6. Board and washing, $24.

In addition to this, the climate of Petaluma is remarkable for its evenness and healthfulness.

There are two terms, commencing 1st of January, and 1st of August. Let us hope that the school, which has now over forty in daily attendance, after two months existence, may find itself liberally sustained. X. Y. Z.

## Two-Horse Teams—Coming to Grief.

MESSRS. EDITORS:—Could you inform us why, in California, it is the almost invariable custom, to hitch up two horses, to every team on the slightest occasion; for a mere errand to town, to the store, to the blacksmith, to carry the children to school, to church on the Sabbath, always takes a span. Are two horses easier to feed than one, easier to clean and hitch up? Is not the wear and tear of harness and shoes more than it would be with a one-horse vehicle? Sometimes the teams are fine ones; and it may be a matter of pride; at others, it does seem as though it were a matter of necessity that one half-breed frame should hold the other up, and drag him along. But it really does seem, to the observant visitor in our country regions, as though one good horse was preferable to two poor ones, and much cheaper to maintain.

We happened to be an eye-witness to an amusing incident the other day, which we cannot help but note down. Into town there came a sorry-looking equipage—two horse frames—which indicated plainly that the feed was backward this season. They were held to a sorry-looking, rickety wagon, by a harness long since gone beyond all skill in patching, and eked out with baling rope. The lines were *lines* in truth, and had probably done service as a clothes line, when needed for such occasion. In the wagon was an old man and his better half—far western people, as was plainly to be seen—and a crate of half-grown, half-famished fowls, and a box of eggs. Up to our store they drove, and with much reluctance, we were compelled to take their truck in barter three-quarters goods, and balance cash.

After the old lady had transacted her business with us, she handed over the cash to the "old man," who got into the wagon, and resumed the lines, saying: "Now, old gal, as yer know better about what a cask yer want, yer had better go down to the other store and pick one out." "Well, I reckon I will, and as I want to see aunt Sally, you can mind the team, and drive down and meet me there." No sooner was the old lady out of sight, than the old man drove to the adjoining bar-room, and getting down, strolled in after a drink of whiskey and tansey or two. The old man was induced to set down and take a hand at seven-up, just to pass away the time. Absorbed in the game, he never noticed that his team, attracted by some fodder thrown down at the hitching rail beside the building, had turned the corner, and in company with two saddle horses, were regaling themselves on long straws. After a short time, and just as the old lady was returning to seek her missing spouse and team, one of the saddle horses commenced bucking and kicking in the most vicious manner, causing the old man's team to stampede, and in bucking and kicking, they upset the wagon, with one horse down, just as the old lady arrived on the ground and viewed the situation and the wreck.

It may be presumed that her wrath knew no bounds; she broke for the saloon, and addressed the old man in the following emphatic manner:—"Yer derned old fool, you, is this the way you mind the team, a playing cards and swilling poison, squandering all my savings of the last two months; come out, come out, yer old fool, and see the wagon all gone to smash, and Jenny kicking the legs off herself, and off of Dick."

Now the old man had just had a hand dealt him, over which he was ruminating, much pleased. He looked at the old lady, a broad grin covering his grizzly countenance. "Mother," says he, "I stand four in this game; I have got high and jack in this hand, that's six, and I am derned if I don't make the other point, if the whole team was to go under, and the whole world onto the top of it; so pick it up gal."

With the aid of one or two spectators, the team was righted, minus one wheel gone to flinders; a rail was placed under it, and the old lady moved off with it to the wagon shop, the wheels performing more parabolas than can be described with compasses. The old man won his game, and rising, said, "Well, boys, we've had a right smart time; but I reckon to hear snakes from my old lady to pay for it."

But how about the one-horse vehicles; can you tell, Messrs. Editors, or you, dear readers? NIBS.

[We can't.—EDS.]

VICTORIA AND HER LOVE.—Referring to the mausoleum erected at Windsor to the memory of the Prince Consort by his wife, at a cost of £110,000, a correspondent says: Each day Queen Victoria visits this place alone. Near the tomb is placed a large, deep basket, filled with wreaths of beautiful flowers. At hand is a small round table, on which are a Bible and a prayer book. From these she reads and prays fervently, kneeling the while. Then she rises, and taking the wreaths, advances towards the sarcophagus, in the lid of which a small sheet of plate glass is inserted, through which she can see the face and form of the departed. But the efforts of the embalmer have not been thoroughly successful, and the features that were so beautiful in life are, in death, marred by discoloration. Still it is his face, shrunken and pallid though it be. Again she prays, thinking of the years of happiness she lived with him, long passed away, but never to be forgotten. She stands gazing there till she can gaze no more, with tears. Gently she places the forget-me-nots upon the marble coffin, takes one last lingering look with her dim eyes, and slowly retires, while from above the bell tolls out a melancholy requiem for the idolized dead.

FISH IN DEEP WATER.—A curious experiment was performed in France, recently, to ascertain whether fish could live in great depths of water. The fish were placed in vessels of water made to sustain 400 atmospheres, under which they lived and preserved their health. It is, therefore, concluded that fishes may penetrate to very great depths in the ocean with impunity, as a pressure of 400 atmospheres corresponds to a depth of 13,600 feet, or about two miles and a half.

A NEW ROUTE.—It is in contemplation to establish another route from Vallejo, next week, says the Vallejo *Chronicle*. The California Pacific Railroad Company propose putting on a steamer to run between Vallejo and the Sonoma embarcadero, by the way of a large slough connecting Napa Bay with the tide waters of Sonoma Creek. The California Navigation Company tried the experiment some years ago, and it was practicable, but the trips were not continued, owing to a fault in the connections, which threw travel out. The iron and material for the Sonoma road will be sent forward by this route for the present. Captain T. G. Baxter, who is familiar, with the navigable waters to the westward, will command the steamer to be employed.

A NEW descriptive fantasie, entitled, "The Fall of Paris and the Fortresses," just published in London, seems to promise rather more than can be performed. Besides several marches, the guard, the sortie from Paris, and, finally, the English feeding the Parisians. "This last circumstance," says the *Pall Mall Gazette*, "must be extremely difficult to describe musically. The rattle of knives and forkes might, perhaps, be imitated, but it is difficult to conceive the sound of eating being accurately rendered by the most complicated harmony.

OPIUM IN AUSTRALIA.—It is said that 150 pounds of opium, the produce of Australia, was sold in the Victoria market last year. It was of good quality, having eight to ten per cent. of morphia. The yield was from fifty to eighty-four pounds per acre.

THE raising of Cashmere goats for their wool has become an established pursuit in Nebraska. One gentleman has a flock of 200 and his success in raising them has induced many others to adopt the breeding of that valuable stock as a regular pursuit.

AN exchange, describing a funeral, says: "The procession was very fine, and nearly two miles in length; and also the prayer of Dr. Perry, the chaplain."

THERE are now about 250 postmistresses in the country, and the number rapidly increasing.

# SERICULTURE.

## Silk Culture.

As the season for hatching and feeding silkworms has arrived, we will redeem our promise to give, from time to time, such information as we are possessed of in reference to this branch of industry.

### The Cocoonery.

The building to be used as a cocoonery should be regulated as to size, so as to accommodate the number of worms to be fed in it. One ounce of eggs is said to contain from 30,000 to 40,000; but we think 30,000 as many as will, on an average, hatch from the ounce. The smaller trevoltine or bivoltine kinds may contain more than this number; but we think the larger annual kinds will fall short of it. Taking 30,000 as a basis we may easily determine the space required to feed the worms from any given number of ounces of eggs. One hundred and fifty worms of full age or growth should have at least one square foot of shelf or table room, and one ounce will therefore require 200 square feet, and this increased in proportion as the number of ounces of eggs to hatch is increased. No extra building need be provided for a cocoonery if there is a barn or other building on the place that can be spared for use during the summer season. The shelving can be so put up that it can be taken down and laid away, and so kept from year to year. It is said that in many portions of Spain, and in other countries, sheep-hoods are used as cocooneries, and that the smell of old manure is believed to be of no detriment to the health of the worms, but rather a benefit. So a horse barn or hay barn can be cleaned out and used without danger to the worms.

### Ventilation and Temperature.

One important matter in fixing up a cocoonery is to provide the means for plenty of ventilation. There should be an opening at the highest point to let the bad air escape, and openings at the bottom to let in fresh and cool air; and these ventilations should be fixed so as to regulate the circulation of air at pleasure. There should also be some handy way to wet down the floor (and this may be either boards or well-packed earth) in hot, dry and still days. The evaporation of water judiciously used may be made to keep down the heat two or three degrees in the building, below what it would be without the use of water.

Though this is one of the most even or uniform climates in the world, yet the changes of temperature between the nights and days, especially in the open valleys and in the summer season, are greater than in many other countries. Indeed, this regular daily change of temperature is one of the greatest difficulties, in our opinion, with which our silk growers have to contend. With our generally even temperature, if we could dispense with this daily change our climate would be perfect. In this respect the foot-hills have a great advantage over the large open valleys.

To counteract this difficulty many propose building brick or adobe cocooneries. This expense is unnecessary, nor do we believe a brick building good for the worms. The atmosphere in a thick walled, brick building accumulates too much chilling dampness, which is as detrimental as the changes of the temperature. A double wooden wall, with a false roof, would secure all the advantages and be liable to none of the objections to brick. But the same object can be much more cheaply and as effectually secured by covering the sides and roof of the cocoonery with tules. The tule makes a covering of the best non-conducting properties. Neither the sun, the wind nor the dampness of a rainy day will penetrate a wall of tule a foot thick. The southern and western sides of the building and the roof only need be covered. The sun should always be allowed to strike the east side of the building early in the morning. It will shorten the time necessary to carry the worms through to cocoons from two to three days, and give them more certain health and better results. Two men can cut tule and cover a building fifty feet square, if they be handy, in two or three days. We speak in reference to this kind of covering from experience.

### Artificial Heating.

With respect to artificial heat in a cocoonery there are many opinions. In this dry climate we all know that the degrees of heat and cold are not as sensibly felt by the animal system as in a more damp climate. The dry air is a poor conductor of heat; but a damp atmosphere, on the contrary, becomes a good conductor, and hence, in a damp climate we feel the changes of heat and cold much more readily. So with the silkworm. We should take these facts into consideration when determining the question of artificial heat for our cocooneries.

We think it may be well to have the facilities for heating at hand; but use them only sparingly. We would prefer that the thermometer should not fall below 60 nor rise above 80 degrees in the cocoonery. If it could be kept at the mean of 70 degrees it would be better. If the thermometer falls below 60 degress and remains any length of time it may be best to use a little fire. But if it only gets down to that figure in the latter part of the night, to rise at the approach of the sun, we would not start the fire. The Chinese on such occasions use a quick charcoal fire which they carry through the building in a furnace. Heating by an open fire or blaze, as in a fire place, is much better than by a close stove.

### Hatching the Eggs.

Silkworm eggs will not hatch as a general thing with the thermometer below forty-five degrees. We say generally, because the bivoltines will hatch at a considerably lower temperature than annuals, and Japanese annuals will hatch at a lower temperature than French annuals. If your eggs have been kept in a place below forty-five degrees, and you wish to have them ready for hatching in about ten days, change them to a locality where the temperature remains at about 50 degrees, and in a day or two increase the temperature to about 60 degress, and then up to seventy, and keep it at this point until they begin to hatch.

Two or three days before hatching you will notice the eggs changing color from a brownish state to a grayish blue, and the day before hatching to quite a light blue. The worms hatch from six to ten o'clock in the morning, and when you see the little fellows coming out, cut up some tender leaves in narrow strips and lay them around the edge of the paper to keep them from crawling off, also some through the center. As the worms get out of the eggs they start immediately for the leaves and begin to eat.

At about ten o'clock take hold of the strips of leaves carefully and lay them close together on a clean paper upon which you intend to feed them. It is better that the worms be pretty thick when small—so thick that the leaves upon which they rest will look black with them. When you have thus moved all the worms from the eggs, in this manner, cut up some tender leaves, very fine, and sprinkle them over the worms. They will immediately leave the dry strips and go for the fresh cut leaves. Mark the worms, or the paper containing them, the day of the month, and feed them a little once in about five hours during the day time, and if the nights are sufficiently warm, so that they continue to eat all night, keep the feeding up all night; but if the nights are cool let them miss one feeding in the middle of the night, and then again at four o'clock.

Repeat the process of taking the worms from the eggs each day for about four days, and then throw away those that have not hatched, as they will not probably be very good after that. Be very careful to keep each day's hatching by itself, and keep the papers on which you place them separate, so they will not mix, as this will save a great deal of trouble in the future changes of the worm. Keep up the feeding with finely cut leaves each four hours, being careful not to feed them much more than they will eat until the worms are four days old.

### First Molting.

At this age their heads and the foreparts of the body will be a grayish color, and if the temperature has been kept up to about 70 degrees they will probably begin to lose their appetites, preparatory to going to sleep, but if the temperature has been a little lower than 70 they may eat, on the fourth day, more ravenously than on any previous day, and their sleepy time may be delayed until the fifth day or even to the sixth. When they stop eating, stop feeding; as, if you continue to feed them, you will bury them up with cold, damp leaves and thus lose many of them. They will sleep from twenty-four to thirty-six hours, and sometimes forty-eight hours. In this time their bodies shrink and the skin separates from the little black cap that covers the head, the cap falls off and the worm wakes up and crawls out of his skin. This is called molting. When they have thus molted and waked up they are very hungry, but don't feed them any till all the worms on the paper have molted. Be very particular about this so as to keep them all of the same size and so that when they go to sleep the next time, which they will do again in about five or six days, all will sleep and wake at the same time.

By being very careful to keep the worms of the same day's hatching separate, and thus keeping each day's hatching uniform in size, and putting them all to sleep at the same time, before each molting, much work is saved, and the worms will do much better all through their lives. We should have mentioned that as the worm approaches the time for going to sleep it changes its color always looking a yellowish sickly color, at that time; and when it fully stops eating it fastens itself to a piece of a leaf and seems to be stiff and almost lifeless. In this condition they should not be moved or fed or disturbed in any way, but left entirely alone. When going to sleep, also, many of them get down under the surface leaves, so that you can see but few of them on the top. When they have molted, their color is changed and they appear on the surface again and move about in search of food.

# GARDENING.

## How to Raise Asparagus.

It is difficult to conceive why asparagus, a vegetable always in good demand, and usually commanding the highest proportionate price of any vegetable in the market, is not more generally cultivated by our gardeners. In fact we can see no reason why every farmer, as well as gardener, should not have his asparagus patch, which will furnish him, especially in this climate, during about half of the year, with one of the most delicious vegetables which comes to the table. A good article of asparagus seldom becomes a drug in any market; but generally pays a better price to the producer than almost any other grown.

Within the past few years more attention is, indeed, being given to its cultivation, especially in the vicinity of New York, where it is not uncommon, now, to see fields of from two to seven acres devoted exclusively to its culture. Asparagus is easily grown; yet, to be successful, there are a few essential points which should be fully considered and understood by the grower. These points will all be briefly noticed in what follows.

Our attention has been more particularly attracted to the matter, this week, by the reception of a fine sample of this vegetable from the gardens of Mr. A. D. Pryal, which are located on the telegraph road, just out of Oakland. The sample sent is of the giant variety—the spears being double and treble the size of the more common variety in the market; and from trial of its quality, we confidently assert that it is so much better than that usually sold, we should prefer paying a good price for it, rather than take the other as a gift. Mr. Pryal, who has had considerable experience in cultivating the plant, has written out, for our columns, his mode of cultivation which we are sure many of our readers will be pleased to peruse.

### Mr. Pryal's Practice.

We plant our seed about March or April, and plant in drills quite thick, and transplant in the field for permanent use at *one* year from the seed, instead of *two*, as is the usual practice on the Atlantic side. In planting the grass, of which you have a sample, I ran furrows as deep as I could with the plow, by running twice in the same place—the rows four feet apart. We then went along the furrows with spades, and dug holes to the depth of from fourteen to eighteen inches deep, from the general level. We put our plants in the bottom of the holes, and covered two or three inches deep, and let them grow. As they gain in size and strength we gradually fill up the furrows; but not wholly, the first season. At one year after planting we commence to cultivate thoroughly with the plow, employing it several times during the summer season, in throwing the earth, first *from* the plants then *towards* them; observing to throw the earth away from the plants well, at the time when the plants are growing most vigorously, in order to keep the roots well down in the soil.

When we contemplate cutting for the market, which is at two years from planting, or three years from the seed, we commence to ridge up the earth over the plants—the first year not so heavy as afterwards—and keep as mellow as we can through the cutting season. As soon as we have done cutting, we turn the earth away from the plants with the plow, which makes the ridges between the rows of plants, aiming all the time to keep the earth away from the plants as much as we can, just after the cutting season is through with, which will induce the roots to work downwards, while the plants are making their growth.

Our cutting usually commences here in the latter part of February or the first of March, and ends from the first to the middle of June. Though the time to quit cutting is more easily determined by the growth of the plants which will very soon dictate as to when they have had work enough. They must have time to recuperate, for continued cutting would exterminate them entirely; and as soon as we see the plants beginning to grow spindling and puny, we are satisfied they have been cut enough, and immediately prepare them for their summer's growth.

One thing must be borne in mind:—Asparagus will bear all the fertilizing we can give it; and the more we give it the better it pays. I suppose that no other crop will pay better for the manure and cultivation;—I mean the extra amount of manures, and thorough cultivation. Good grass is worth twice as much money in market as ordinary to poor qualities of this vegetable.

It is still argued by many persons that there is but the one variety of asparagus, notwithstanding the reputation that the Giant and Conover Colossal holds in the East at present. We are satisfied in our own minds as to the genuineness of both; but are not quite satisfied as to which is the best for our climate and soil. We are rather inclined to give the Conover the preference, though that is very scarce here yet. We have it growing, but not old enough to fully test its merits; but by another year will have quite a stock on hand.

Our soil is alluvial and somewhat impregnated with salt and alkali, both being good fertilizers for asparagus.

### Remarks.

With regard to the preference of the two varieties named, we would state that Mr. P. T. Quinn, perhaps the best authority extant upon such subjects, pronounces in favor of the "Colossal," as superior in both quality and productiveness.

### Planting the Seed.

As our correspondent has made but a mere allusion to planting the seed, we will refer to it more at length, regretting, however, that we cannot write from practical experience, as our correspondent has done. We believe, however, that the authority from which we collate is good.

Asparagus should be sowed in bed a made deep, mellow and rich. Shallow drills should be opened about one inch deep and one foot apart, the seed sown thinly, and carefully covered. Fresh seed will sprout in about two weeks, in favorable weather, or under proper irrigation. Seed older than one year, will require a longer time for germination. If more than three years old, it will generally fail to germinate at all.

When sown in ground where weeds are expected to germinate abundantly and quickly, the rows should be carefully marked, so that the weeds may be safely removed from between them before the asparagus makes its appearance. As our correspondent states, plants at the East are usually allowed to remain in the original beds two years before transplanting; although, under favorable circumstances, they will become vigorous enough the first year, for transplanting. If the plants are allowed to remain too long a time before transplanting, they generally fail to give satisfactory results. In California the rate of transplanting at one year's growth might no doubt be made general.

Those who want only a few hundred plants for a family or a small bed, will find it cheaper to buy them from some respectable person, like our correspondent, than to raise them from the seed.

One other thing should be noticed:—Asparagus can be grown to a high point of perfection only on soil that is well drained or free from stagnant water, and thoroughly pulverized, to the depth of about 20 inches, and then heavily manured. As our correspondent remarks, the more generous the dressing, the more liberal will be the crop. *Lime* added to the salt will be found a great improvement.

# AGRICULTURAL NOTES.

## CALIFORNIA.

DAIRYING IN SAN DIEGO.—The San Diego *Union* learns that one of the largest farmers in the Cajon Valley intends to enter into the dairy business on an extensive scale. He believes that a sufficient quantity of green food can be obtained the year round, in that locality, to make the business profitable. From what we know of that valley, adds the *Union*, we have no doubt that this enterprise will pay well. We believe that not only there, but in other sections of this, the alfalfa clover will thrive, and that enough good butter can be made here to supply the home demand. There is money in this dairy business.

BEAVERS are plenty along the banks of the Feather river, about five miles below Marysville. They are engaged at present in cutting wood on the New England Orchard ranch, and are getting along very well considering the tools they have to work with.

LARGE HOG.—On Tuesday of last week, says the Solano *Republican*, Green & Co., of the Pioneer Market, bought a hog of Geo. C. McMullen which weighed 630 lbs. After it was slaughtered it was sent to Benicia Barracks.

DON'T FEAR THE DROUTH.—The San José *Mercury* says that Mr. Malcom Mount of Santa Clara county, has a field of barley in which the grain stands about four feet high. Thorough cultivation is what did the business. Mr. Mount says he has no fears of dry weather.

HEAVY FENCING.—The Monterey *Republican* says that Mr. St. John is doing some heavy fencing this season, commencing at a point on the Carmel road two miles distant from town, and running five miles to the Cañada Segunda. The fence will be partly board and partly picket.

LUMBER IN SANTA CRUZ.—It is said that the valley of the San Lorenzo river, emptying into the bay of Monterey at Santa Cruz, has lumber sufficient to fence every 160 acres of farming land between that place and San Diego, and build a good house and barn thereon. All that is wanted is railroad facilities to render it available.

THE WOOL PRODUCT.—The Monterey *Republican* says that the firm of Flint, Bixby & Co., will ship nearly $100,000 worth of wool from San Juan to San Francisco this season; Russell & Reynolds to the amount of $5,000, and Crooks, Breen and others, over $25,000 worth. The price paid is said to be better than for many years.

THE Tulare *Times* says:—We notice large additions to our wool crop going forward to market. Scarcely a day passes that don't witness teams passing through town heavily ladened with wool on its way to San Francisco.

MEAT CURING.—San Francisco has 40 meat curing establishments, employing 100 hands, and producing annually 1,500,000 lbs. of ham and bacon, 6,000,000 lbs. of pork, 31,000 bbls. of beef, 11,500 cases and 3,000 bbls. and half barrels of lard, and 800,000 lbs. of sausages.

EGGS are worth only 22 cents per dozen in Marysville—the cheapest they were ever known to be there.

THE millers of Stockton have been buying wheat in San Francisco and shipping it back to that point. The reason of this purchase was, that wheat can now be procured on better terms at the Bay than in that market.

WINE SHIPMENTS.—The Los Angeles *News* says that Messrs. Kohler & Frohling have shipped within the past five months four hundred and fifty pipes of wine.

THOMAS GARDNER, of Sacramento, has forwarded to New York, en route to Liverpool, England, nineteen cases of the choicest varieties of California wines. These samples are to show the wine dealers of the old country, that the wines of this State, when preserved pure, are fully equal to those of any other country. Mr. Gardner deserves applause for his business tact.

THE tule lands in the vicinity of Rio Vista are in great demand this year. The Solano *Republican* says that a number of persons are preparing to put in crops there, endeavoring to make up for almost certain failures on the high lands.

IRRIGATION.—The Woodland Ditch Company have opened their old ditch, and farmers along the line of it are supplied with water for irrigation at the rate of $4 per foot for 24 hours.

GRASS HOPPERS IN LOS ANGELES.—The Los Angeles *News* of April 5th, says: "All the available force at Cucamongo have been taken from other work to retard if possible the threatened invasion of grasshoppers. Zaujas are left undigged, and irrigation neglected. The vineyard had been surrounded by water for the purpose of preventing the plague, but unfortunately the insects had deposited their eggs within the limits, and the young are now being hatched out among the very vines. It is to be hoped that some plan may be hit upon to keep the destruction from being wholesale, if it cannot be averted altogether."

Later accounts inform us that subsequent high winds had a wholesome effect on the "hoppers," who were still in the infancy of their existence—it killed them nearly all off.

STRAWBERRIES.—San José and Santa Clara are sending considerable quantities of strawberries to market. The crop is said to be very promising, and a heavy yield is expected. The arrivals are increasing daily, and prices in another week, with warm weather, will be down to such a figure as to place this delicious fruit within reach of all. Last season, it will be remembered, the crop was a partial failure, owing to the drouth or other cause, and the berries were of inferior quality. This year, from present indications, the crop will not only be large, but the quality excellent.

THE CUT WORM IN SANTA CRUZ.—The Santa Cruz *Times* having heard considerable concerning the ravages said to have been made on crops by this insect, reptile, animal, or whatever it is, has made special enquiries of the farmers during the past week, and from all the information obtained cannot learn of any serious injury that has been done to crops. The worm seems to work more in gardens among cabbages and other vegetables than in the grain fields. None of the growing grain has been injured.

CRANBERRIES.—The *Times* says Otto Stosser has started the cultivation of cranberries in Santa Cruz, as an experiment, and the plants appear to be doing well. We ought to raise our own fruit of that description and save importing from foreign parts.

IMPORTANT TO SHEEP MEN.—Judge Barclay, of Calaveras county, has decided that the law enacted by the last legislature, with regard to sheep running on unoccupied public land is unconstitutional under Article 4, Section 5 of the State Constitution, which says: "No law shall be revised or amended by reference to its title, but in such case the act amended shall be re-enacted, and published at length."

The new law fails to comply with this requirement inasmuch as in its penalty provision it merely refers to the old law without re-enacting or publishing the section amended at length. Hence the decision that public lands are still open to sheep, as before the passage of the law alluded to.

PALM TREES.—It is said that there are ten palm trees in the State—that at San Juan Capistrono being the oldest; it having been planted by Father Junepero in 1780.

FEED, this season, is better in the foothills than in any other portion of the State.

KICKED.—Daniel McCormick, of Petaluma, was seriously injured a few days since by a kick from a horse. John Sovca had his leg broken from a kick by a horse at Redwood City, last week.

ALAMEDA COUNTY is paying the squirrel scalp bounties.

MILTON, on the Stockton and Copperopolis railroad, is a flourishing town. The *Republican* says there are 75,000 bearing grapevines within three miles of its center, and it has a ditch and pipes for irrigating purposes, by which every foot of ground can be irrigated in the town proper, and for a mile either way to the north or south of it. The soil is good, and well adapted to the growing of vines and fruit trees.

NEW ZEALAND FLAX.—The *Alta* considers New Zealand flax preferable to ramie at present, for experiment in California; but very properly suggests that all new articles of produce should, at first, be grown only in a small way as experiments.

RECLAMATION OF TULE LANDS.—A correspondent of the *Alta* writes, as follows, with regard to the progress which has been made in the reclamation of the tule lands, and their value after being brought into a state fit for cultivation: "Two years since, there were questions, upon the solution of which depended the value of the tule lands, wholly unsettled, and that could be determined by experience alone. This infallible arbiter of all doubtful matters, had set in judgment, and the enormous value of the tule lands of California is no longer questionable. Where two years ago was a vast area of land, waving with the desolate tule, a covert only for water fowls, is now the site of a vast plain of black, vegetable loam, and the pleasing scene of a varied agriculture of unrivalled wealth. Such growth in the young spring, of cereals, of fruits and of vegetables, we think we have never before seen.

Mr. John Taylor, Jr., of England, who has had great experience in the reclamation of flooded lands, and has always taken great interest in agriculture, says, unqualifiedly, that he has never seen land so rich as the reclaimed tule, or such profusion of fruits and berries as this soil produces.

The exclusion of the water seems all that is necessary. This done, the tule soon dies, and, after a time, all is a mass of vegetable loam fit to produce anything desired.

Irrigation, by vast canals, and reclamation of the overflowed lands are, in California, enterprises of reciprocal interest and importance. These great schemes carried out with just promptness, vigor and comprehensiveness, who shall tell the magnificent wealth that ere long shall dawn upon this State?"

## OREGON.

CROP PROSPECT IN OREGON.—A correspondent of the Sacramento *Union* writes from Salem, Oregon, as follows: "In old times we used to think there was no wheat to be raised here of any consequence, unless sown in the autumn, and the importance of summer fallow or fall sowing was duly considered; but since then we have commenced raising the white Australian wheat, which sometimes produces a heavy yield when sown as late as the middle of May. The recent prolonged rains have prevented the extensive plowing that would have been done had the weather permitted. As it is, a large portion of the wheat from the coming crop remains to be put in during April and May, and as the weather is scarce ever too stormy for farming operations in those months, our farmers will be able to do much, and the inducements at present prices will ensure the greatest possible activity throughout all the farming districts of Oregon. We have to raise the wheat to load the vessels coming here for cargoes next fall, and do something towards establishing a direct trade of our own, which can never amount to much until we double our product.

ALMOND TREES are in full bloom in Portland; but the soil of the gardens is too wet to be worked. Shrubs and trees can be kept in good order for planting out for some time to come by heeling them in the ground, in a cool, shady place.

STEAMERS have commenced running on the Upper Columbia river as far as Lewiston.

APPLE CULTURE IN OREGON.—At a late meeting of the Yamhill Farmers' Club, the subject of apple culture was taken up, and the causes of the premature decay of the trees considered and reported for the *West Side* as follows: The President, Mr. I. M. Johns, had become convinced that apple trees in Oregon are being starved to death. Fifteen or twenty bushels of apples are drawn annually from the space occupied by a tree, and nothing is returned to the soil. The consequence is that in a few years the elements that go to make up an apple are exhausted, and the tree declines from sheer lack of sustenance. Plowing and pruning may do good and they may do harm, but feeding must be attended to if you would have the trees live and bear.

Mr. Wm. McDonald, who has one of the most thrifty and productive orchards in the county, said that he had gained his experience in Kentucky. There, in an early day, as in Oregon, the people lost their orchards by premature decay. They had worked the ground carefully, kept it free from vegetation and pruned with unsparing hand, but neglected to manure the ground. Since then a different plan has been adopted, which Mr. McD. has found to work equally well in this country. He never plows to cut off roots after the trees attain much size. He avoids cutting any larger lower limbs, as that invariably results in unsound wood in the trunk of the trees and ultimately in decay. He has a good crop of grass growing in the orchard, and as often as every second year treats each tree to a bountiful top dressing of barn-yard manure or rotted straw. Of the success of this treatment the orchard itself is sufficient evidence.

CROP PROSPECTS IN EASTERN OREGON.—The Oregon Mountain *Democrat*, of April 5th says:—Never since Eastern Oregon was settled did its future prospects assume a more bright appearance than they do at the present time. Scarcely a day passes but favorable reports are received from all parts of the county. The farmers are highly elated with the prospect of abundant crops for the coming season; and the present indications are that the miners will also be well supplied with water for their summer work.

MISDIRECTED INDUSTRY. — The Salem *Statesman* tells of a farmer near Scio who was seen plowing in a field where the water would follow in the furrow. The enterprise and industry of the farmer is applauded; but silence is maintained with regard to his judgment.

COYOTES are at work in the sheep folds of Polk county.

## MISCELLANEOUS.

BITTER ROOT VALLEY, MONTANA. — A correspondent of the Missoula *Pioneer*, writes most encouragingly of the rapid growth and settlement and agricultural improvements of Bitter Root Valley. The construction of dwellings, building of fences, ditches, etc., is astonishing, even to the oldest settlers. Some 12,000 or 15,000 inches of water have already been or will be introduced into the various irrigating ditches during the present season. People up there believe in irrigation, and have fully proven its value. On every side of the valley the plow may be seen turning up the rich mountain loam, while busy hands are engaged in grubbing and burning the sage brush, which encumbers much of the most fertile land of the valley.

At least three-fourths more grain will be put into the ground this year than has even been sown there before; while vegetables of all kinds are being freely entrusted to the kindly lap of Dame Nature, who at the proper time will be sure to return many hundred-fold for interest.

One ditch is now under way, with a carrying capacity of 5,000 inches, and a length of 12 miles. It will be the means of bringing into value thousands of now waste and worthless acres.

MONTANA.—A letter from Montana assures us that the agricultural lands of that territory are rapidly being settled up, and that at least one-third more seed will be planted and sown there, the coming spring, than in any previous season.

George Weldon is building a Montana freight wagon, at Corinne, which will carry at one load over twenty tons of freight.

IMPROVEMENT OF THE BREED OF CATTLE. According to Prof. Schmied, a permanent improvement of the breed of cattle is inseparably connected with the following proposition, namely: that calves must be nourished with a sufficient quantity of their mother's milk for a much longer period than has hitherto been the custom; all other methods having reference to this same object being insufficient without a proper adherence to this fundamental consideration.

CROPS AT THE SOUTH.—Spring opens very favorably at the South, and planters entertain hopes of large crops.

ILLINOIS raises the most corn and wheat; New York the most potatoes and greatest value of live stock of any State in the Union.

THE MAPLE-SUGAR CROP.—It is reported that the maple-sugar crop in New England this year will be very small, owing to the warm weather, which has cleared the earth of frost and checked the flow of sap. Cold, freezing nights and warm days are the conditions requisite to maple-sugar making. The first of these conditions is this year wanting. Still there will be some made, as it is said that over five tons a day are now sent from Brattleboro, Vermont.

WHEAT AT THE EAST.—The news of the wheat prospect in the East is most encouraging for a large crop. Everywhere it looks luxurious and beautiful. It has not looked better for years. In Illinois the largest crop ever harvested is anticipated. So also of Mississippi and the other States.

PEPPERMINT AT A DISCOUNT. — The Wayne county farmers, of Michigan, the chief peppermint producers of the county, say they have 40,000 pounds of oil of peppermint, worth about $100,000, left on their hands by reason of the war in Europe.

AMERICAN cotton-seed is now being exported to England, to be made into first quality "olive oil." It is said to make nearly as good oil as the olive and forms an additional source of revenue to the cotton planters.

AN ANCIENT GOURD.—An editor of a Georgia paper has seen a gourd that Capt. J. A. Jones, of Albany, Ga., has in his possession, 117 years old. It was pulled from the vine by his great-grandfather, in the Colony of Virginia in 1754.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports to Dewey & Co., U. S. and Foreign Patent Agents, and Publishers of the Scientific Press.]

For the Week Ending April 4th.

Swivel for Tethering Animals.—William Lyon, Camp Halleck, Nev.

Electric Gas-Lighting and Extinguishing Apparatus.—John Vansant, San Francisco, Cal.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

Closet Valve.—A. J. Smith, San Francisco. All persons who have had any experience with water closets, especially with public water closets, have found how extremely difficult it is to keep them always in a proper condition. Whenever any mechanism is left to be actuated by the user, it will be thrown out of order in a short time, for there is a certain class of individuals who seem to be utterly devoid of any ideas as to the proper management of machinery, and who misuse it in the worst manner. Mr. Smith's device is automatic, the valve being operated by the weight of the person, and his invention will undoubtedly be welcome to many as something which will save money, and inure to the peace of mind of those who are apt to get excited over useless damages, resulting from want of common sense on the part of others.

Grinding Pan and Amalgamator.—W. H. Thoss, West Point, Calaveras Co., Cal. This improved grinding and amalgamating pan for gold and silver ores is constructed in sections, so as to be easily transported from one place to another, or to points difficult of access. It has a vertical revolving shaft with horizontal arms, to which are loosely attached peculiarly shaped stone grinders. These are drawn over the bottom, and also thrown out against the sides of the pan, when in operation, so as to thoroughly grind the ore, while, by their peculiar shape, the mercury and pulp will be forced to the center. An adjustable scraper is attached to the arms, and by depressing this, the mercury will be again drawn from the center through the pulp. By this construction, besides the smaller expense of manufacture and ease in transporting, it is sought to effect a more thorough exposure to the metals to the different active influences, and the more intimate mixture of pulp and mercury than is usually obtained.

Safety Bridle.—J. Weatherhead, San José, Cal. This improvement relates to that class of bridles in which face straps, which are secured to the rings of the bit, pass up over the head of the horse and between his ears. Here the two face straps are attached to a ring upon the top of the horse's head. Short straps then connect from this ring to the bridle reins upon each side, which serve the same purpose as the side straps of the ordinary bridle. Besides these straps, there is attached to the same ring a single rein, which passes to the hands of the driver, and enables him instantly to throw the horse's head in the air by a slight pull, and prevent him from running, kicking or doing other damage. The device is exceedingly effective, and puts the horse entirely under the control of the driver or rider, as a pull on the strap, at the first indication of unruliness, will put the horse out of condition to kick or run away.

Advertising Lamp.—E. Boesch, San Francisco. This lamp is a most neat contrivance which is very ornamental, and cannot fail to attract attention to the advertisement thereon. It is nicely arranged, and brings out the names, etc., very prominently, being useful both in the day time and at night. The invention includes as well an improved device for securing the glass plates of the lantern.

# MISCELLANEOUS.

## Travel in Second-Class Cars.

Editors Press:—As we have much pride in the good name that the young and growing State of California should bear, I will endeavor to point out one step that we as well as the older States are taking, which it would seem a little thought might show unprofitable and ungenerous, if not inhuman, wicked and immoral in its tendency. I refer to second-class railroad travel. The most of the roads have provided themselves with a plain, cheap car for each passenger train, to which they invite the emigrant, the common laborer, and all who may feel, from necessity or otherwise, obliged or inclined to economise. That is all well.

Now we would invite the readers attention to the daily picture presented in this second-class car. The outside appearance is quite plain, needing no other sign to indicate to the traveler which one in the train it is. As you enter you find plain seats, may be cushioned, and may be plain boards, with equally cheap finish of inside work generally.

That too, is all well. Seated in this plain car may be seen men of all nationalities, and possibly among them as pure hearts as can be found among the passengers of the cars before or behind them. We also find lady-like looking young women and quite frequently the mother with her precious charge of children, with a heart yearning for good influences to aid her feeble hands in teaching sobriety, good language, and decorum.

But the opposite is true of the picture which this car presents. It is made the receptacle of all the bold drinking, profane language, and unmitigated old pipes, and segars, struggling over each other for mastery in the amount of smoke they may be able to get into a small coach. To add further to the imposition on the better portion of the inmates of the befogged car, many passengers from first-class coaches feel an apparent pride in retiring to a second-class car to indulge in all those ungentlemanly and filthy habits.

We believe this state of things is unprofitable to railroad companies, as it is certainly unpleasant to many who travel in such cars. It drives many of the better class of poor from these thoroughfares and we believe its reformation would be attended with results similar to those which were noticed in the reform of the postal system. When the Government charged twenty-five cents for letters the poor could send but few, making very limited interchange of thought, and not paying mail expenses. But when the postage was reduced to three cents, a revenue sprang up. All can now afford the gratification of a correspondence.

Now suppose the same watchfulness by the conductors in the second-class car, as in the first, in regard to etiquette. The mighty people, the masses, would travel; gaining information and paying back in cash. All railroad men who become instrumental in abating the nuisance complained of, and aiding the poor, but high-minded, to travel in your plain but respectable second-class cars. Way Side.

A Bad Condition.—Reports and counter-reports of the excesses committed by the striking coal miners of Pennsylvania have been sent to our coast. Exactly the truth, it is difficult to ascertain. So much, however, is certain,—that the condition of things there is very bad. A Philadelphia cotemporary places the matter in a strong light as follows:

A dead lock among the politicians at Harrisburg—a dead lock among the coal producers in the Anthracite region—the iron manufacture half extinguished for want of fuel; and the coal yards empty—Philadelphians begin to envy the happy state of the capital of France, where there only exists a slight unpleasantness between the German guarantee-garrison at St. Denis, the French Republican garrison at Versailles, and the gendarmerie of the Commune at Vincennes—to which are added some massacres in the Place Vendome—some cannon on Montmartre pointed at the Hotel de Ville, and some threats in the Hotel de Ville against Human Society. France and Pennsylvania exhibit at one and the same time what irreconcilable antagonisms may live and grow in the very heart of civilization.

## Diamonds for Cutting and Drilling.

It is said that when diamonds are used in cutting hot glass in a glass factory one will last for only a single day. It gradually assumes a milky appearance and becomes worthless; but if the glass be cold the diamond will last for many months. Very small diamonds are used for cutting glass.

Diamonds which are used in the diamond drilling machines are about the size of peas, presenting irregular, smooth surfaces, but more or less opaque and lacking in brilliancy, and having slight, smooth indentations.

It is said there is no perceptible *wear* to the diamonds, in the work of drilling, notwithstanding the hard and rough work it has to do. Their destruction is caused mainly by the act of "setting." They are set in the drill, into holes which have been previously drilled, in the ordinary manner. Each hole is made as near as possible to the size of the diamond it is to receive, and the stone is secured in its place by so battering the steel around it as to hold it tight. An unlucky blow, in this work, may greatly injure the stone by breaking off a fragment, or entirely destroy it by reducing it to small fragments.

When they are properly and carefully set they can be used until the steel in which they are imbedded has become so worn away by the attrition of the "chips" or "dust," from the rock, in the process of drilling, that the diamonds become loose or nearly so. If the setting is not watched with the greatest care, the diamond is liable to work out when the drill is in motion, in which case it is soon destroyed.

We have seen diamonds that were said to have been in almost constant use for months, on hard rock, which yet showed no perceptible wear. The small indentations so common in their surfaces had not even been ground out. A little diamond dust dropped into the drill hole, or the breaking and grinding up of a diamond from the drill while at work, would soon tell upon those that remained in their settings. The diamonds employed for this purpose generally cost from $8 to $12 each.

## Toads After a Shower.

"Why," asks "Courant, Jr.," "during a shower, and in the midst of it, do such multitudes of toads, and especially little ones, hop out on the gravel walks?" For many years I believed that they rained down, and I suppose many people think so still. They are so small, and they come in such numbers, that the supposition is not unreasonable. "Thick as toads after a shower" is one of our best proverbs. I asked an explanation of this of a thoughtful woman, indeed a leader in the great movement to have all the toads hop in any direction without any distinction of sex or religion. Her reply was that the toads come out during the shower to get water. This, however, is not the fact. I have discovered that they come out not to get water. I deluged a dry flower-bed the other night with pailful after pailful of water. Instantly the toads came out of their holes in the dirt by tens and twenties and fifties to escape death by drowning! The big ones hurried away in a ridiculous streak of hopping, and the little ones sprang about in the wildest confusion. The toad is just like any other land animal. When his house is full of water he quits it, and seeks more comfortable quarters.

A Curious Ant.—Probably the most curious ant in the world is the parasol ant of the West Indies. Dr. Forbes Winslow, in his work on light, says these ants walk in long procession, each one carrying a cut leaf over its head as a parasol, in the sun, and they deposit these in holes ten or twelve feet under ground, apparently with no other object than to form a comfortable nest for a species of white snake, which is invariably found coiled up among them.

Wood Engraving.—Thirty years ago there were not twenty professional wood-engravers in the United States; there are now four hundred. There are thirty-five engravers in steady employ at Harper's, and sixty-eight at Leslie's. In 1869 eighteen thousand wood-engravings were prepared for Mr. Leslie for which $180,000 were paid.

## Land Decision.

About two weeks since, says the *Union*, the United States Surveyor-General requested the Register of the United States Land Office, at Sacramento, to suspend from entry and sale all lands situated upon the east half of township 7 north, range 10 east, which includes Amador City, also the Keystone, Amador and other mining claims of much value, all having claims pending in the Sacramento Land Office. The Register was of opinion that the proceedings could not be suspended, as in cases where lands were claimed as swamped lands, by order of the Surveyor-General, and proceeded to take proofs, notwithstanding the request of suspension, but awaited instructions before making sales. It will be seen by the following letters just received by the Register, that the land intended to be affected by the suspension is not to be deemed suspended, but is to be considered as though it had been returned upon the township plat as mineral land, until otherwise ordered. Wherefore the Land Office business will proceed relative to that township with the exception above specified, the same as before:

The letter to the Register reads:

"You will permit none of the land embraced within the east half of said township to be disposed of as "agricultural," until further instructed, unless the non-mineral character of the tract applied for be first established in the manner required in cases where the land has been returned as mineral, for upon which affidavits have been filed allowing its mineral character."

That to the Surveyor-General states that payment for the survey having been made, no suspension can be now affected. "The necessary entries have been made, however, upon our records to prevent the disposal of any tracts embraced within the east half of said township until the mineral or non-mineral character of the same shall have been fully established, and the Register and Receiver of the District are authorized to receive testimony respecting any portion of said township in the usual manner.

Road with Single Rail.—Mr. J. L. Hadden, C. E., of London, has devised a single-rail tramway for conveyances in mountains and thinly peopled countries, of which he gives the following description: 'Imagine a bicycle let in a longitudinal aperture in the center of the bottom of a cart, and the cart nearly touching the ground, so that only about six inches of the wheels would be visible; next, a kind of balancing pole run through the sides of the cart at right angles to the single rail on which the bicycle is to run. The two ends of the pole are to project about three feet on either side of the cart, and rest upon, and be harnessed to the backs of two mules. The animals will thus be one at each side of the load, instead of being in front in the ordinary way. It would be impossible to turn over, because, in order to do so, it would have to force one mule to the ground and to lift the other in the air; and, moreover, as its floor would only be six inches above the rail, an overtip would be of no account. All the weight in the cart, if evenly distributed, would bear upon the rail, and the animals having no load upon their backs, would be able to exert considerable tractive power."

Curiosities of Sound.—The whistle of a locomotive is heard 3,300 yards through the air; the noise of a railroad train, 2,800 yards; the report of a musket and the bark of a dog, 1,800 yards; an orchestry or the roll of a drum, 1,600; the human voice reaches to the distance of 1,000 yards; the croaking of frogs, 900 yards, the chirping of crickets, 800 yards. Distinct speaking is heard in the air from below up to a distance of 600 yards; from above, it is only understood to range of 100 yards downward. It has been ascertained that an echo is well reflected from the surface of smooth water only when the voice comes from an elevation.

Enduring Wood.—Pliny states that the cedar woodwork of the Temple of Apollo, at Utica, was in a perfect state of preservation after an interval of two thousand years. The famous statue of Diana of the Ephesians, was formed of cedar, and endured for many centuries. The ancient Egyptians extracted an oil from the cedar wood, which they rubbed over the papyrus to preserve them from worms, and which also entered into the composition used for preserving their mummies.

The Most Rain, noted within a year, on this continent fell at Baton Rouge, 1846, being 116.6 inches, for the year. The least noted fell at Fort Yuma, Cal., being 1.78 inches, for the year 1853.

# Good Health.

## A Lively Medical Application.

The *Medical and Surgical Reporter* publishes the particulars of a lively medical application, which we condense as follows:

A physician in Ithaca, N. Y., was called to see a colored woman, who was afflicted with severe intestinal pains. After administering the usual cathartics, and trying ordinary injections without any result, he came to the conclusion that there was some unusual obstruction in the small intestines which no ordinary treatment would remove. This opinion was strengthened when severe vomiting set in, with regard to which her attendant nurse remarked, "Dat what de nigger vomited smelt juss like what orter gone de odder wa'.'

Only two remedies were then suggested to his mind—opening the abdomen and removing the obstruction, or the novel idea of an injection of *Seidlitz powders*. He finally resolved upon the latter as a possible means of avoiding the necessity of the former, and gave particular directions to have the two papers dissolved and used separately.

That times were quite lively in that room after the administration, may be inferred from the following words of the patient, employed in describing the result to the doctor on his subsequent visit:—"Golly, docta, I had de greatest feelin' in my innards you ebber herd on; drefful smartin', grumblin', growlin' and sich, till I tho't I should bust; den de bowels moved so quick I could hardly git out of bed 'fore ebery ting inside seemed to fall down, like as if de bottom had dropped out!"

It is needless to add that the patient speedily recovered. The trouble was thought to be a spasmodic action of the intestines, by which a portion above was made to slide into a portion below; an action brought about by leaning and laboring over the wash-tub. We believe the above mode of administering Seidlitz powders is something new in the annals of medicine; but the result fully demonstrates its utility.

Dust Spectacles—Goggles—not Good.—Wire-work in spectacle frames was at one time used as such, and called by this name. These dust spectacles have the disadvantage of keeping the eye behind them continually enveloped in the vapor of its own moisture, which cannot fully escape. Thus, the irritated condition is rather increased than diminished. The principal reason for their disuse lies, however, in the impairment of distinct vision, which compels the patient to strain his eyes severely in order to see surrounding objects distinctly. By the wire-work considerable objective light is kept away from the eye, and the frame of the dust spectacles places the translucent gauze in an unfavorable angle to the outer world, thus limiting the visual field; moreover, the manifold diffraction, which the transmitted light undergoes on the wire-gauze, comes into consideration. Besides, when these spectacles are worn in an atmosphere loaded with dust, the meshes of the gauze become filled, and then their defects are increased. Ordinary glass spectacles of circular shape, about an inch in diameter, are to be preferred to the dust spectacles above described. Of course they protect the eye less; but where the dust is so abundant that sufficient protection is not afforded by the ordinary glass spectacles, or where a small amount of dust upon the eye proves injurious, the surgeon does well to prohibit the patient from being thus exposed.

Sleeplessness and Indigestion.—"How should sleeplessness in a very young babe be treated? also, what will cure indigestion and acidity of stomach?"

Cure the indigestion, and the sleeplessness will disappear. To do this feed the baby less frequently, and do not allow it to take any thing whatever into its stomach except milk, and that only at certain stated times, not less than three hours apart. If the acidity does not soon disappear, extend the time to four hours. Be sure and be regular in the times of feeding. It is very important.—*Herald of Health.*

## How to Prevent Spring Sickness.

There are a great many people who are subject to a "bilious attack" every spring, and who expect it as a matter of course. Now there is no more need for people being thus sick in the spring, than at any other time of the year, if they only know how to live. This periodical sickness can be prevented simply by regulating the diet. Not that all persons who have been subject to such attacks year after year, for a long time, can overcome the difficulty at once. We are all such creatures of habit, that when any thing becomes established in this way, there is a strong tendency to its return at the regular time, even after the producing cause has ceased to operate; consequently in bad cases it sometimes takes several years to overcome it entirely. Under a proper regimen the attacks will grow less severe every year, until they entirely disappear.

During cold weather, people eat larger quantities than usually of carbonaceous food, such as fat meats, sugar, butter, bread, cakes and other preparations of white or superfine flour, nuts, fats, syrup, etc. Of course, a much larger quanity of carbonaceous food is required by the system in cold weather than in warm, but as a general thing people eat too much of it, clog up their system with the excess and overburden the excretory organs, particularly the liver, in vain efforts to get rid of it. Those who take a great deal out-door exercise are usually enabled to work it off, and seldom suffer much in consequence, except in hot weather; while those who lead a sedentary in-door life suffer most. When warm weather comes on in the spring, people require much less carabonaceous food, but instead of changing their diet as the weather changes, they continue to eat the same kinds of food they have been eating during the coldest weather of the winter, and the consequence is that the already overburdened liver is unable to bear up under this extra load, and utterly refuses to perform its function until it has had a chance to rest and to throw off its accumulated burdens. Now to prevent this state of things two things are necessary. First, people must eat a less portion of corabonaccous food at all times. Second, as the weather grows warmer in the spring they must eat a much less quantity of it than they do in cold weather, and substitute instead more vegetables and acid fruits. Every family should have a larger supply of canned fruits and green vegetables to use at this time of year. For a single article there is nothing so good as tart apples, and they should be used in unlimited quantities.—*Herald of Health.*

Sick Rooms: Decision and Quietness. Consult your patient's wants, but consult him as little as possible. Your decision need not be very obvious and postive; but it is the triumph of supreamcy to become unconsciously supreme. The decisive nurse is never peremptory, never loud. Though quiet, she never walks tip-toe; she never makes gestures; all is open and above-board; her shoes never creak. Her touch is steady and encouraging. She never looks at you sideways. You never catch her watching. She never slams the door, of course, but she never shuts it slowly, as if she were cracking a nut in the hinge. She never talks behind it. She never peeps. She pokes the fire skilfully, with firm, judicious penetration. She caresses one kind of patient with genuine sympathy; she talks to another as if he were well. She is never in a hurry. She is worth her weight in gold, and has a healthy prejudice against physic, which, however, she knows at the right time how to conceal.

Treatment of Infantile Diarrhœa.—Dr. R. W. Foss, in the *British Medical Journal*, recommends the use of the powder or mucilage of gum-arabic in the diarrhœas of infants. When the stools are green or pure fluid and involuntary, he adds gray powder in the proportion of one part to twenty of the prepared gum, of which five grains are given as a dose. When there is simple diarrhœa, with fœtid stools, one part of the mucilage to three of water is all that is required.

Young Cantharides.—It is said that the young, immature cantharis insect does not possess any considerable blistering properties. That power is possessed by the adult only.

Says the celebrated Dr. Boerhave, keep the head cool, the feet warm, the bowels open, and the aid of a physician will be seldom needed.

# Home and Farm.

## Pleasant Farm Homes.

Nothing so much attaches families to their homes as good and conveniently constructed dwellings with pleasant surroundings. Of course we suppose that the social relations of the family are all that is desired. In the early settlement of California, but little thought was given to permanence; and of course as little was thought of erecting pleasant or convenient dwellings. Any miserable shanty that could be nailed together, and which would form a shelter from the rain, wind and sun was considered sufficient for a California house. Of course no attachment could be formed for such a home by either old or young. Hence families were frequently changing from one part of the country to another, and broken up by the scattering of children upon the slightest pretext or caprice.

Such a state of things is entirely inconsistent with the prosperity of any people. Farms managed under such circumstances can never be improved, but must be constantly deteriorating. The habit of exclusive attention to some one branch of agriculture, as the cultivation of wheat alone, or stock-raising exclusively, still further aggravates the evil.

It is pleasant, however, to note a marked improvement in these particulars during the last few years. Good houses are taking the places of the poor shells that were so common at first. Fruit and ornamental trees are planted for pleasure and profit, and beautiful flower gardens are frequently met with to attract the passer-by, and to interest and instruct the inmates. There is no surer evidence of a thrifty, contented and happy household, than a well regulated and carefully tilled flower garden.

We have said it is pleasant to note such improvements; but they are still quite too few and far between. While large numbers of our farmers have made such improvements, there is still room and opportunity for more. California presents most unusual opportunities for rural homes and, in proportion to her population, might have the largest number of charming homesteads of any State in the Union.

It is not necessary that a farmer should be rich or even especially well-to-do to indulge in such luxuries. A very little addition of lumber to the incommodious cabins which too many yet occupy, will accomplish the object. Very little surplus work for mere show is needed about the house; but much may be done at little or no cost, during the leisure days and hours of the farmer, and his sons (and daughters too) in fitting up the grounds, setting out shade and fruit trees, flowers, shrubs, etc., which surroundings add much more to the attractions of a country home, than do elegant houses or fine cottages.

Lumber is cheap and gardens and orchards may be started with but little trouble or expense; while the results attainable from such improvements, will soon more than double or treble the outlay both of time and money.

There is nothing which binds a people so thoroughly to the soil, or so elevates and nerves them to action, as such homes as we have alluded to—homes in the true sense of the word. Without such homes permanence and prosperity will never become a feature in the agricultural industry of any State or people.

## Thorough Farming.

W. N. Furlong, Esq., between this place and Old Gilroy, is one of the most practical farmers in this part of Santa Clara Valley, as may be readily noticed by the most casual observer from his beautiful and well arranged residence, and the high state of cultivation of his farm. Mr. Furlong cultivates only thirty-one acres, and it is safe to say that he realizes more from his thirty-one acres than many of our farmers do from that many hundred. Of these thirty-one acres, eleven are set out to an orchard numbering some two thousand trees of every variety of the choicest quality of apple, peach, plum, pear, prune, nectarine, black walnut, almond, orange, fig, chestnut, persimmon, mulberry, grape, currant and goosberry. He has also a large variety of shade and ornamental trees. We were shown on his place a weeping willow four years old that measured 8 inches in diameter and 25 feet in hight. The fruit and other trees on his place are equally thrifty and vigorous. Mr. Furlong informed us that he averaged five tons of hay to the acre last season; this at the maximum price of $11 per ton would be at the rate of $55; while the majority of our farmers did not average one ton. This is a true illustration of the success of the small farm, thoroughly cultivated, over the large one half cultivated. Mr. Furlong also informs us that he can raise thirty tons of beets to the acre. Thus it will be seen on a moment's reflection that the small farmer realizes more and risks less, without half the anxiety and responsibility of the large farmer. We write this for the instruction and benefit of our people.—*San Jose Advertiser.*

## Covering Grass Seeds.

A correspondent of the Scottish *Farmer* gives the results of some experiments by himself and a neighbour, showing that, in ordinary field culture, the prevailing opinion among farmers that the nearer the surface clover and grass seeds can be sown and covered, the better chance they have of succeeding, is contrary to actual experience.

His neighbor sowed a ridge of his clover seed along with the grain in the plow furrow, and found the clover to be much better on this ridge than on any part of the rest of the field sown in the ordinary way after the grain had been sown, and covered with light seed harrows. He sowed several plots of 100 seeds each in his garden, covering them at various depths, and found the proportion to grow to be as follows with rye grass:—

| | | | |
|---|---|---|---|
| Plot 1. | Sown on surface | 6 out of 100 grew, | |
| " 2. | Covered 1 inch | 50 " | " |
| " 3. | " 2 " | 69 " | " |
| " 4. | " 3 " | 47 " | " |
| " 5. | " 4 " | 1 " | " |
| " 6. | " 5 " | 0 " | " |

With Red Clover it resulted in

| | | | |
|---|---|---|---|
| Plot 1. | Sown on surface | 35 out of 100 grew. | |
| " 2. | Covered ½ inch | 40 " | " |
| " 3. | " 1 " | 25 " | " |
| " 4. | " 1½ " | 38 " | " |
| " 5. | " 2 " | 5 " | " |
| " 6. | " 3 " | 2 " | " |
| " 7. | " 4 " | 0 " | " |

*The conclusion he comes to is that* MIXED GRASS SEEDS should be well harrowed in, while CLOVER does not require so heavy a covering,—a half to one inch being sufficient.

Toothache in Dumb Animals.—It must be dreadful when poor dumb animals suffer from toothache. Every one has read how Chunee the elephant at the Exeter Change, in England, went mad from it; and it is popularly supposed that it is often a cause of madness in dogs, and I really think it very probable. The poor brutes seek the sympathy and aid from their masters; for I have known a poor old cat come moaning, time after time, until it drew attention to its teeth. A surgeon who was visiting the house first suggested the cause of the animal's discomfort—and one person more skilled than the others, possibly in the management of our dumb companions, drew a tooth which was rather loose and at once relieved the poor creature.

Gases Evolved by Ripe Fruits.—According to Lechartier and Bellamy, picked fruits—such as apples, cherries, and gooseberries—at first absorb oxygen; afterwards they give off carbonic acid, and in larger volume than the previously absorbed oxygen. At first the evolution of gas takes place uniformly, afterwards it moderates, and then ceases for a time, and commences again and gives off more gas than during the first period. An increase of temperature promotes the transformation. Whether light has any influence upon the reaction is not stated. From these observations it will appear that it is unsafe to sleep in apartments where much fruit is stored.

The Boston *Journal of Chemistry* thinks that the introduction of coal oils for lubricating purposes, has diminished the danger of spontaneous combustion, inasmuch as these oils have not the property of absorbing oxygen which is possessed by animal oils.

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SAN FRANCISCO:

Saturday, April 22, 1871.

## Our Weekly Crop.

We have provided a nice Farm Wagon of California manufacture for the accommodation of our friends this week, and take them, in the beginning, to witness the progress of a most important enterprise for our coast, the Northern Pacific Railroad. After viewing this, we take our accustomed trip to the library of Mechanical and Scientific Progress, that we may keep up with the age. Then we make a pleasure excursion to the Devil's Lake and afterwards visit the Petaluma Home Institute. At this point we are brought to a full stop by a query concerning Two-Horse Teams. While deliberating as to the fact of our Coming to Grief, we get out and walk about the ranch.

Most interesting we find it to watch the different processes going on in our Cocoonery, and no less instructive is the visit to the Asparagus Beds, for at both places we learn very much. And equally interesting and instructive is the glance at the Agricultural Notes of the Coast.

Our Inventors have quite a display for us as we come to their Department. Travel in Second-Class Cars occupies our attention. We see what can be done by Diamonds for Cutting and Drilling, enquire about Toads After a Shower, read an important Land Decision, and indulge in a general miscellany. Then we care for our Good Health, visit a Pleasant Farm House, and talk about Grass Seed.

We ride out again, having decided not to come to grief, to witness the effect of the Rain on the Crops. We find at the post-office Notes from Correspondents, and Answers thereto already prepared. Glancing at the Progress of the Silk Business, we pass on to witness the operation of a Prize Mower, and enquire as to the advisability of founding Two Separate Universities, rather than adding to the one we already have.

Visiting the pleasant Home Circle, we find the ladies prepared to greet us in the usual friendly way with song and prose and hints on Domestic Economy; but we find also that the Young Folks claim a prominent place in our consideration.

As we leave the pleasant scene, we take a good substantial lunch of Trans-continental Traffic, with a desert of lighter imagination on the river, and a Humorous cup to end with.

COMMUNICATIONS RECEIVED.—A story from J. B. W.; "A Talk with the Boys," from "Jeigh Arrh;" Letter from "Rustiens;" "Timber Fence Posts," by S. W. J.; "Cochineal in California," by E.; "A Grain of Wheat," by C. L. Anderson, and "How to Protect Trees from Jumping Grasshoppers," by J. B. R. Mrs. McDongal sends a short reply to Mr. Reed, which will appear next week, and must close the controversy on the "Donner Tragedy."

THE AGRICULTURAL SOCIETY of Honolula, Sandwich Islands, is exchanging poultry and seeds of all kinds with the Japanese.

AGRICULTURE IS AN ART.—Man is the artist,—the soil is his laboratory,—manure his raw material,—animal strength and machinery his power,—air, light, heat and moisture his agents,—and grains, roots, fruits and forage, his product.

## The Crop Prospect.

The rain of Sunday last was again most timely, and has been of much benefit to the grain and grass; it will give increase length and weight to the wheat and barley already heading out, and help along to a partial crop, much that was entirely despaired of. It was followed by warm and moist weather instead of a dry and scorching wind, which has added still more to its beneficial influence. If no more rain, whatever, falls, we are now assured of at least a fair crop throughout the greater portion of the State. But as two or three light showers may reasonably be looked for, there is good reason, considering the increased breadth of land sown, to expect a fair aggregate of yield. The tone of the interior press is decidedly cheerful.

Aside from the dryer portions of the San Joaquin valley, and a few small tracts here and there, in other portions of the State, we do not anticipate any decided failures to mature a crop. An aggregate yield of 3,500,000 sacks of wheat for export, may be confidently looked for, which, with the 500,000 now on hand, will swell the total to be handled during the coming year to fully five million centals. This aggregate, at the improved prices which will probably be realized, will exceed the cash value of the export for the year just closing.

The *Bulletin*, in speaking of the prospect, adds the following pertinent and suggestive remarks:—Ten years ago, with only the same amount of moisture falling, the failure of crops would have been general, a few of the coast valleys furnishing an exception. The difference in results is owing to a better system of farming. A few ranchmen, this year, sowed wheat as late as March. In the light of fifteen or twenty years of observation in this State, it is hard to repress the wish that men whose chances are not so good for a crop as to win a prize in a bogus lottery might come to grief in such a way as to start them on a new and better track. Ignorance and down-right laziness in farming, are not a whit more productive here than elsewhere.

## A Pleasant Reception.

The Mechanics' Institute, which, under the lead of its energetic President, Mr. A. S. Hallidie, is ever alive to assist in the important events of the day, gave a very pleasant reception on Wednesday evening, to Mr. W. H. Webb, the distinguished mechanic, the chief of American ship-builders. This gentleman coming to our shores, as Mr. Hallidie remarked, not as a sight-seer or critic, but to establish and consummate a great enterprise, an enterprise which binds nation to nation, and by its intercommunication develops industrial resources, latent wealth, and a high civilization, it was proper that the Mechanics' Institute of the Pacific coast should greet him, a fellow citizen, a fellow mechanic, with a warm, a hearty welcome.

Mr. Hallidie, in brief but well chosen terms, welcomed Mr. Webb in the name of the Institute. He alluded to the guest's high position, and to the nobility of the mechanic's calling. Mr. Webb replied in a very appropriate manner. He thanked the Institute for its warm greeting, and complimented the coast on having such a society. Referring modestly to himself, he claimed to be in certain respects a pioneer Californian, having built the first American steamer, the California—still in service—which ever entered the Pacific Ocean, and the first to enter the Golden Gate, and having been ever since interested in enterprises connected with the State. Mr. Webb also built the first American steamer ever crossing the Pacific Ocean, the Colorado, the pioneer vessel carrying our mails to China, as also the connecting steamers on both sides of the continent. Mr. Webb's remarks were warmly applauded.

Mayor Selby was then called on and responded. It is the first time that we remember when our chief city officer has made a speech, he being more given to deeds than to words. He spoke, as he acts, quietly but to the point. He referred to the want of manufacturing establishments on our coast, and to our pre-eminent advantages therefor, dwelling on the special advantage of our favorable climate,—a matter of very considerable importance. Alluding to Mr. Webb, he said that we needed the presence of such a man, whose vigor, intelligence, experience and wealth can do great things for the coast, while realizing himself a handsome profit for his labors and ventures.

Collector Phelps, an excellent man for such an occasion, followed in a few eloquent remarks. Mr. H. F. Williams then spoke at some length. Mr. Irving M. Scott made one of the best speeches of the evening, representing the iron interests of the coast, and telling how we could now assist by our mechanical skill in such enterprises as those of Mr. Webb. Mr. B. Hyde spoke for the inland transportation interest, and then Mr. Dickey, a shipbuilder, recently from Scotland, concluded with interesting remarks, giving good, sound facts.

After the speeches, greeting by the American hand-shake was given to Mr. Webb by a large number of those present.

## Answers to Correspondents.

PLANTING MULBERRY SEED.—Mr. Pfeffer, of San José, furnishes us with his experience in planting mulberry seed. After many failures in planting *dry*, he adopted the plan of first soaking the seed for 24 hours in tepid water, and then placing it in a warm place until it sprouted—showed the little white germ—when it was ready to be put in the ground. It should be verized. If it is not first sprouted, it resown in a moist, warm soil, thoroughly pulquires a large amount of either artificial or natural moisture; and in either case so much time, that the heat of the sun is apt to harden the surface soil to such a degree that the tender leaves of the plant are unable to break through, and are so scorched and withered in the attempt that the plant dies. Since he adopted this plan, he has had very good success, losing but a very small percentage. He moreover reminds us that this method is given by Mr. Prevost in his Silk Manual.

AN INDEX WANTED FOR THE RURAL PRESS. Mr. Bernard Marks writes as follows: "As so many of the articles in the RURAL PRESS are valuable for reference purposes, it seems to me that it would pay to print at the end of the year, an alphabetical index, for the benefit of those who are preserving their papers for binding. I read many articles every week, to which I am *sure* I shall want to refer again; and I have no doubt that there are many others among your readers who feel the same desire, to secure a ready reference to the many valuable and carefully written articles with which the PRESS abounds."

We are glad our correspondent has called our attention to the matter of an index—not that we should have omitted it; it has been our intention from the start to publish one—but to the end that we may notify our readers beforehand, that an index will be published, as otherwise many might prepare one for their own convenience, at the expense of much labor. An index will be published *every six months*—a period of time which constitutes a volume of the PRESS.

Wm. H. Magee, of the *Missoula Pioneer*, writes as follows:—The PACIFIC RURAL PRESS is a great favorite here. The "Poultry Notes" published therein have attracted considerable attention among the farmers of the Bitter Root Valley. I am besieged with questions from correspondents in regard to the best manner of making poultry raising remunerative. This has been going on ever since the visit to this locality of your agent, Mr. Murray. Will you be kind enough to send me by return of mail the latest and best poultry raiser's manual.

If it will not be too much trouble, please send me the address of some person in the bay counties who can supply people here with *pure Brahma fowls*; and also, if such a person will guarantee the safety of such orders as far as Corienne. The responsibility from the latter place will be assumed by the parties sending the order.

We take the liberty of publishing the above with the view of referring some of our dealers in fancy poultry to the opening presented above. There are at least three dealers in that line who advertise in the PACIFIC RURAL PRESS, either of whom can be depended on for whatever they promise in the way of poultry. Letters addressed to Wm. H. Magee, office of the *Missoula Pioneer*, Missoula City, Montana, will reach our correspondent.

THE RURAL IN CONTRA COSTA.—One of the most intelligent, practical agriculturists in the State, writes us from Contra Costa county as follows:

"The RURAL is an excellent journal for the interests it represents, and and all the more valuable and acceptable that it does not assume an oracular and dogmatic tone which implies infallible knowledge of the matters in which the wisest and most experienced are only learning, and are most likely to avoid all pretensions of qualification to give exact information. You cannot expect at once to meet with great success, in your enterprise, but I think the RURAL will eventually find a large and appreciative class of readers and supporters."

MORE ABOUT CASTOR BEANS AND GOPHERS.—Mr. D. L. Perkins, writes us as follows:—"In regard to your article in relation to Castor Beans destroying gophers, I would state that whilst I was in Alameda, I was sorely troubled with gophers destroying everything that was green. I used traps and poison to remove the vermin, but neither availed anything. At last, I planted among my vegetables some half a pound of castor beans, and the result was that in a short time they left my grounds and I was no more molested by them.

As soon as the beans get ripe, or sooner, I cut them back. My impression is that the ground gets impregnated with the odor of the plant, or the beans, and that the gophers not liking the taste thereof give it a wide range."

It will be observed that the above correspondent's experience differs from that of our correspondent "C. W. T. C." of last week. The following, however, more than confirms that writer's experience:

"L. V.," of Livermore valley, writes:—"I beg to offer you my experience. * * In 1856 I planted a row about 50 rods long, by the side of a fence, and the gophers eat them all down *and got fat on them!*"

We are under the impression that we have received still another letter, during the past week, in which the writer stated that he had planted the castor bean as a defence against the ravages of the gopher, without any beneficial results. If we have received any such letter, it has been accidentally mislaid.

CORRECTION.—The article "Suffocating Squirrels," which we gave last week, was incorrectly credited to the San José *Mercury* instead of the Contra Costa *Gazette*, where it originally appeared. By the same inadvertence we also located the experimentor, Dr. Carothers, in Santa Clara, instead of Pacheco.

AGRICULTURAL IMPLEMENTS.—We would call the especial attention of our readers to Messrs. Hawley & Co.'s advertisement of various farming implements, which will be found in our columns to-day. We had intended to have given this house an extended notice to-day, but have been compelled to defer it until next week. In the meantime we would advise all farmers about to purchase agricultural implements to call upon Mr. Hawley before buying elsewhere.

THE WOOL CLIP IN LOS ANGELES.—The Los Angeles *News* says:—The clip of this year does not in one respect equal the yield of other seasons, though in others, it surpasses it. The fleece is lighter than ever known before; this may be the effect of scant pasturage and the failure of burrs—but the latter also causes the wool to be cleaner. So marked is the difference that a flock of five hundred yielded as much last year as the same flock with its increase (707 in all), have brought this season. Mr. Wartenberg recieved both clips and noted the results of the respective weighings."

## Progress of the Silk Business.

One of the greatest drawbacks heretofore encountered in the raising of silk-worms in this State has been the lack of a market for cocoons; but this trouble will no longer be felt, as the silk factory, which will soon go into operation in this city, will buy all that are offered. They will also buy all the reeled silk that may be produced in the State. It is furthermore the intention of the company to manufacture and send to different parts of the State, at the bare cost of manufacture, reels suitable for taking the silk from the cocoons, and by the aid of which process women and children may be able to utilize their leisure, after the busy season is over, in reeling the cocoons which they may have produced during the summer; thus adding largely to the value of the product of the mulberry patch. All needed instruction will also be sent with each machine for doing such work properly. We look upon this as one of the most useful and promising enterprises ever undertaken in the State.

Silk-growing can be made almost independent of drouth, and distance from a market. It is an industry which can be introduced anywhere, wherever the cost of living can be made reasonably cheap, and can be conducted on any desirable scale, large or small. It can be introduced upon every farm, and into every family, and by it the labor of families and children may be utilized to any desirable extent. With the San Francisco factory in operation, and reels distributed as proposed, the silk business of California will have passed beyond the experimental state to a position among the leading industries of the State. Apropos to this subject the reader will find a very valuable and seasonable article, in another column of the present issue, detailing the *modus-operandi* of hatching and feeding the worms.

Agricultural Experiments.—The *Alta* suggests that it is one of the duties of our wealthy and intelligent farmers to make experiments, with regard to the introduction into the State of the culture of new products. Among the products to which attention is directed are the ramie, New Zealand flax, the poppy, bamboo, chinchona, madder, liquorice and basket willow, from all of which and many others, there is reasonable hope that large profits may be realized. It is better that experiments of this kind, whether undertaken by men of large or small means, should be conducted in a small way. The results are equally satisfactory, and in case of failure in any one, the loss will not be serions or discouraging to future efforts in other directions.

The First Wool Shipment of the spring clip of wool from this State was made by Mr. Thaddeus Clapp, agent of the Pittsfield (Mass.) Woolen Factory. It was made by rail on the 28th ult., and arrived at its place of destination in 18 days. This company manufacture the splendid blankets used in the Pullman Palace cars.

The Early Hale Peach, which was so prominent, is condemned because it rots.

## The McCormick Prize Mower.

We have previously spoken of the McCormick harvesting machines, which have made such a revolution in farming operations within the past twenty-three years. About a month ago we gave an illustration of the "Advance" reaper and mower. To-day we illustrate another machine of Mr. McCormick's, which is called the "Prize" mower.

This mower is identical with the Advance when stripped of its reaping parts. It is a two-wheeled machine, cuts a four-foot swath, and its cutting power, it is said, cannot be choked by th worst of matted grass. It is geared high and cuts clean and clear with the horses on a slow walk. The cutting apparatus has been proved by the severest tests.

The Prize mower is supplied with all the usual conveniences of levers, and is the only one which has the tilting lever. By this arrangement the edge of the cutter can be set at any angle desired, in a moment, and without dismounting from the seat. This is invaluable in preserving the edge of the knife while cutting over rough, stony ground, dead furrows, gullies or sandy soil, as will be appreciated by those who are conversant with such machines.

Another peculiar feature is the frame spring, which does away with the old plan of having a small roller or wheel behind the shoe, and enables one to get rid of the clogging dirt and cut grass. By means of a nut on a long-threaded screw, this spring can be made stiff or limber to suit the nature of the ground, and regulated so as to bear up all the weight of the frame behind the wheels and yet keep the cutter-bar within an easy bearing on the ground, while at the same time it communicates an easy, pleasant motion to the machine when working on rough ground.

There are other points which might be dwelt on, but the best description of the mower is the machine itself and its practical working. For further information on these points, address C. H. McCormick & Bro., Chicago.

The Advance in Corn.—The Los Angeles *Express* says:—"Corn is worth two cents per pound in Los Angeles and will probably increase in price. High prices are occasioned by the emptying of the Los Nietos and Monte granaries by well-known capitalists of our city for speculative purposes.

THE PRIZE MOWER AT WORK ON STEEP LAND.

## Silk Culture in New Zealand.

The people of New Zealand are stirring to introduce this industry on that island. We noticed a proposition was lately made in their Legislature to appropriate quite a large sum of money to assist the enterprise. And now we receive letters for information on the subject, and for trees, cuttings and eggs. The difficulty in shipping trees from California, would be in the difference of the seasons. Is is now autumn or fall in New Zealand, and their spring commences in September. The mulberry seed could be sent them, gathered from our trees this summer, and planted there in September or October—their spring.

Our eggs made in June and July, could be sent there immediately, and would hatch in September or October, when the trees are putting on their spring foliage. The misfortunes of Europe in silk culture, and now particularly the French troubles are leading other portions of the world to try to supply this indispensable commercial fiber.

A Sod Cutter.—Mr. Poole, of Rio Vista, has invented and patented a most useful farming implement, which he calls a sod cutter, and which is found a most excellent device for bringing the tule lands into condition for receiving seed for the various crops. It consists of circular blades on a heavy axle, may be operated by the aid of four small or two large horses, and as it advances it cuts the sod or tule into strips seven inches wide, by seven deep. After passing in one direction over the entire field, the ground is cross-cut by by driving the machine over the field at right angles with its first cutting. Thus when completed the entire sod or tule is cut up into little squares of seven inches by seven deep.

The plow can then be run almost as readily as upon broken ground, turning the sods completely over.

We are told that persons who have used it among the thick, strong roots of the tules say it works well. Any machine that will aid the farmer in subduing and bringing into cultivation the tules, will be especially hailed in these times of drouth as supplying a great and important need.

Oregon Coal.—An extensive coal seam of good quality is reported at the Upper Cascades on the Columbia river.

## Two Free Universities

Whatever may be thought or said of the character of the late Horace Hawes, so much must be placed to the credit of his intentions,—that he was the first Californian who has ever given a large sum of money, or its equivalent, to the public. With his death commences a new era for our coast—the era of public bequests.

The property which Mr. Hawes donated, although it has yielded but a small income, can be made by proper management, we are told by one of the trustees, to return a very large revenue. There are some rumors, however, that the will is to be contested. As to whether the extra outside amount will be raised, we are exceedingly doubtful. But there is a number of persons sanguine that before long California will be able to boast of having two free universities.

The boast certainly sounds well. We have no objection to it. But the important question occurs as to whether it will be anything more than a sound. We have already one free university, for which the legislature has made large provision. Yet the institution appears to be crippled by want of more funds, and the youth of California are by no means rushing to its halls in such numbers as to crowd them. Indeed, the Regents have been obliged to have recourse to preparatory courses and outside lectures, in order to get sufficient names to make a respectable showing in the catalogue.

Whether Mr. Hawes had a mistrust as to the future of our State University, we know not. That his intentions were excellent we are willing to agree. But that it is wise or even of the slightest practical utility to set up a new university on every possible pretence, we do not believe. One well-endowed institution will be amply sufficient for this State for the next hundred years. We have a proposition to make for the consideration of future university founders. If they desire to set up distinct institutions, let them found colleges in connection with our present university, to be managed somewhat after the manner of the various colleges which, at Cambridge and Oxford, England, go to make up a grand university.

Feed in Livermore Valley.—We gave an item last week, clipped from an exchange, stating that some 3,000 head of cattle were to be sent from Livermore Valley to the mountains, to secure better feed. A correspondent from that locality corrects the statement as follows:—"There are not 300 head of beef cattle in the valley, and there is plenty of feed for all that are here; but there is a band of horses belonging to Dougherty & Johnston, going East to find a market– not on account of scarcity of feed.

The Santa Cruz Farmers' Club had a very interesting session on Saturday last, a full report of which reaches just as we are going to press, and too late for insertion this week. We notice that some queries propounded by a correspondent of the Rural were considered. The "proceedings" will appear next week.

BY OUR LADY EDITORS.

## GROWING OLD GRACEFULLY.

BY NELL VAN.

[Written for the PRESS.]

"What is my Agatha brooding over now?" said my husband as he entered one night late from the lodge, throwing himself into his arm chair in the corner. "Why are you not in bed, my child, instead of sitting up for me?"

"John," said I, looking up into his good natured, jovial face, with my earnest thought almost choking my utterance, "I have been inside of myself, taking a critical survey, and contrasting my peculiarities of disposition with those I most admire in others. And also observing whether or not I find any improvement in my natural defects of character since my girlhood."

"There you are again, little woman, always so intense, as you delicate morsels of humanity generally are. Why don't you keep on the outside of yourself, and give that bump of consciousness a long rest? See here, do you want to know how you look?" And picking me up in his arms he carried me to the mirror and bade me mark those glowing orbs, which were like consuming fires, lighting up my whole countenance with an expression which even appalled me as I gazed.

We had been married ten years, John and I, and our love for each other was just as tender, and I often thought vastly more intense, than in the days of our early marriage. His fine noble physique, with such perfect health and cheerful spirits, was a perfect contrast to the slender little bundle of nerves he had chosen to protect from the rough blasts of the varied seasons of life. If he ever found me in a meditative mood he would always pick me up and treat me like a child, till I became imbued with his sparkling magnetism, and forgot everything in the joy of being the loved companion of one so bright and ever joyous. Seldom indeed could I inspire him with my intensity of thought and feeling, though at times, through sympathy, he had been led to consider questions of momentous import touching upon the welfare of our children.

Upon this occasion I was resolved to carry my point, and bidding him replace me in my chair as I had a question to ask, and reminding him of the ludicrous and undignified position I, the mother of six children then occupied, he burst into a hearty laugh as he always did, exclaiming: "I don't care, if you were the mother of sixty children, you would always be the same little Aggie to me, and as long as you live, I shall treat you and feel towards you, as if you were my child."

But John had one peculiarity which belonged exclusively to himself, inasmuch as I never observed in one of his sex such an inordinate curiosity. The announcement that I had something to relate or an inquiry to make, was my only sure way of accomplishing any end I had in view. When, therefore, I found myself reseated in my sewing chair, with John sitting opposite holding both hands and looking at me so quisically with the exclamation "what now, I wonder!" I laughed involuntary at the suddenness of the whole proceeding, and entirely lost the train of thought which had but a short time before filled my whole being with such enthusiasm.

It was your aunt Inglesby, John, who suggested the thought and the desire which prompted the question I would ask. Can you, do you think, be serious for the space of ten minutes and help me to solve the problem of GROWING OLD GRACEFULLY? I think I never saw such a lesson of patient submission and trust in the Allwise Father, as is manifested in her whole life. Her faith is beautiful, and she is as young in her thoughts and feelings as you are to-day, although she is close on to seventy. Could I, do you think, under any circumstances, hope to attain such control over my melancholy disposition that I might, like her, grow into a green old age—bright and hopeful—a sunbeam on the threshold of every home she enters."

John was serious now, and he said, "would you have us all run in the same mould, my child, and come out like candles, exactly alike? Do you think your husband would love you half as well if you was like any body else, as he does now with your peculiar oddities which make you a perfect enigma to him? Circumstances have wrought great changes in aunt Inglesby, though she always took life easy, and let things take their own course more than many women do. It seems a fashion we large-framed people have of easing off and letting some one else take the brunt of everything. In this way we do not wear out with worry which you know, is like rust upon the blade, eating deeper and destroying sooner than actual use. If my Agatha would worry less and consider her own rest and happiness more essential to true growth than the necessity of having every one else made comfortable at whatever cost, she would feel herself to be, as others already give her the credit for, growing old quite as gracefully as she does everything else."

"How delicately my husband compliments his wife," said I, "and how well she understands and appreciates that the blindness of his affection conceals from him the very faults which most men would deprecate severely. If all men were like you, John, where would be the fun of contending for equal rights?

But I cannot get aunt Inglesby out of my thoughts. You know the last night of her visit, we sat together over the fire till nearly midnight. You was away, and she spoke of her early life and trials, which she felt had produced a beneficial effect upon her. The husband from whom she was obliged to separate on account of his intemperate habits is still to her—now that he has passed away—the embodiment of her soul's ideal of perfection, awaiting her coming in the Great Beyond, with all the spontaneous affection once so lavishly bestowed. She is assured of his renewed faithfulness and complete satisfaction in her love which neither time nor circumstances could diminish. Such experiences as she has had, dear John, often create in one a desire for that spiritual growth we should all aspire to, and without which we lose sight of the end and aim of our existence."

"And would you, little woman, wish to have your John to turn into a drunkard and a brute, for the sake of the discipline it would give you? Do you really think you need the refining process of the furnace of affliction to make you more fit for the life to come? I protest against it; and I do assure you there is a wider growth in the atmosphere of pure affection and loving sympathy, such as we are told we shall find in the next state of existence. Let us, dear Agatha, strive to train our children in the beautiful spirit of love and truth. Let kindness be their daily food, and with the great master for their pattern and their guide, I'll answer for it, they will grow up into a useful maturity, and by their influence and example, help others to GROW OLD GRACEFULLY."

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A MOTHER'S INFLUENCE.—A man finds he cannot make his way in the world without honesty and industry, so that, although his father's example may do much, he has to depend upon his own exertions; he must work, he must be honest, or he cannot attain to any enviable rank. But the tender soothings of a mother, her sympathy, her devotedness, her forgiving temper—all this sinks deep in a child's heart; and let him wander ever so wide, let him err, or let him lead a life of virtue, the remembrance of all this comes like a holy calm over his heart, and he then weeps that he has offended her, or he rejoices that he has listened to her disinterested and gentle admonitions.

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THE WIFE.—If you wish to be happy and have peace in the family never reprove your husband in company, even if that reproof be ever so light. If he be irritated, speak not an angry word. Indifference sometimes will produce unhappy consequences. Always feel an interest in what your husband undertakes; and if he is perplexed or discouraged, assist him by your smiles and happy words. If the wife is careful how she conducts, speaks or looks, a thousand happy hearths would cheer and brighten her existence, where now there is nothing but clouds of gloom, sorrow and discontent. The wife, above all others, should strive to please her husband and to make home attractive.

## Lift a Little.

Lift a little? lift a little?
Neighbor, lend a helping hand
To that heavy-laden brother,
Who, for weakness scarce can stand;
What to thee, with thy strong muscle,
Seems a light and easy load,
Is to him a ponderous burden,
Cumbering his pilgrim road.

Lift a little! lift a little!
Effort gives one added strength;
That which staggers him when rising
Thou canst hold at arms length.
Not his fault that he is feeble,
Not thy praise that thou art strong;
It is God makes lives to differ,
Some from wailing, some from song.

Lift a little! lift a little!
Many there who need thine aid;
Many living by the road-side,
'Neath misfortune's dreary shade.
Pass not by like priest or Levite,
Heedless of thy fellow-man;
But with heart and arms extended,
Be the Good Samaritan.

## Squirrel Wisdom.

In regard to one of the rarest exhibitions of animal instinct, the Oneida *Circular* has the following:

Some one has deposited in our cabinet of curiosities a half dozen butternut shells in the state they were left picked of their kernel by a squirrel. Attention is called to the economy of the little rodent by pencil marks on the paper under them, as follows:

It will be observed—

1. That the opening is on that side of the nut which gives access to the flat side of the kernel.

2. That the opening is nearest to the blunt end of the nut, where the most of the kernel lies.

3. That the opening is no larger than is absolutely necessary, less than half an inch square.

4. That all of the kernel is extracted.

How does the squirrel know before trying exactly where and how the kernel lies? There is only one nut in a great hoard which showed a liability of the squirrel to make a mistake. On this he began to gnaw on the wrong side, but he was evidently deceived by the unusual prominence of the line that passes round the nut at right angles to the mesial. He soon discovered his mistake, however, and worked round and struck the kernel at the right spot.

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CALIFORNIA GIRLS are some, and if the next generation don't put the women of Wyoming in the shade, it will be a wonder. We hear of women occupying positions formerly only filled by men. In one town they have had a postmistress, female telegraph operator, doctress, and one who contemplates studying law. There is a young woman in the same town so remarkably fond of horse flesh, that she has been heard to say she would like to become a stage driver. She celebrated one of her birthdays by procuring a large excursion wagon with four horses, and driving out with eight of her companions, as daring as herself. When returning to the stable, she reprimanded the keeper for sending her such an ill-matched team, complaining of the sluggishness of the "off wheel horse."

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FAMILY COURTESY.—In illustration of this it was said of one of the most distinguished men of the present century, that to every member of his family he manifested at all times the most supreme courtesy; considerate and polite to his children, his bearing to his aged mother was marked by something more than veneration—a quick and courtly attention to every want, a certain air of gallantry, which was to that stately old lady of ninety, what more profuse but no less sincere and respectful attentions of a multitude of beaux had been to the graceful and blooming belles of three-quarters of a century ago.

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A GOOD-NIGHT KISS.—Always send your child to bed happy. Whatever cares may trouble your mind, give the dear child a good-night kiss as it goes to its pillow. The memory of this in the stormy years which may be in store for the little one will be the Bethlehem's star to the bewildered shepherd, and swelling up in the heart, will rise the thought: My father and mother love me." Lips parched with fever will become dewey at this thrill of pleasant memories. Kiss your little child before it goes to sleep.

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PATENT GRAVEL PAPER for the bottom of bird cages is the luxury devised for feathered pets. Birds soon learn to clean their feet and whet their beaks upon it.

# YOUNG FOLKS' COLUMN.

## "Go Way Bessy."

A STORY FOR THE LITTLE FOLKS.

I am a little girl and my name is Bessy, and I live in a little white house with green blinds in a pretty little town where there are lots of dear little children, with blue eyes and rosy lips. I do not go to school, because I have an aunt Lizzie who teaches me my letters, and she takes me out to walk with her, and lets me help her weed the garden these fine mornings. I I have a brother Ralph who is a bigger boy and sometimes a naughtier boy than I wish he was. He runs away from me, and hides in the tall grass when I want to catch him, and says "little girls must not meddle" when I just want to see how heavy his kite is. He hurts my doll, too, sometimes, and when I cry and run to mamma, he calls me "baby" and bothers me so. What makes boys so cruel to little girls and their dollies, I wonder! One day Ralph was busy in the garden playing with an old rat-trap he had found some where when I asked him to show me how it went when the rat got in, and he only laughed at me and tried to snap it in my face to frighten me. But the trap sprung on his fingers and the ugly iron teeth nipped them, and they bled like anything. How he cried and stamped his feet, saying "go way Bessy," till aunt Lizzie heard him and came with a soft cloth and wrapped them up. Then she whispered something in his ear about speaking so cross to little me, and ever since Ralph has been a better boy; and lets me kiss him when he gets hurt without saying, "go way Bessy."

## About Boys.

I am sorry to say that I don't believe all boys to be angels, spite of their doting mothers.

I saw, the other day, a poor old man, with white hair, picking his way carefully over a slippery road hardly able to hold the bundle of rags under his arm. He was tottering—not with drink, but with old age. A group of well-dressed lads passed him; they then made a large snowball, and with a shout aimed it at his hat, knocking it into the middle of the street. "Shame!" I cried, as I went for it and restored it to him. He thanked me, but he had no hard or bitter word for his little cowardly persecutors. His sorrowful look at them was enough, as he went decently on his way.

I call the attention to this trait, because I fear the parents of boys do not sufficiently consider it. Now "fun" is a good thing for boys. I don't believe in solemn boys; but it is base to triumph over and insult old age. It is base and cowardly and cruel to torture dumb animals for "fun;" I shudder when I see childhood so hard and pitiless.

I don't know that I ever saw a little girl doing such things; and that is why I spoke particularly of its being a boyish fault. I think the brutal husbands and fathers, of whom we read such frightful things in the papers, must have begun this way. I think every mother should look well to this, remembering that some fresh, young trusting heart will some day give itself to that son of hers.

Mothers who say to their daughters, "My dear, do this," or, "don't do that, for one day you will be a wife," should oftener say, "My son, you will some day ask the love of some good girl, you wish to make your wife. Be worthy of that love." Meantime till they are old enough for this, look to these little beginnings of tyranny toward the defenseless. FANNY FERN.

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"I FORGOT.—Sally's great fault is, "I forgot." "Sally, did you do this, or do that? or get this, or put away that?" "Oh, I forgot." George thought he had better change her name, and call her "Little Forgot." That made Sally cry. She thought it was cruel in George to say so. Oh, how many times she has trudged back on forgotten errands, until her poor little feet were tired enough, I am sure.

On Sally's eighth birthday, her grandma gave her a gold ring; and on it, outside, was a word, one word—not grandma, nor yet Sally, or love; it was "*Remember*."—*Child's Paper*.

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HOW TO BE HAPPY.—What does *happy* mean? A little girl lately said it is "to feel as if you wanted to give all your things to your little sister."

You smile, but I hardly see why you should. This little girl felt that to be happy she must be *un*-selfish. She was right, and you know it. Did you ever feel happy when you had selfish feelings active in your breast? I guess not.

# DOMESTIC ECONOMY.

## Eating Raw Meat.

There exists a striking partiality in some countries for eating raw food. Raw fish, thinly sliced, forms a delicacy in a Chinese banquet. The Kaffirs eat alternately a slice of raw beef and one cooked. There is a peculiar variety of the salmon, which the Russians—especially in the extreme north—consider delicious, when eaten raw.

As a general thing cold tends to favor an appetite for raw food. Frozen meat is not particularly unpalateable to any appetite, especially if tasted in freezing weather and in the open air.

Most people, who have labored in the open air, in the woods or on the ice, in our extreme northern States, can testify to the delicious taste of a piece of thin, frozen, raw, fat pork on a slice of bread, for lunch. We have enjoyed it with much relish, and never knew a person who did not, when invited to eat it under similar circumstances.

Capt. Hall's testimony is given as follows:—"My opinion is that the Esquimaux practice of eating their food raw is a good one; at least for the better preservation of their health."

Eating meats raw or cooked is quite a matter of education, as we see in every day life, in our own midst. Many, if not most people, even in the mild climate of California, prefer their roast beef or steak so rare done that the blood follows the knife—that is, *raw*. A little "smell" of cooking upon the outside suffices; and *that* is generally left for those who like their meats "well done."

As a matter of health, there is no doubt but that *very* rare meats are preferable; they are more easily digested, and the nourishing juices of the meat are in the best condition to build up the system. A very little *dry* cooking destroys their nourishing properties. They are also greatly injured by a rapid boiling. Another article in this department, on the subject of boiling meats, is worth considering. Meats when cooked in the "pot" should be boiled very slowly, and a long time—they should be gradually "digested" in a very small quantity of water, and the residual liquid eaten with the meat.

## The Pot on the Fire.

There is one mode of preparing food in general use in many parts of Europe which we should do very well more generally to adopt; that is, 'gentle simmering.' In every or almost every French household there is the *pot au feu*. This permament "pot on the fire," after the manner of the old-fashioned "digester," occupies a quiet little corner of the stove or fireplace. It can hardly be said to boil, but it simmers on gently, very gently, for hours. There it is the receptacle of many a little bone, whether the trimmings of poultry or butcher's meat. It matters not, every little stray fragment of wholesome meat finds its way there. A bit of liver is considered a great improvement; and any vegetables that happen to be about add to its pleasant flavor, whether the tops of celery, Jerusalem artichokes—which, par excellence, make it delicious—or otherwise carrots, turnips, leeks, etc. But supposing it were to be made altogether of fresh materials—which, indeed, in France it rarely is—this would be the proper recipe: Put a gallon of water into a pot; put into this either three or four pounds of shin of beef, or any similar thing. Add to this an onion or two, or some leeks, carrots or some other vegetable, three or four teaspoonsful of salt, one of black pepper, three cloves. Give it one boil up; skim carefully. Now cover the pot closely, and let it cook gently, for four hours at the least. About every hour throw a wineglassful of cold water into it, to make it clear. Taste: it may require a little more salt or pepper, according to taste. Pour this soup over toasted crusts of bread. Both soup and meat will be found delicious. The whole secret of this lies in the gentle simmering in a covered vessel, whereby the flavor is wholly preserved, and nothing is lost.

## The Philosophy of Eating.

The young eat for three reasons: 1st, to grow; 2d, to keep warm; 3d, to repair waste. Hence, all food contains one of two elements, and some kinds both, called nitrogen and carbon. The nitrogen makes flesh, sometimes called muscle, and is the same as lean meat. Carbon makes fat, and is that which keeps us warm. Sugar, starch, arrowroot, oil, butter, suet and lard have no nitrogen; there is nothing in them to make flesh out of; all the nutriment they afford is carbon, the material for warmth.

Infants and young children would get so chilly as to freeze, as it were, unless they had something sweet in their food; hence nature has implanted in them an unappeasable taste for sweet things. The thing the newborn infant needs first and always is warmth. Butter, oils and starches abound also in the heat-producing elements, but require strong powers of digestion, are applicable to grown-up persons and to the old; hence, as we grow old, we like fat meats and butter more.

It is in obedience to these laws that the Almighty benificence and wisdom has imparted a relish for the oils and fat meats in winter, because extra heat is needed. Greenlanders, whose country is always covered with ice and snow, consider butter and lard, and tallow candles, and the rankest oils the greatest luxuries conceivable. But rice, on which many in warm countries chiefly live, is said to contain scarce one per cent. of the fat or heat-producing element, while oils have ninety-six per cent. of it.

All know how buckwheat cakes are relished in winter; but as spring comes on we begin to lose our appetites for them. The cakes themselves contain fifty-four per cent. of fat as heat producing elements, and they are made more palatable by spreading butter on them, and molasses, each being almost entirely (ninety-six per cent.) heat-producing.

But out-door workers eat meat and bread the year round, and never weary of it, because twenty-two per cent. of such food is flesh forming, and gives that much power and strength to work.—*Hall's Journal of Health.*

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INSECT APPETITE.—The man who wished he had a throat a mile long, and a palate all the way, might envy the feats performed in the world of insignificance. Some insects are endowed with an apetite so keen, and a digestion so rapid, that they eat incessantly throughout the whole of their lives. They begin as soon as they are born, and go steadily on till they die. Their existence is a feast, without a change of plates, or a pause between the courses. Morning, noon and night, their mouths are full, and an endless procession of favorite food gratifies the unwearied palate. They know not the names of meals. Breakfast commences with infancy, and their only after-dinner nap is a passage to another state of existence.

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UTILIZING SUBSTANCES FOR FOOD—The siege of Paris will have resulted in at leaast one good thing, viz., the turning scientific atteution towards the utilization of substances for food. We learn that Prof. M. Decaisne has brought forward a plan for the rapid forcing of cabbages, radishes, and other vegetables, which are to be sown in highly manured land, kept for a fortnight, aud used stem and root. Bones, too, are much more utilized than before, by the extraction of the osseine by the action of acid, and this is made up in various palatable and nutritious substitutes for butter and jelly.

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GALL-SOAP.—Gall-soap, for the washing of fine silken cloths and ribbons, is prepared iu the following manner: In a vessel of copper one pound of cocoa-nut oil is heated to 60° Fahr., whereupon half a pound of caustic soda is added with constant stirring. In another vessel, half a pound of white Venetian turpentine is heated, and when quite hot, stirred into the copper kettle. This kettle is then covered and left for four hours, being gently heated, after which the fire is increased until the contents are perfectly clear, whereupon one pound of ox-gall is added. After this cuough good, perfectly dry castile soap is stirred iuto the mixture to cause the whole to yield but little under the pressure of the fingers; for which purpose, from one to two pounds of soap are required for the above quantity. After cooling, the soap is cut into pieces. It is excellent, and will not injure the finest colors.—*Builder.*

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A PROCESS has been invented by which castor oil is made palatable, aud can be eaten on bread like so much honey.

## Domestic Receipts.

DOUGHNUTS.—Boil one quart of new milk and melt in it half a pound of butter. Beat three eggs with two pounds of sugar, then pour on the boiling milk, stirring all the time. When nearly cold stir in a teacup of yeast, a teaspoonful of salt, and flour enough to make a stiff batter. When quite light knead in flour enough to make a soft dough. Add a grated nutmeg and a little mace. Let it rise again until very light, roll it out, cut in strips or according to fancy, and fry in hot lard.

CREAM PIE.—Boil three-fourths of a cup of butter in one half pint of water; while boiling, stir in one and three fourths cups of flour. Take from the fire, and stir five unbeaten eggs slowly in with half a teaspoonful of dry soda. Drop on buttered pans, half the size you want when done, split and fill with the following mixture:

Boil one pint of milk, and while boiling, stir in three well-beaten eggs, one cup of sugar, and one-fourth cup of flour. Flavor when cold.

WINE SAUCE.—One and a half cups sugar, half cup butter, beaten well together; then add a glass of wine, two tablespoonsful of flour, wet with cold water, and let it stand for a few minutes on the stove, then pour it in the butter and sugar and beat it up; grate some nutmeg in it and serve hot.

SPICE CAKES.—Four eggs, one cup of sugar, one cup of molasses, one of buttermilk, half cup butter, one teaspoonful of soda, one table-spoonful of cloves, one table-spoonful of cinnamon, two cups of currants, one nutmeg, mix not very stiff.

FRIED POTATOES.—Pare them, then slice them with a potato or cabbage cutter. Soak the slices all night in very cold water. In the morning dry them in a towel then fry in boiling lard, only cooking a few at a time. Five minutes will cook them if the fat is as hot as it should be.

PORK CAKE.—One cup of chopped pork, one cup of raisans, one cup molasses, one cup milk, four cups flour, one teaspoonful each of salt and soda. Spice to taste.

CIDER CAKE.—Two pounds flour, one pound butter, one and one-fourth pound sugar, one pound fruit, five eggs, two teaspoons soda, four teaspoons different spices, one pint cider.

## Mechanical Hints.

TO DISSOLVE SHELLAC QUICKLY.—White shellac may be readily dissolved in the following manner: Put the shellac with some naptha, or spirits of wine into a wide-mouthed bottle, and fix the bottle in a lathe. By keeping it continually but slowly revolving it will dissolve in about six hours. White shellac mixed with brown, makes a liquid glue impervious to moisture while the former alone makes a good cement for mending glass or porcelain.

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BLACK-LEAD PENCIL DRAWING, OR CHARCOAL DRAWINGS, may be fixed by a process which involves but little expense or trouble. Thus: Prepare a solution in moderate strength of bleached shellac in alcohol; wash over the back of the sheet of paper with this, and the drawing on the front will become fixed. In this way, as will be understood, there is no risk of smearing the lines of the drawing.

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TO IMITATE BLACK WALNUT.—The appearance of walnut may be given to white woods, by painting or sponging them with a concentrated warm solution of permanganate of potassa. The effect is different on different kinds of timber, some becoming stained very rapidly, others requiring more time for the result. The permanganate is decomposed by the woody fibre; brown peroxyde of manganese is precipitated, which is afterwards removed by washing them with water. The wood, when dry, may be varnished, and will be found to resemble very closely the naturally dark woods.

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GILDING ON SLATE.—Use equal parts of glaire and water; when dry, rub with whiting, and be sure that it is dry; put your figures on with gold size and a little chrome or vermillion just for a tint, to see where you are going. When dry enough, apply the gold leaf; all colors should be put upon slate dead, and varnish afterwards or polished.

One way to do it is by using a camel-hair pencil and gold size to trace the pattern or design, and allowed to dry until it becomes "tacky" to the touch, when the gold leaf is gently pressed on, and then carefully and lightly rubbed over with a piece of wool or wash-leather to remove superfluous gold.

# LIFE THOUGHTS.

INDIGESTION and industry are two things seldom found united.

AN earnest man with love of children is rarely a bad teacher.

GOOD deeds are trophies erected in the hearts of men.

A JUST man ought to be esteemed in preference to a relation.

MANY a man dreads throwing away his life at once, who shrinks not from throwing it away piecemeal.

DESPISE not little temptations; rightly met they have often nerved the character for some fiery trial.

I WOULD give nothing for that man's religion whose very dog and cat are not the better for it, says an eminent writer.

A WISE man is not governed by the laws and ordinances of men, but is governed by the rules of virtue.

BY temperance men become the most excellent, most happy, and fittest for discourse.

HE learns much who studies other men, he also learns more who studies himself.

LOSS AND UNJUST GAIN.—Prefer loss before unjust gian; for that brings grief but once, —this forever.

SAID St. Simon: "If I consider myself I feel dejected; if I consider my fellow-men I feel proud."

YOUNG people should reverence their parents at home, treat strangers with courtesy when abroad, and respect themselves when alone.

A MAN that hoards riches and enjoys them not, is like an ass that carries gold and eats thistles.

HE who buys too many superfluities may be obliged to sell his necessaries. A fool generally loses his estate before he finds his folly.

TOWERS are measured by their shadows, and great men by their calumniators. That man who knows the world will never be bashful, and that man who knows himself will never be impudent.

## Things Worth Forgetting.

How much wiser we would be if we could remember all the things worth remembering that occur day by day all around us. And how much better we should be if we could forget all that is worth forgetting. It is almost frightful and altogether humiliating to think how much there is in the common on-going of domestic and social life which deserves nothing but to be instantly and forever forgotten. Yet it is equally amazing how large a class who have no other business but to repeat and perpetuate these very things. That is the vocation of gossips—an order of society that perpetrates more mischief than all the combined plagues of Egypt put together. Blessed is that man or woman who can let drop all the burs and thistles, instead of picking them up and fastening them on to the passenger. Would we let the vexing and malicious sayings die, how fast the lacerated and scandal-ridden world would get healed and tranquilized. Forget the gossipings and bickerings, the backings and sneaking inuendoes and remember only the little gleam of sunshine and poetry that can illuminate the humblest life, if we only drive away and forget the clouds engendered by things that should never be remembered.

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IF you are a wise man, you may treat the world as the moon treats it—show only one side of yourself; seldom show yourself too much at a time, and let what you show be calm, cool and polished; but look at every side of the world.

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THE line of conduct chosen by a young man, during the five years from fifteen to twenty, will, in almost every instance, determine his character for life As he is then careful or careless, prudent or improvident, industrious, or indolent, truthful or dissimulating, intelligent or ignorant temperate or dissolute, so will he be in after years; and it needs no prophet to cast his horoscope or calculate his chances in life.

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"WHEN a stranger treats me with want of proper respect," said a philosophic poor man, "I comfort myself with the reflection that it is not myself he slights, but my old shabby coat and hat, which, to say the truth, have no particular claims to admiration. So if my hat and coat chooses to fret about it, let them; it is nothing to me."

## Transcontinental Traffic.

BY J. RICHARDS, M. E.
[Written for the PRESS.]

The interchange of the products of nature and industry from one part of the world to another, has in all ages monopolized a large share of the best talent in civilized countries. In fact, the amount of commerce of any people is a reliable exponent of their civilization. The lines of commerce and trade are, no doubt, to some extent, established by circumstances, or by laws that were not considered nor understood; and it is only in late years, and since steam transit has been known, that commerce has become a science, in the sense of being governed by laws that can in advance be ascertained, and from reliable deductions made as to its future stability and extent.

History shows the influence of international trade—shows how the trade of the East has in successive ages built the great commercial centres of the world. Civilization trading with barbarism, gave the products of educated skill for gold without a regard for the law of equivalent values that now regulates trade. Such commerce built Rouen, Constantinople, Paris, and London. But at the present day, with the wide spread geographical knowledge that exists, with our means of trade and communication, no chance exists for speculative commerce. The merit of a balance between supply and demand cannot long exist without being met by such trade as produces an equivalent. If the fur skins of Hudson Bay are wanting in China, they will soon find their way there.

Now no want can long exist without finding something to satisfy it. Like mechanics, our manufactures and commerce have bowed to science and knowledge; and the most daring ventures of capital and life are continually being made based upon deductions that seldom fail. A dye is wanted; it has a vegetable base. Science points out the latitude and climatic conditions that favor its growth. An expedition proves its existence at the point indicated; and we find a colony sent out from New York to settle the country, and collect it in Lower California. A short line of communication from the eastern to the western world is discovered across our continent. There is a want of means of transit for travel and valuable merchandise. Millions of dollars are expended in building a railroad across the country. This road is carefully watched; its cost, earnings, and its influences are weighed; and as soon as careful reasoning shows a paying necessity for another, it will be built.

The reasonings on which great commercial enterprises are based, are rarely, in all their details, given to the world. A degree of secrecy is maintained, enough only being divulged to inspire the confidence needed to command the capital necessary to carry them out. It is true that the advantages to accrue to the public and stockholders in such ventures, are heralded and painted in glowing colors throughout the land, supported by spurious reasoning and such sophistry as appeal to the understanding of those who are incapable of following out the deeper conclusions of the originators of the scheme. But below and beyond this, is laid a *substratum* of deductions founded on the laws of trade and intercourse, that would be both difficult to explain and to understand in a popular way.

One of the great advantages of a transcontinental railway set forth and yet maintained, is that of an exchange of products between the Pacific and Atlantic States, a kind of home trade that will enrich our country out of exchange of its own products. Such a mission for our great railway is not supported by the laws that govern trade, nor by the conditions that exist at either end of its route. That there will be a large commerce for a time in valuable products of light weight, is possible; but such a commerce is contingent upon a train of present circumstances and conditions that will soon pass away, depending entirely upon an equilibrium between the cost and elements of production in the two sections. "Carrying coals to Newcastle" is an adage illustrating the absurdity of unnatural commerce, that has for a century been quoted to illustrate this fact; and the idea of carrying by rail, or even by water, the manufactured products from our Atlantic States to the Pacific coast, will soon be very much like "carrying coals to Newcastle," and *our generation may yet see a clamor for tariff on Pacific products.*

To return to the former proposition about the laws of commerce, it is safe to assume that there has never been much gain in trading between countries when there is a balance of civilization. It involves a nice distinction and constant rule as to values, that precludes speculation and balances the exchange of money. To trade with less civilized people we sell goods for gold. If we trade with those more civilized we exchange gold for what their superior intelligence has produced. This proposition, of course, applies more particularly to manufactured products,—about the only imports that come into our country which has been endowed by nature with nearly everything wanted; and it is only a want of balance in skill and cheap labor that creates a demand for importations.

Granting these premises, it is easy to see that commerce between the Atlantic and Pacific States can never exist to any great degree, nor be a source of gain to either section of country. The business of railways will be to carry passengers and mail,—quite enough, no doubt, to furnish business for many lines in the future. But merchandise must obey the imperative laws of trade that are not changed by the schemes of men and corporations.

The elements of manufacturing are: material, food, and skill. The material must be local, furnished by nature when naked. A high degree of skill, concentrated at one point and surrounded by favorable conditions for some peculiar branch of manufacturing, may for a time draw material from distant sources, but with reference to iron, coal, and wood, the proposition can be maintained. Food, which more than anything else governs the cost of labor, must also be local; it must be produced where it is consumed. Skill is the portable element in manufacturing. Man does but little now but direct natural forces in the manipulations of the work shop, and the small degree of skill needed with our modern facilities for education, dispels all idea of monopolies based upon special skill. One man may, with labor of ordinary intelligence at his command, found and conduct a large business with which he is conversant. Skill in manufactures is like "leaven in the loaf,"—it soon pervades a community.

There was a time—in fact we are just emerging from the period in which we ignored the idea of fixed laws to govern mechanical manipulations. The Sheffield steel makers furnish steel to the world, because the laws of metallurgy were not understood, and its manufacture was a discovery—a secret. A greater knowledge of metallurgy has developed in this country, within the short period of fifteen years, a steel manufacturing interest that has almost stopped importation and supplied the wants of a population of thirty millions of people. Skill is a concentrated element in manufactures,—the only essential that can be transplanted and flourish in any country that furnishes enough natural intelligence to sustain it.

In speculating as to the future of the Pacific coast and its relations with the Atlantic States, we have but to call to our aid the recognized laws of trade, and form an equation in which the two sides will represent the relative resources of the two sections:

1st. The natural resources of the countries, consisting of fuel, food, iron, coal, wood, etc., with climatic conditions.

2d. First cost of natural products and raw materials.

3d. Population, its character and probable "bent," with the kind of public that will control it in matters of popular interest.

4th. The relations to a market and to an export trade in the future as well as to local wants.

With correct statistics on these points, and a careful consideration of the physical geography of the Pacific coast, it will not be difficult to arrive at a conclusion as to the extent of transcontinental trade, in manufactured products at least.

[To be continued.]

THE SWEET POTATO, besides being used in various forms as an esculent, is also employed in making bread, as a substitute for coffee, for brewing of beer, for fattening farm animals, and is now coming into use for making syrup—an article which it is said to produce far surpassing that of the beet or even sorghum in delicacy of flavor. The average product of a bushel is said to be over two gallons—the yam variety being preferred. The average acre yield of the potato being from 150 to 180 bushels; the product in syrups is therefore from 300 to 360 gallons per acre.

PLOWING IN.—The farmers in the vicinity of Rio Vista and other places, on the river, says the Sacramenta *Bee*, where the tops of the low hills are sown to grain crops, despairing of any return for their labor in such localities this season, are plowing in what small amount of growth there is, while the ground is yet soft enough to permit that operation to be done. At the base of the hills there may yet be a limited crop; but experience has taught grain-growers to abandon hope as to the other portion of their lands, which are to be summer fallowed.

## Down Stream.

The pleasures and excitement of canoeing have often been described. Darting hither and thither, now in the bright sunshine, and now in the cool shades, over smooth water, across the little whirlpools, down the foaming rapids, a little touch of the vigorous arm sending the light craft hither and thither at will, past the points and shunning the rocks and snags—those accustomed to the sport declare nothing more glorious.

The artist, in the accompanying engraving, has sought to illustrate something of this amusement. If he has been a little liberal with the ruined walls, and with one or two other details, we must allow it to the free use of imagination tempering recollection. Perhaps the scene may have been taken with strict adherence to facts, only our limited experience, having been confined to the Adirondacks, in New York State, knows no such walls.

Still the scene brings up happy memories of olden times, and may recall familiar scenes to some of our readers. There may be one here and there who has floated lazily in the warm sun, or skimmed lightly the languid brook, or rushed along in the seething waters, who will derive pleasure from renewing the past; and many will also enjoy hearing of what others have done.

THE CONTEST OF FLEECES.—The Visalia *Delta* reports that the contest between Messrs. Patterson and Pennebaker, to which we made partial allusion last week, has resulted about as follows: Mr. Pennebaker's sheep, two bucks, sheared 20 pounds and 25 pounds 5 ozs. The fleeces were, as the owners states, of one year's growth. Mr. Patterson sheared four bucks, and the fleeces ranged from 12 to 15½ pounds per fleece. The latter gentleman's fleeces were of only eight months' growth. Mr. Patterson claims that his fleeces were devoid of oil and dirt in consequence of being herded on alkali soil, and that his sheep had not been sheltered or fed.

REPORTED RAILROAD PURCHASE.—It is reported, says the Marysville *Standard*, that the California Pacific Railroad Company have purchased the Oroville road, and will soon reduce the gauge thereof to the California standard size. It is also rumored that the purchase means the extension of the road over the mountains, to connect at some day not far distant, with the Kansas railroad, now being built toward Salt Lake City at a rapid rate.

THE GREATEST COLD.—The greatest cold ever produced was 220 degrees Fahrenheit below zero; it was done by evaporating in vacuum, a mixture of solid (condensed) protoxide of nitrogen, carbonic acid and bisulphide of carbon.

THE CANARY BIRD has been an object of traffic for five centuries. Five hundred years ago there was but one kind of canary, but the original stock has been so crossed that the varieties are now at least 50.

WIND, blowing five miles an hour, moves 440 feet per minute, presses 125 lbs. to the square foot, and is but a pleasant breeze. When it moves 100 miles per hour or 8,800 feet per minute, it presses 50,000 lbs. per square foot, and is a tornado sweeping away houses and trees.

THE Mahometan loaths the oyster as we do the scorpion or spider, and says of the Christian, "He is a dirty dog, for he eats oysters."

## HUMOROUS.

INNOCENCE is like an umbrella—when once we have lost it we may never hope to see it back again.

BABIES are coupons attached to matrimony; the interest is due at random.

AN old maid, speaking of marriage, says it's like any other disease—while there's life there's hope.

THE sting of a bee carries conviction with it. It makes a man a bee-leaver at once.

A NEW INVENTION WANTED.—A lady wishes some one would invent a legometer, to attach to men's pedals, so that wives may determine the distance traveled by their husbands when they want to "just step down to the postoffice" of an evening.

A PROVIDENCE paper talks about "animated fragments of shattered rainbows." The writer means ladies.

A YOUNG lady who has been practicing "Let Me Kiss Him for His Mother," says the more she tries it the better she likes it.

A KISS, says a French authoress, gives more pleasure than anything else in the world.

CHARITABLE.—A charitable Cincinnati gentleman keeps a pair of dogs chained at his front door, so that poor people who stop to "get a bite" can be accomodated without taking the trouble to enter the house.

WHY is a woodchuck like a sausage? Because it is ground hog.

WHY is a baby like a sheaf of wheat? Because it is first cradled, and then thrashed, and finally becomes the flower of the family.

WHY is a caterpillar like a hot biscuit? Because it makes the butter fly.

THOMSON is not going to do anything more in conundrums. He recently asked his wife the difference between his head and a hogs-head, and she said there was none. He said that was not the right answer and left.

WOMAN is the only female in creation who sings.

A HOUSEWIFE on a prairie farm illustrated the condition of farmer's wives when she said:—It's mighty easy for the men and horses, but it's death on *women* and *oxen*!"

THE Illinois savans are discussing cow-milking; some favoring the fore and aft, and others the diagonal style. One old partriarch believes that "man should be left free to milk according to the dictates of his own conscience."

THE *Golden Era* desires to know "whether a rooster crows from natural instinct, or from personal observation?"

DUCKS have decided opinions of their own—they always come out flat-footed.

The horse is a curious feeder. He eats best when he hasn't a bit in his mouth.

## Market Report.

BY "JEEMS PIPES OF PIPESVILLE."

HAMS—Have gone behind a quarter, probably from the fact that they were taken from the hind-quarter.

MOLASSES.—Several traders have been *stuck* with this article.

BOOTS—Have advanced fully *two feet*, and are freely "*pegged off*" at this rate. As we are now at the *heel* of the season our merchants will have to toe the mark before shortly.

CLOTHING.—We *coat pants* as a good investment.

HIDES, HORNS AND TALLOW.—The holders of hides are almost ready to jump out of their skins.

Horns are freely taken at the saloon.

Tallow has gone to Greece in large quantities.

POWDER.—We have to notice a "fair" report of the going off of this article at good rates. *Dover* is preferred.

POTATOES.—The arrival of a large number of emigrants from the "first gem of the sea" has caused a decided advance. In fact, not to be mealy mouthed, it appeares to our "eyes" that there must soon be a great scarcity unless the duty on foreign potatoes be re-peeled.

BEETS.—Scarcely any in the market, save those of the watchmen on their "lonely round." We cannot account for this without going to the *root*, and for that we havn't time.

FISH.—Prices are rather salty; mackerel (well broiled) is getting down in the mouth; sardines are in good supply, but cannot be had without the tin; oysters *can*.

CHEESE— (particularly old cheese) is lively.

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF | | | | | TEMP.* | | WIND. | R'N† |
|---|---|---|---|---|---|---|---|---|---|
| | Barometer Corrected. | Temp. Air. | Rel. Hmdty. Saturn'n 100. | Force of Vapor. | Amount of Cloudiness. | Maximum. | Minimum. | Range. | General direction f'm which it moves, and the Forces. | Gauge 30 ft. above surface |
| APRIL. | INHS. | DEG. | ℉ C. | INHS. | 0-10 | DEG. | DEG. | DEG. | DIRECTION. | FORCE. 0—10 | INHS |
| Sunday.. 9 | 30.032 | 56 | 54 | .243 | 1 | 69 | 42 | 27 | N. W. | 3 | ..... |
| Monday.10 | 30 026 | 56 | 62 | .285 | 0 | 70 | 40 | 30 | S. | 2 | ..... |
| Tuesday 11 | 29 948 | 59 | 64 | .339 | 0 | 72 | 40 | 32 | S. & N. | 1 | ..... |
| Wedns..12 | 29.981 | 60 | 57 | .354 | 1 | 75 | 44 | 31 | S. E. | 2 | ..... |
| Thurs...13 | 30.100 | 60 | 72 | .387 | 4 | 72 | 45 | 27 | S. E. | 1 | ..... |
| Friday..14 | 30.037 | 65 | 57 | .338 | 2 | 78 | 51 | 27 | S. E. | 2 | ..... |
| Sat'day..15 | 29.866 | 58 | 61 | .292 | 4 | 72 | 49 | 23 | N. & S. E. | 3 | ..... |

* Thermometograph. † Rain.

REMARKS.—Our table shows a sudden fall in the barometric reading of the last day of the week, which is explained by the storm now prevailing (April 16th, 2 P. M.), with every indication of its being general throughout the entire Pacific Coast. Up to the present moment, however, the rainfall has not been copious, but seems to maintain the same relative proportion to the average for April that has ruled during the preceding months of this exceptional rainy season.

## Meteorological Observations in Tulare County.

[Reported expressly for the PRESS, by ISAAC B. RUMFORD, of Orange Grove.]

| MARCH 1871. | Ther. | | | Barometer. | | | Ins of R'n | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | S* | 1 | S† | S* | 1½ | S† | | |
| We. 1 | 47 | 58 | 58 | 29.25 | 29.25 | 29.25 | | Variable. |
| Th. 2 | 44 | 64 | 59 | .36 | .35 | .33 | | Clear. |
| Fri. 3 | 44 | 69 | 65 | .44 | .36 | .33 | | Clear. |
| Sat. 4 | 48 | 67 | 63 | .40 | .31 | .24 | | Fair. |
| Sun. 5 | 53 | 71 | 63 | .28 | .19 | .17 | | Fair. |
| Mon. 6 | 50 | 66 | 62 | .26 | .23 | .24 | | Variable—threat stm. |
| Tu. 7 | 51 | 61 | 57 | .29 | .30 | .32 | .15 | Rain last night. |
| We. 8 | 41 | 63 | 60 | .46 | .41 | .35 | | Fair. |
| Th. 9 | 50 | 64 | 62 | .25 | .23 | .19 | | Variable. |
| Fri. 10 | 45 | 68 | 63 | .23 | .19 | .25 | | Fair. |
| Sat. 11 | 50 | 70 | 66 | .30 | .21 | .16 | | Clear. |
| Sun. 12 | 55 | 75 | 64 | .16 | 28.96 | 28.93 | | Clear. |
| Mon. 13 | 44 | 55 | 48 | 29.06 | 29.02 | 29.05 | .05 | Variable—blustery. |
| Tu. 14 | 40 | 60 | 53 | .24 | .26 | .28 | | Fair—cool breeze. |
| We. 15 | 45 | 67 | 60 | .40 | .33 | .34 | | Clear. |
| Th. 16 | 50 | 69 | 62 | .40 | .31 | .21 | | Clear. |
| Fri. 17 | 51 | 63 | 53 | .23 | .24 | .21 | | Variable—blustery. |
| Sat. 18 | 42 | 51 | 45 | .27 | .31 | .43 | | Variable. |
| Sun. 19 | 65 | 66 | 60 | .42 | .34 | .33 | | Clear. |
| Mon. 20 | 62 | 71 | 76 | .34 | .19 | .13 | | Clear—very fine. |
| Tu. 21 | 50 | 62 | 59 | .20 | .19 | .14 | | Variable—blustery. |
| We. 22 | 39 | 61 | 56 | .21 | .19 | .18 | | Clear. |
| Th. 23 | 45 | 65 | 60 | .28 | .23 | .19 | | Variable. |
| Fri. 24 | 53 | 69 | 62 | .21 | .20 | .21 | .01 | Clear—spkle last n'bt |
| Sat. 25 | 59 | 61 | 57 | .29 | .26 | .21 | .01 | Variable. |
| Sun. 26 | 45 | 69 | 61 | .28 | .25 | .20 | | Clear—strong wind. |
| Mon. 27 | 49 | 69 | 62 | .25 | .12 | .25 | | Clear. |
| Tu. 28 | 45 | 75 | 64 | .27 | .18 | .21 | | Clear. |
| We. 29 | 51 | 74 | 65 | .31 | .22 | .23 | | Clear. |
| Th. 30 | 53 | 80 | 69 | .33 | .22 | .26 | | Clear. |
| Fri. 31 | 50 | 81 | 68 | .41 | .30 | .33 | | Clear. |

* Sunrise. † Sunset.

## San Francisco Retail Market Rates.

FRIDAY, April 21, 1871.

### MISCELLANEOUS.

| | | | |
|---|---|---|---|
| Butter, Cal fr. lb | 35 | @ | 40 |
| Pickled, Cal. lb | | @ | |
| do Oregon, lb.. | | @ | |
| Honey, ₱ lb..... | 25 | @ | 30 |
| Cheese, ₱ lb .... | 20 | @ | 25 |
| Eggs, per doz... | 30 | @ | 35 |
| Lard, ₱ lb..... | 18 | @ | 25 |
| Sugar, cr., 7 lb...1 | 00 | @ | |
| Brown, do, ₱ lb | 10 | @ | 13 |
| Beet, do, 7 ₱s.1 | 00 | @ | |
| Sugar, Map. lb. | 30 | @ | 35 |
| Wool Sacks, new | 40 | @ | 90 |
| Second-hnd do | 67½ | @ | 70 |
| Wheat-sks, 22x36 | 13½ | @ | 14 |
| Potato G'y Bags. | 23 | @ | |
| Second-hnd do | 16 | @ | |
| Deer Skins, ₱ lb. | 15 | @ | 22 |
| Sheep sks, wl on | 50 | @ | 75 |
| Sheep sks, plain. | 12½ | @ | 25 |
| Goat skins, each. | 25 | @ | 65 |
| Plums, dried, lb. | 15 | @ | 30 |
| Peaches, dried,* | 15 | @ | 30 |

### PRODUCE, ETC.

| | | | |
|---|---|---|---|
| Codfish, dry, lb..6 | 00 | @ | 12½ |
| Flour, ex, ₱ bbl..7 | 50 | @8 | 00 |
| Superfine, do. 5 | 50 | @6 | 00 |
| Corn Meal, 100 lb.3 | 50 | @4 | 50 |
| Wheat, ₱ 100 lbs.2 | 75 | @3 | 00 |
| Oats, ₱ 100 lbs...2 | 00 | @2 | 10 |
| Barley, cwt.....1 | 85 | @1 | 90 |
| Beans, cwt .....2 | 00 | @3 | 00 |
| Potatoes, cwt...1 | 50 | @2 | 00 |
| Hay, ₱ ton.....15 | 00 | @18 | 00 |
| Live Oak Wood.10 | 00 | @12 | 00 |

### FRUITS, VEGETABLES, ETC.

| | | | |
|---|---|---|---|
| Pine Apples, †...5 | 00 | @9 | 00 |
| Bananas, ₱ lb... 3 | 00 | @5 | 00 |
| Cal. Walnuts, lb. | | @ | 20 |
| Cranberries, ₱ g | 75 | @1 | 00 |
| Cranberries, O, ¶ | | @1 | 00 |
| Apples, No. 1, lb. | 4 | @ | 5 |
| Pears, table, ₱ lb | | @ | 12½ |
| Oranges, ₱ doz.. | 50 | @ | 75* |
| Lemons, ₱ doz.. | 75 | @1 | 00 |
| Figs, dried, ₱ lb. | 15 | @ | 20 |
| Asparagus, wh.* | 12 | @ | 15 |
| Artichokes, doz. | 75 | @1 | 00 |
| Brussel's sprts, * | 12 | @ | 15 |
| Beets, ₱ doz..... | 20 | @ | 25 |
| Potatoes, ₱ lb .. | 2 | @ | 3 |
| Potatoes, sweet,* | | @ | 5 |
| Potatoes, new... | 4 | @ | |
| Tomatoes, ₱ lb.. | | | |
| Broccoli, ₱ doz..1 | 50 | @2 | 00 |
| Cauliflower, † .. 2 | 50 | @1 | 25 |
| Cabhage, ₱ doz..3 | 00 | @1 | 50 |
| Carots, ₱ doz... | 10 | @ | 25 |
| Celery, ₱ doz ... | 75 | @1 | 00 |
| Cress, ₱ doz bun | 20 | @ | 25 |
| Dried Herbs, b'h | 25 | @ | 50 |
| Egg Plant ..... | | @ | |
| Garlics ..... | 5 | @ | 8 |
| Green Peas, ₱ lb | 8 | @ | 6 |
| Green Corn, doz. | | @ | |
| Sugar Peas, ₱ lb | | @ | |
| Lettuce, ₱ doz.. | 12 | @ | 25 |
| Mushrooms, ₱ lb | 25 | @ | 50 |
| Horseradish, ₱ lb | | @ | 20 |
| Okra, dried, ₱ lb | | @ | 50 |
| Okra, green, ₱ lb | | @ | |
| Pumpkins, ₱ lb. | 3 | @ | 4 |
| Parsnips, † bnchs | | @ | 25 |
| Parsley ..... | | @ | 25 |
| Pickles, ₱ gal... | 50 | @ | 75 |
| Rhuharh, ₱ lb.. | 8 | @ | 15½ |
| Radishes, † buns | | @ | 25 |
| Green Peppers, * Red, do ..... | | @ | 25 |
| Summer Squash Marrowfat, do. | 4 | @ | 6 |
| Hubbard, do.. | | @ | 5 |
| String Beans, lb. | | @ | |
| Dry Lima, shl... | | @ | 8 |
| Spinage, ₱ hskt. | 25 | @ | 50 |
| Salsify, ₱ hunch | 25 | @ | 12 |
| Turnips, ₱ doz.. | | @ | 25 |
| Asparagras..... | 10 | @ | 15 |

### POULTRY, GAME, MEATS, ETC.

| | | | |
|---|---|---|---|
| Chickens, apiece | 75 | @1 | 00 |
| Turkeys, ₱ lb... | 20 | @ | 25 |
| Ducks, wild, ₱ p | | | |
| Tame, do.....1 | 50 | @2 | 00 |
| Teal, ₱ doz.... | | | |
| Geese, wild, each | 37½ | @ | 50 |
| Tame, ₱ pair..3 | 50 | @4 | 00 |
| From Chicago. | | @ | |
| Hens, each..... | 75 | @1 | 00 |
| Snipe, ₱ doz....1 | 25 | @1 | 50 |
| English, do...2 | 50 | @3 | 00 |
| Venison, ₱ lb .. | | @ | |
| Quails, ₱ doz ... | | | |
| Pigeons, dom. do3 | 00 | @3 | 50 |
| Wild, do.....1 | 50 | @2 | 00 |
| Hares, each ... | 40 | @ | 50 |
| Rahhits, tame.. | 50 | @1 | 00 |
| Wild, do, ₱ dz.1 | 75 | @2 | 00 |
| Squirrel, ₱ pair. | 25 | @ | 38 |
| Beef, tend, ₱ lb. | 20 | @ | 25 |
| Sirloin and rib | 18 | @ | 20 |
| Corned, ₱ lb.. | 10 | @ | 12 |
| Smoked, ₱ lb | 15 | @ | 18 |
| Pork, rib, etc., lb | 12½ | @ | 15 |
| Chops, do, ₱ lb | 12 | @ | 15 |
| Veal, ₱ lb. ... ... | 15 | @ | 20 |
| Cutlet, do..... | | @ | 20 |
| Mutton ohops,* | 12½ | @ | 15 |
| Leg, ₱ lb..... | 12½ | @ | |
| Lamb, ₱ lb..... | | @ | 12½ |
| Tongues, beef, ea | | @ | 75 |
| Tongues, pig, ea | | @ | 15 |
| Bacon, Cal., ₱ lb | 18 | @ | 20 |
| Oregon, do | 18 | @ | 20 |
| Hams, Cal, ₱ lb. | 18 | @ | 20 |
| Hams, Cross' s c | | @ | 25 |
| Choice D'ffield | | @ | 25 |
| Whittaker's .. | | @ | 25 |
| Johnson's Or.. | | @ | 25 |
| Salmon, ₱ lb.... | 8 | @ | 10 |
| Smoked, new,* | 10 | @ | 12 |
| Pickled, ₱ lb.. | 6 | @ | 8 |
| Rock Cod, ₱ lb.. | 10 | @ | 12 |
| Perch, s water, lb | 10 | @ | 12½ |
| Lake Big. Trout* | 20 | @ | 25 |
| Smelts, ₱ lb..... | 6 | @ | 8 |
| Herring, fresh.. Sm'kd, 100 lbs. | | @1 | 00 |
| Tomcod, ₱ lb.... | | @ | 25 |
| Terrapin, ₱ doz.5 | 00 | @6 | 00 |
| Mackerel, p'k, ea | | @ | 20 |
| Fresh, do ..... | | | |
| Sea Bass, ₱ lb... | | @ | |
| Halibut..... ... | 62 | @ | 75 |
| Sturgeon, ₱ lb... | 4 | @ | 5 |
| Oysters, ₱ 100...1 | 00 | @1 | 25 |
| Chesp. ₱ doz.. | | @1 | 00 |
| Turbo t..... | | @ | 40 |
| Crabs ₱ doz.... | | @1 | 00 |
| Soft Shell..... | 37 | @ | 50 |
| Shrimps ..... | 10 | @ | 12 |

* Per lb. † Per dozen. ¶ Per gallon.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., April 20th.

FLOUR—continues in moderate demand only and that for local use—very little enquiry for export has been noticed.

We quote superfine, $6.50@6.75; extra, $7.50 @7.75.

WHEAT—The market still continues very dull. The uncertainty with regard to the crop and the continued high price in Liverpool, confirms holders in their demands. The impression is that France, Germany and Great Britain must be competing purchasers, and European rates must continue. Wheat that is selling in this market, to-day for $2.75 per sack, is worth $3.02 in Liverpool. It is estimated on good authority that there are now in the State 25,000 tons or 500,000 sacks of old wheat. Although the last years crop has fallen nearly a million and a half centals short of the year before, the aggregate money value has been greater.

The Liverpool market is still telegraphed at 12s. 6d. New York rates unchanged.

BARLEY—Sales of 1,650 sacks of good feed in lots, at $1.85; choice brewing at $1.87½; 200 sacks Chevalier $2. It may be interesting to note that while the above prices are ruling here, 15,000 bushels Cal. have recently sold in New York for 70c per bushel.

OATS—Have met with a still further advance and may now be quoted at $1.87@2.00 for good to choice.

CORN—Is atill quotable at $2.50 per cental, at which figure sales of 1,000 sacks good yellow are noted.

CORNMEAL—Is quotable at $2.75@3.25.

BUCKWHEAT—Is quotable at $3@$3.25.

RYE—Quotable at $2.37½.

FEED—Most descriptions are higher. We quote: STRAW, $8@9; BRAN, $35; MIDDLINGS, 40@42.50; OIL CAKE MEAL $33.

HAY—Is in steady demand. We quote ordinary to choice at $15.00@20.00 ₱ ton; a sale of ten tons wild hay are noted at $16.

HONEY—Los Angeles, 5-gall. cans, $12@16, and Porter's, 2 lb do, at $4 ₱ dozen.

POTATOES—The present range of good quality of California is from $1.60@$1.82½. We note sales of 100 sks. good Bodega, $1.60; 700 do good Humboldt, $1.80; 1,000 choice do, $1.82½ ₱ ctl.

HOPS—Demand light—prices nominal at 8 @12½c. for California crop of 1870. New York dates of April 10 quote crop of 1870 at 10@13c.

HIDES—We quote Dry, slaughterer's stock, 16@18 c; Salted, 8@8½c. Sales during the week 1,870 Cal. dry.

WOOL—The receipts still continue quite free, and the market active. Sales for the week aggregate 800,000 lbs. We quote burry 22@25c; clean 25@29c—the latter figure for extra. It is said as high as 30c has been paid for fancy lots.

In Boston, April 6th, 45,000 Cal. fall sold at 26 @27½c.

TALLOW—The extremes may still be quoted from 7½@8c., with large stock in hand.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 16@17c; Oregon, 16@17; Chicago 17c; California Hams, 13@14; Oregon do, 16@17c; California Sugar-cured Hams, 18@19c; Oregon do, 18@ 22c; Eastern do, 22@24½c; California Smoked Beef, 13@14c.

BEANS—Jobbers are asking the following rates: Bayo, 2½@2¾c; Butter, 2¼@2½c. for small and 2½c for large; small. White, 2¼; Red, 2¼c; Pea, 2¼c; Pink, 1¾@2c ₱ lb.

VEGETABLES—Asparagus is selling at 5@9c and Rhubarb at 4@6c. green peas 4c ₱ lb.

NUTS—California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 6@ 7c; Hickory and Walnuts, 12½c; Pecan, 23@ 25c ₱ lb, Cocoanuts $12 per hundred.

FRESH MEAT — We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11c ₱ lb.
Do 2d do 8@ 9c ₱ lb.
Do 3d do 7@ 8c ₱ lb.

VEAL—Is steady at 10@ 12½c—the latter for strictly choice; second quality 8@9c.

MUTTON—Stuady at 6@7 ₱ lb.

LAMB—May be quoted at 10c for choice; yearlings 8c per lb.

PORK—Undressed is quotable at 5½@7¼c. dressed, 10½@11½.

POULTRY, ETC.—Spring Chickens $5@7; Hens $6½@7.50; Roosters $6.50@7.50; Ducks, tame, $7@8 ₱ doz; geese, tame, $1.70@$2.00 ₱ pair; live turkeys, 18@19c ₱ lb.

WILD GAME—Hare $2.50; Rabbits, $1.25; Ducks $1.50@2.00; Geese $1.50@2.00.

DAIRY PRODUCTS—California Butter, fresh, in rolls, 20@28c.

CHEESE—In fair supply, at unchanged rates. California new, 10@14c., Eastern, 16@17c. for new; old Cal. nominal.

EGGS—California fresh, 28@30c; Oregon, 22@24; 5,600 doz. by steamer sold for 22@23.

LARD—California Lard, 11-lb tins, 15@16c; Oregon, 15@15¼c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Cal. Apples, per box, $2.50@$3.00; Oregon, $1.75@$3.00; Oranges, per 1,000, $25@$45; Tahiti oranges $30 per M.; Lemons, per box, $12; Cal. Lemons, $3@4 per 100; choice Apples scarce; Strawberries, 20@25c; Rhubarb, 5@4c; Asparagus, 5@8c.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

## GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS — Are still in good demand. Stocks are said to be liberal, and prices rule low for all kinds of goods in this department of trade.

BUILDING AND FENCING MATERIALS—The local trade has maintained a moderate degree of activity during the period under review. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough..... | $15 00 | $11 00 |
| Surfaced..... | 28 00 | 18 00 |
| Tongued and grooved..... | 28 00 | 18 00 |
| Tongued and grooved, beaded.... | 28 00 | 18 00 |
| Rustic, worked..... | 31 00 | 20 00 |
| Siding and battens, ½-inch..... | 20 00 | 14 00 |
| Surfaced, ½-inch..... | 25 00 | 18 00 |
| Picket, rough..... | 14 00 | ..... |
| Picket, rough, pointed. ..... | 16 00 | ..... |
| Picket, dressed..... | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12@13c, for old and new respectively, ₱ lb; Raisins, layer, $4.00@4.75 per box; Currants, Zante, 10½@11½c.; Citron, 50c.

PROVISIONS—The stock of all kinds of Cured Meats are in fair supply, and a good demand continues to exist. We quote jobbing rates as follows; Hams, California, at 13½@ 4½c; Oregon do, 16½@17c; Bacon, California, 16@17c; Oregon do, 15@16½c.

### TABLE OF MISCELLANEOUS.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sugar, crsh'd, lb. | $ 14 | @$ 14½ | Hemp Seed, lb., | $ 7 | @ | 9 |
| Hawaiian, do. | 9 | @ 12 | Castor Beans, lb. | 4 | @ | 4¼ |
| Coffee, Cos. R, lb | 14½ | a 15 | Castor Oil, gal.. | 1 75 | @2 | 00 |
| Rio, do..... | 16 | @ | Linseed Oil, gal. | 1 05 | @1 | 10 |
| Tea, Japan, ₱ lb. | 50 | @ 90 | Broom Corn, ₱ lb | 3 | @ | 5 |
| Green, do .... | 50 | @1 00 | Beeswax, ₱ lb... | 27 | @ | 30 |
| Rice, Haw'n, ₱ lb | 8½ | @ 9 | Peanuts, ₱ lb.... | 5 | @ | 7 |
| China, do..... | 6 | @ 7½ | Corn Meal, cwt.. | 2 50 | @4 | 00 |
| Coal Oil, ₱ gal.. | 50 | @ 60 | Onions, cwt..... | 1 50 | @3 | 50 |
| Candles, ₱ lb.... | 14 | @ 18 | | | | |

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, April 21, 1871.

| | | | |
|---|---|---|---|
| IRON.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1½c ₱ lb; Plate, 1½c ₱ lb: Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb | | | |
| Scotch and English Pig Iron, ₱ ton.....$34 00 | | @$35 00 | |
| White Pig, ₱ ton..... .. ..... | 37 50 | @ 40 00 | |
| Refined Bar, bad assortment, ₱ lb..... | — 03 | @ — — | |
| Refined Bar, good assortment, ₱ lb..... | — 04 | @ — — | |
| Boiler, No. 1 to 4 ..... | — 04¾ | @ — — | |
| Plate, No. 5 to 9..... | — — | @ — 04½ | |
| Sheet, No. 10 to 13... ..... | — 04½ | @ — 05 | |
| Sheet, No. 14 to 20..... | — 05 | @ — 05½ | |
| Sheet, No. 24 to 27..... | — 05 | @ — 06½ | |
| COPPER.—Duty: Sheatbing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | | |
| Sheathing, ₱ lb..... | — — | @ — 26 | |
| Sheathing, Yellow..... | — 20 | @ — 21 | |
| Sheathing, Old Yellow..... | — 10 | @ — 11 | |
| Composition Nails..... | — 21 | — 22 | |
| Composition Bolts..... | — 21 | — 22 | |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | | |
| Plates, Charcoal, IX ₱ box..... | 12 00 | — — | |
| Plates, I C Charcoal ..... | 10 00 | 10 50 | |
| Roofing Plates..... | 10 00 | 10 50 | |
| Banca Tin, Slabs, ₱ lb..... | — — | — 42 | |
| STEEL.—English Cast Steel, ₱ lb..... | — — | — 15 | |
| QUICKSILVER.—₱ lb..... | — — | — 85 | |
| LEAD.—Pig, ₱ lb..... | — 06 | — 07 | |
| Sheet..... | — 09 | — | |
| Pipe..... | — 10 | — 11 | |
| Bar..... | .. 08 | — 09 | |
| ZINC.—Sheets, ₱ lb..... | — 10½ | — 11 | |
| BORAX.—..... | — 25 | — 35 | |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, April 20.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

| | |
|---|---|
| City Tanned Leather, ₱ lb..... | 26@30 |
| Santa Cruz Leather, ₱ lb..... | 26@30 |
| Country Leather, ₱ lb ..... | 25@28 |

French Calf and Kip Skins still continue firm, with a slight advance in Jodot Calf and the best brands of Kips. Domestic Skins rule the same.

| | |
|---|---|
| Jodot, 14 to 19 Kil., per doz ..... | $96 00@ |
| Cornellian, 16 Kil., per doz ..... | 72 00@ |
| Best French Calf Skins, ₱ doz ..... | 75 00@100 00 |
| Common French Calf Skins, ₱ doz..... | 35 00@ 75 00 |
| French Kips, ₱ lb..... | 1 00@ 1 30 |
| California Kip, ₱ doz ..... | 60 00@ 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb..... | 80@ 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb..... | 1 10@ 1 25 |
| Eastern Calf for Backs, ₱ lb ..... | 1 15@ 1 20 |
| Sheep Roans for Topping, all colors, ₱ doz.... | 8 50@ 13 00 |
| Sheep Roans for Linings, ₱ doz ..... | 5 50@ 10 50 |
| California Russett Sheep Linings ..... | 1 75@ 5 50 |
| Best Jodot Calf Boot Legs, ₱ pair ..... | 5 25 |
| Good French Calf Boot Legs, ₱ pair..... | 4 50@ 5 00 |
| French Calf Boot Legs, ₱ pair..... | 4 00 |
| Harness Leather, ₱ lb..... | 30@ 37½ |
| Fair Bridle Leather, ₱ doz..... | 48 00@ 72 00 |
| Skirting Leather, ₱ lb..... | 34@ 37½ |
| Welt Leather, ₱ doz..... | 30 00@ 50 00 |
| Buff Leather, ₱ foot..... | 22@ 25 |

SUCCESS IN BUSINESS.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALN'S BUSINESS COLLEGE, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circuluar, and HEALN'S COLLEGE JOURNAL, which will be sent free upon application. Address, E. P. HEALN, President, business College, San Francisco, Cal. 1vl-3msnr

FOUR MONTHS' SUBSCRIPTION FOR $1.—Subscribers to the PRESS who remit direct to this office $5 coin, in advance, hereafter, will be credited four months over a year for the extra dollar received above our regular rates. This will render it both convenient and profitable to enclose a $5 piece in a registered letter, in which case we will be responsible for its safety.

## Our Printed Mail List.

Subscribers will notice that their names are printed on colored paper and pasted upon each copy of the PRESS. This is done by machinery, to expedite the issue of our paper, the regular edition of which has become too large to be convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriber has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4jl0, to the 4th of July, 1870. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction.

## Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.

### Traveling Agents.

W. H. MURRAY—Eastern States.
M. B. STARR—Pacific Coast.
THOS. POYZER—California.
WM. J. CLARK—California.
S. H. HERRING—California.
L. P. MCCARTY—California.
E. P. HICKS—California.
A. C. KNOX, City Soliciting and Collecting Agent.

SUBSCRIBERS should send former address, when ordering the paper sent to a new place. Returning a newspaper, or blank slip, WITHOUT the name and residence of the subscriber is a thoughtless act, and useless both to subscribe and publisher.

**Thursday Noon** our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

**Readers** addressing parties on business, from information given in this journal, will confer a favor by stating the source of their information.

## Beauty.

The largest collection of beauty ever published in the United States is afforded in the Parlor Album, advertised in another column. This Album embraces the finest specimens of chromo lithographs, steel engravings and fine wood engravings ever afforded the public. The American Publishing Company of Rutland, Vt., desire an active agent in every town and village, to whom they offer liberal terms. Read the advertisement of PARLOR ALBUM.

**Go to the Best.**—Young and middle-aged men should remember that the PACIFIC BUSINESS COLLEGE is the oldest and most popular and successful Business Training School on this coast. Upwards of Three Thousand Students have attended during the past six years, many of whom now hold prominent positions in the first banking and mercantile houses of this city. This is the MODEL TRAINING SCHOOL FOR BUSINESS on this coast, having the greatest corps of Professors and Teachers, and the greatest number of students in attendance, of any institution of the kind. Young men flock to this College from all parts of the Pacific States and Territories, British Columbia, Mexico, Sandwich Islands and South America. We shall be pleased to send our College Circular, giving full information, to all who send us their address. When you write, mention that you saw this notice in the PACIFIC RURAL PRESS.
M. K. LAUDEN, President, San Francisco, Cal.

A FLORENCE SEWING MACHINE, but slightly used, and good as new, for sale at 10 per cent. less than its cost—$67.50. Part of the money may be paid in installments by a person who gives good recommendations—in the city, or in the country near San Francisco. To be seen at this office. apl-bp-tf

EVERY MECHANIC should read and familarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, $1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

CAL. FILE MANUFACTURING CO., 437 Brannan street, are now making Reaper and Mower Sections; also, Knives complete, suitable for all Machinery. Prices greatly reduced.

TREVIS & WAGNER, 41 First St.-Mill Stones, Bolting Cloths and general Mill Furnishing, Portable Mills of all sizes from 16 to 36 in. None superior manf'd for farmers & ranchmen.

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**San Joaquin Valley Ag'l. Society.**—OFFICERS; President, J. K. Doak; Vice Presidents, Geo. S. Ladd, John Tuohy; Secretary; H. T. Comptou; Directors, James C. Gage, George West.

**Upper Sacramento Agricultural Society.**—OFFICERS—President, Harman Bay; Secretary, E. Hallet.

**Bay District Horticultural Society, of Cal.**, S. F.—OFFICERS: H. N. Bolander, Prest.; E. L. Reimer, V. P.; F. A. Miller, Sec.; R. Turnbull, C. Schumau and F. A. Hering, Trustees.

**Contra Costa Co. Agricultural Society.**—OFFICERS: Geo. P. Loucks, Prest., Pacheco; Henry Shuey, V. P., Lafayette; R. R. Brock, Sec., Martinez; S. W Johnson, Treasurer, Pacheco; G. W. Bryant, R. G. Davis, Directors, Pacheco.

**Santa Clara Valley Ag. Society.**—OFFICERS: President, William C. Wilson; Vice Presidents, Cary Peebles, Chas. B. Polhemis; Directors, James P. Sargent, Wm. O. Donnell; Treasurer, M. Schalleuberger; Secretary, Tyler Beach.

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The only really useful and practical

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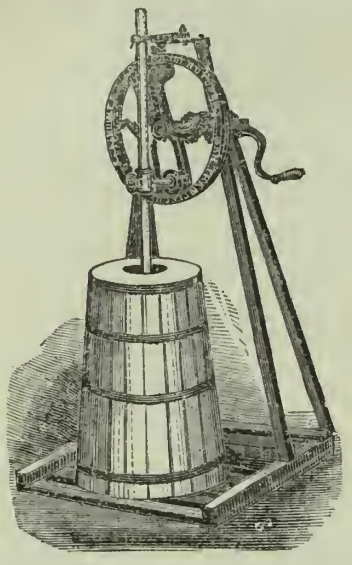
Ever Offered to the Public.

The old style of DASHER CHURN always had the preference over all others, and with this simple and



practical attachment, now stands WITHOUT A RIVAL. At the East it is rapidly taking the place of the

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and its sales are enormous. Having bought the

**Right for this Coast,**

we are now prepared to furnish either large or small

CHURNS AND CASTINGS

as may be desired. We manufacture six different sizes of churns and the small casting can be applied to the three smaller sizes, and the large one with the frame and balance wheel to the three larger ones.

## WE CHALLENGE COMPETITION

in this churn and invite any one needing a GOOD churn to examine and try this one before purchasing elsewhere.

The gearing is all simple, leaving nothing to get out of order; the dasher is easily removed by simply opening or removing the guide holding it in its place, leaving the churn

ENTIRELY CLEAR OF ANY OBSTACLE.

In fact, it is the only churn that ever has been offered which IS ENTIRELY

FREE FROM ANY OBJECTION,

and we offer it as the

## Best Churn in Existence.

| | | | | |
|---|---|---|---|---|
| No. 1 | Churn | holds | 2 | gallons; |
| 2 | do | do | 3 | do |
| 3 | do | do | 6 | do |
| 4 | do | do | 8 | do |
| 5 | do | do | 13 | do |
| 6 | do | do | 22 | do |

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This device is just what its name indicates. As a KITCHEN TOOL it is indispensible. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

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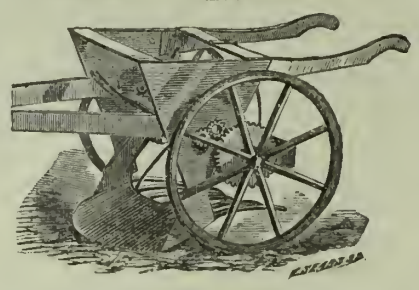
We ask special attention to this practical and useful invention. Nearly every farmer has felt the want of a machine to dig potatoes. This new invention fully supplies that want. The machine being made entirely of iron and steel, will last longer than the farmer who buys it. It is operated by a man and one or two horses, and digs one row at a time. The shovel part of the digger enters under the potatoes and raises them on to the fingers in the rear, where the dirt falls through and the potatoes roll back on to the surface of the ground. The machine is prevented from clogging by a reel which revolves above the fingers and carries through the potato vines, weeds, etc. A complete model can be seen in our office. Full particulars in regard to Machines or Rights furnished on application.



### P. Davis' Wire and Picket Fence.

Although about two hundred different styles of fences have been invented and patented in the United States within the past ten years, yet this Fence, for GENERAL FARM USE, stands at the head of the list. This is a Virginia invention, and the actual cost of the Fence complete in that State is less than fifty cents per rod. Three men can put up six hundred yards per day. You men who are idle, why hang about the city talking hard times when you can make from five to eight dollars per day building this Fence? We will make a present of ONE FARM RIGHT in each county on the Pacific Coast to farmers who will erect one hundred rods of the fence in good style within thirty days after the privilege is granted. We wish to employ several working men to travel in this State and Oregon. Price of territory, and circular with full description of fence sent on application.

### New Gas Light.

This Light takes the place of the Candle, the Kerosene Lamp and Coal Gas. Each Lamp is a perfect Gas Factory, making its own gas as fast as it is required. It is a safe, cheap and beautiful light. Circulars and full particulars sent on application.

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The best machine to *Clean Grain* in the world. Prices reduced. Send for descriptive circular and price list. County Rights for sale.

### For Sale.

We have for sale the right to the Pacific Coast for the safest, cheapest, most compact and simple Engine and Hoisting Machinery for mining and other purposes ever invented. Although new, it has been thoroughly tested, and we have strong testimonials in its favor from many of the most substantial men of the East.

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### New England Spring Bed.

The cheapest and best in the market. Rights for sale and beds at cost. Send for descriptive circular.

### Tarbox's Combination Stencil Alphabet.

By the use of this ingenious device, ANY NAME OR NUMBER can be marked well and perfectly, thus saving the necessity of having a number of different plates. The exclusive right to sell said invention in California, and also a small stock of Plates, for sale at a low price. Send for Circular, or call and examine the Plates.

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This machine will roast one quart or half a bushel of nuts at once. All that is required is to wind it up and fill with nuts. It roasts evenly and perfectly and will keep nuts warm a whole day and not burn them. The Patent Right to any town or city in the States of California and Oregon, and Washington Territory.

A sample machine furnished to each purchaser. ap1-tf-r

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Patented May 17, 1870.

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*Warranted to make Butter in from Three to Five Minutes.*

It is self-cleaning, requires no scrubbing.

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EVER MADE ON

## SEWING MACHINES

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We, the undersigned, practicing physicians of San Francisco, having examined and witnessed the operation of

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The peculiar feature of this new Treadle is that the Foot-board is made Adjustable, both Vertically and Longitudinally, so that whatever the size or shape of the foot or shoe, the True Center of Motion of the Foot may Always be Brought to Coincide with the Center of Motion of the Treadle, and held there, thus Permitting the Feet to Move on their Natural Centers Without Having First to Overcome the Inertia and Weight of the Heavier Limbs.

In our opinion it possesses the following important advantages over the ordinary Treadle:

First—It saves the excessive labor and waste of power consumed in keeping up the rapidly alternating motion of the lower limbs and body whenever the machine is run with any speed.

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By the general adoption of this Treadle we believe the only serious objection to the foot-power sewing machine will be removed, and that so far from being prejudicial to the health of the operator, its use will prove as harmless and positively beneficial as other physical exercise, tending directly to develop the muscles of the calf of the leg, strengthen the ankle, restore the elasticity of the foot, and promote circulation in the extremities.

Signed,

H. H. TOLAND, M. D.,
President Toland Medical College.
G. HOLLAND, M. D.
H. H. HUBBARD, M. D.
J. CAMPBELL SHORB, M. D.,
Ex-Professor Physiology Toland Medical College.
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Health Officer,
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L. J. HENRY, M. D.,
WM. F. HALE, M. D.,
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President Medical Society of City and County of San Francisco.
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Professor of Obstetrics Toland Medical College.
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Emeritus Professor of Physiology, University of the Pacific.
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ap15-1m S. M. MOUSER, M. D.

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Our large and splendid collection of

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we deem worthy of special mention. These include 2000 Chestnuts, 1, 2 and 3 years old. 5000 Pecan Nut, 1 2 and 3 years old; Wood very valuable for timber. Butternut, 1 and 2 years old. States Black Walnut, 1 and 2 years old. California Black Walnut, 1, 2 and 3 years old. Hickory Nut. English Walnut, 1, and 2 years old. Sweet Almond. Soft Shell Almond. Paper Shell Almond, etc.

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GRAPES,
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Our stock of Vines, Plants, Shrubs, Flowers, etc., is much the Largest and Best ever offered by this well known establishment.

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**60,000** Roots or cuttings of the above valuable Plant—raised in California—for sale by the undersigned, where all necessary information in regard to its cultivation will be given.

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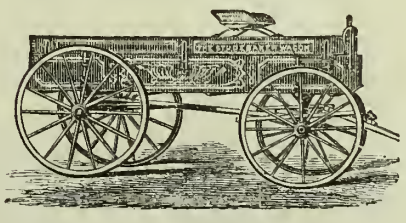
## THE STUDEBAKER



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THE BEST TRUCK WAGON;
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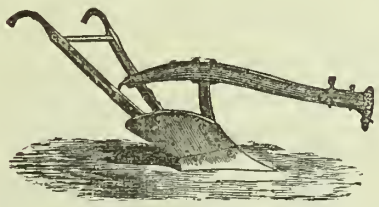

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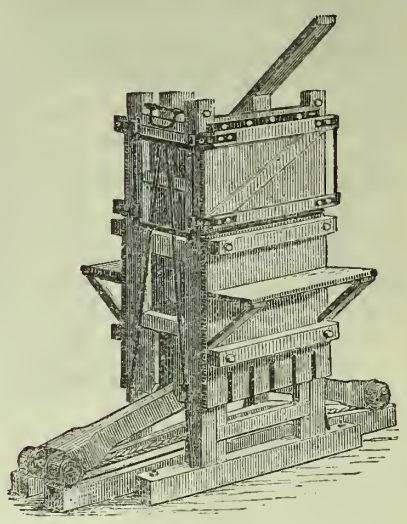

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### Eagle Hay Press,

THE INVENTION OF J. A. McGILLIVRAL, OF ILLINOIS, TO WHOM LETTERS PATENT WERE ISSUED JANUARY 10TH, 1865, AND JULY 24TH, 1866.

Several years were devoted by the patentee to the perfection of this powerful press, and its unprecedented sale in the East induces the proprietors to introduce it into California and the Pacific States.

All who have seen or used these Presses pronounce them superior to anything used heretofore. The power is applied by means of two levers, and it will be seen the power increases in ratio to the resistance; as the levers approach a horizontal position the power can scarcely be estimated. It is not only a powerful Press, but has the advantage of being Cheap, and also Simple, therefore not liable to get out of order.

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These Presses are now manufactured in San Francisco by the

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Every Press made by them is WARRANTED to give perfect satisfaction.

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Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

Manufactory—123 Front street, near corner of M, Sacramento; and at 1124 Market street, San Francisco. These beds can also be obtained of our agents in nearly every town in the State.

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PUBLISHERS SAN FRANCISCO
A FIRST CLASS
Agricultural Home Journal.

Is issued weekly on Saturdays, containing sixteen pages devoted to

**Agriculture, Horticulture, Stock Raising, Domestic Economy, Home Manufactures Mechanics, Industries, etc.**

With an able and ample corps of editors, special contributors and correspondents, we publish a liberal variety of articles, entertaining as well as instructive, which not only make the RURAL PRESS an able assistant to its patrons, but an attractive and welcome visitor to every reader in every intelligent

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for few there are—male or female—who will not find pleasure and ennoblement in the study of progressive farming and gardening.

Honest, intelligent and correct information is faithfully given, in behalf of, and urging

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are given weekly to lessen the labors the of farm, the household and the shop, and add to the health, the wealth and the wisdom of every patron of industry.

## How to Farm in the Pacific States.

As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxiliary and modifying instructions.

The following are among the specialties upon which the PACIFIC RURAL PRESS will treat:

Silk, Cotton and Sugar Beet Culture; Nurseries, Orchards, Tropical and small Fruits; Steam-plowing, seeding and harvesting for large tracts; Reclamation of swamp and unproductive lands; Hill and mountain farming; Grape growing; Fig, Raisin and Fruit drying; Irrigation; Lessons and Lectures on the chemistry of growing crops and on fertilizing lands; Practical Farming vs. Speculation; Taxation of unimproved lands; Railroads and improved transportation for crops and the better class of immigrants; Farmer's Clubs, lectures and associations; Co-operation in farming, mechanism, manufacturing and other industries; Government lands for settlers whether sold by R. R. operators or the U. S.; Reliable wholesale and retail market reports; Brief notices of Mechanical and Scientific Progress; Instructions for regular and farmer mechanics; Household Reading; Health and domestic receipts; a sprinkling of sprightly reading; Life thoughts; Poetry, condensed stories, items of news, etc., will be given.

*No editorials or selections of unchaste or doubtful influence; or lottery, quack or other disreputable advertisements, will be admitted into its columns.*

A select variety of advertisements only will be inserted. Circulated widely among the most thrifty of our population, the P. R. P. will be the cheapest and most effective medium for a large range of first class advertisements in the Pacific states.

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**DEWEY & Co.,**

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### The Most Economical as well as the Most Reliable,

And that the Waltham Watch is the Cheapest as well as the Best.

Many new varieties of movements have been added during the last year, all of which display the Latest Improvements in design and finish, and evince the rapid progress the Company is making toward perfection in the art. Among these the new small size Watch, for Boys and young gentlemen, is to be specially noted. A very low price has been made for this Watch because it is a boy's watch, and with the object of bringing it within the means of boys of all classes. Price being considered,

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Has ever, in any country, been produced.

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### The Company Challenges all Manufacturers of all Countries

To beat or equal for its price. It is made with all the latest improvements in every part—improvements which IMPROVE—and which not only make it better for its purposes as a timekeeper, but will make it the great favorite with Watchmakers. This, the highest grade of full plate Watches made in this country, in size and appearance, in finish, and general excellence, is especially intended for and recommended to business men, and in particular to Railway and Expressmen, to constant travelers—in fact, to all live men who must be told by their Watches the correct time of day whenever they want it. All such men should have the

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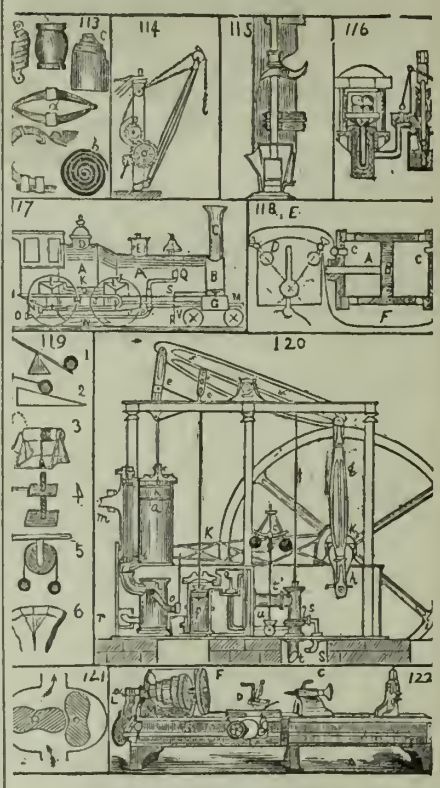
Dewey & Co., U. S. and Foreign Patent Solicitors and Counsellors, Scientific Press Office. Principal Agency in the Pacific States. Established 1860.



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Descriptions of New Plants, Fruits, etc.

Reports of all important Metropolitan and Provincial Exhibitions, Societies, Lectures, etc., likely to be interesting to the Horticulturist or Agriculturist.

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Home Correspondence, containing a vast amount of varied and interesting information.

Reviews of Books, English and Foreign, whose subjects come within the scope of the Journal.

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A Correct Synopsis of Turf Events in the United States, embracing

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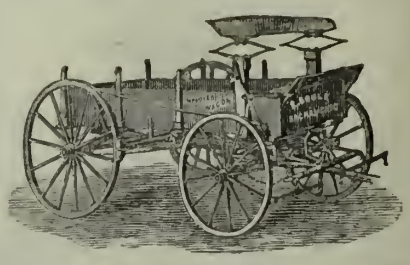
Poultry Yard N. W. cor. 16th and Castro Sts., OAKLAND.



FIRST PREMIUM AWARDED at the State Fair, 1870, for the best Farm Wagon: also for the best improved Thimble Skein. All kinds of Wagons on hand and made to order, of the Best Eastern Material, and Warranted to give satisfaction.

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PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, APRIL 29, 1871. [Number 17.

## A New Roller Skate.

The introduction of roller skating upon this coast has created an excitement in almost every hamlet and village in the country, which is unequalled since the days of the short-lived velocipede; but unlike the velocipede, the skating mania "holds out to burn," and the probability is that it will hereafter be one of our permanent sports. It is certainly a pleasant one, and besides the pleasure it has the advantage of being a healthful exercise. With persons living in a cold climate, ice skating is the winter exercise, but the season of ice is limited, and consequently the skates must be hung up to await another winter's ice. The present style of skating, however, can be enjoyed in all seasons and at all times, the only necessity being a good smooth floor, in lieu of ice.

Roller skating is no new invention. The old parlor skate, which was constructed with several rollers placed in line under a foot-block, was extensively used many years ago, but not until the skate was constructed so as to carry the skater in curves in either direction, by the movement of his body, did this kind of skating amount to much.

As an exercise, skating is unequalled. Fat men skate to get lean, and lean men skate to get fat, and for all that we know to the contrary, both are successful. The exercise is graceful, and the gliding sensation pleasant—that is, after one has learned to glide, which consummation is arrived at only after sundry and awkward attempts, often resulting in seeing stars in the ceiling.

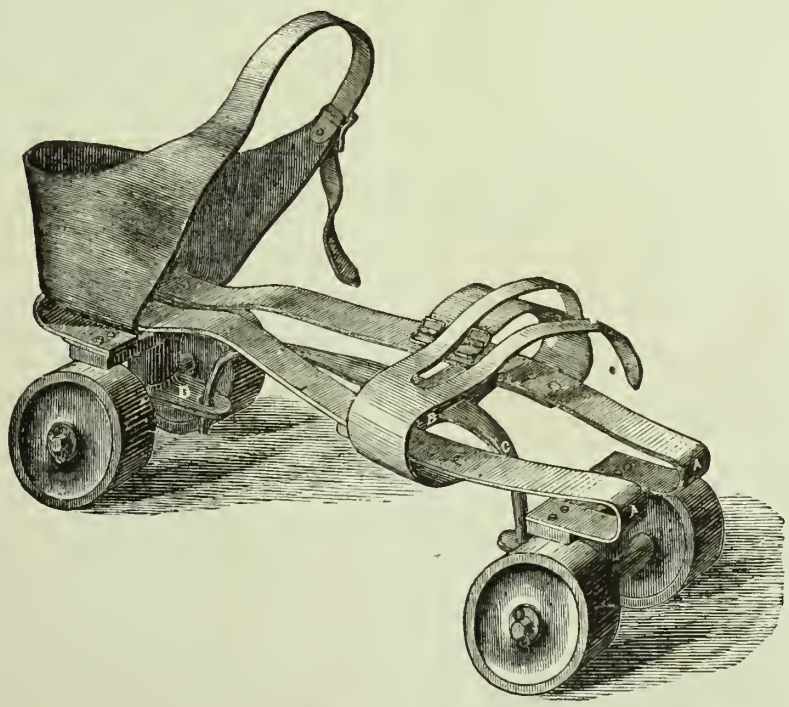
The illustration presented herewith represents a new and improved style of roller skate, which is known as the C-spring skate. This skate has no foot-block, but instead has two longitudinal steel springs, *A*, *A*, one passing along at each side of the foot, so as to act as a foot-support and at the same time serve as a means of cramping the rollers to the position to run the skate in a curve. These springs are united together by a cross-bar, *B*, which is directly below the ball of the foot, and a curved metal bar, *C*, extends from this bar to rudders, *D*, which form a part of the axles, so that as either spring is depressed, the curved bar, *C*, shifts the rudders so as to cramp the rollers.

The skater stands upon the springs which are strapped to his feet, and by simply leaning his weight to either side, he cramps the rollers and makes the curve.

In putting this skate together, nothing but rivets are used, so that it is almost impossible to break or otherwise get them out of order.

This skate will be more especially useful where the skating floor is uneven, on account of the elasticity of the foot-support, upon the same principle that it is more pleasant to ride in a spring carriage than in a lumber wagon.

A patent for this skate has been granted, through the Scientific Press Patent Agency, to Mr. John L. Boone, of this city, covering the employment of longitudinal side springs as a foot-support, and as a means of cramping the rollers, and to him all letters should be addressed. City, County, State and Rink rights for sale. All rights are guaranteed to be no infringement upon any existing patent.



BOONE'S IMPROVED ROLLER SKATE.

## California State Fair for 1871.

The State Fair for this year commences at Sacramento on the 18th, and ends on the 23d of September. The Board of Agriculture are determined that no exertions on their part shall be wanting to make it in every department worthy of the State. The premium list has already been issued and extensively distributed. It will be found in the advertising columns of to-day's Rural. We shall publish it once a month until the time of the Fair, so that all our present readers, and all the additional subscribers of the Rural before that time, will be furnished with their list.

We have been exceedingly gratified with the liberal support extended to us from the very commencement of our enterprise by the farmers, horticulturists, mechanics and business men, as individuals, and now we may be pardoned if we feel a little pride of the compliment paid us by the State Agricultural Society, which is the representation of all the industrial classes. This compliment assures us that our efforts to serve the material industries of the State and coast are recognized and appreciated, and it gives us occasion to say that we are constantly increasing our facilities for rendering the Rural more and more acceptable and valuable to our numerous and appreciative readers.

The premium list is a great improvement over any that has heretofore been issued by the Society, and decidedly more liberal than the average of premium lists offered by other States.

Over $20,000 cash is offered in specific premiums, and under the clause, that "liberal premiums, will be given for all worthy articles exhibited not named in the list," this sum is largely increased. The Society will keep this promise good, so that any parties who may have any articles they consider worthy are invited to exhibit, and will be awarded just as valuable a premium if found worthy, as if a premium had been specially named for it. This clause will cover all new inventions and discoveries made after the issuance of the list and before the Fair, and is a direct encouragement to inventors.

We congratulate the mechanics of the State that the highest premium affixed in the entire list is in the Mechanical Department; and we extend equal congratulations to the agriculturists that that premium is offered for an agricultural machine—$200 for the steam plow. The premiums for plows are numerous and liberal, and will be more specially noticed in our next issue.

The next highest premium is a silver pitcher worth $150 for the best stallion of any age. There are five $100 cash premiums, one for the best mare of any age; one for the best bull; one for the best thoroughbred sire with not less than ten of his colts; one for the best herd of cattle of any one breed, not less than ten, owned by any one person; and one for the best general display of fruit, embracing best and greatest varieties. In the department of fruits there are three $40-cash premiums, one for apples, one for pears, and one for grapes. In the same department there are seven $20-cash premiums, and ten $10-cash premiums. The fine arts are well cared for in the list, there being four $50 and four $20-cash premiums offered in this department, besides many smaller cash premuims, and a large number of diplomas. In the floral exhibition, $100 is divided into three premiums:—For best miniature flower garden; for best display of cut, and for the best display of growing flowers. A very large number of premiums is offered for vegetables, the largest being $50 for the best and greatest variety of vegetables raised by any one exhibitor.

For the exhibition of wines of different kinds, $200 is appropriated, and $60 for sugars made of beets, cane and melons; $50 is offered for the best exhibition of the silk business, and $50 for the greatest number of useful forest trees planted during the year in permanent plantation.

For the best exhibitions of wooden ware, $50 will be given, and $20 each for the best grand, square and boudoir pianos; $50 each for the best display of woolen and cotton goods, and $20 for the best five yards of silk cloth, is offered; $50 is proposed for the display of agricultural machinery; $50 for the best hearse; $50 for the best steam engine, and $50 for the best exhibition of general machinery. For the best two-horse family carriage $30 will be given; for the best one-horse $25, and $20 for the best buggy, $15 for the best farm wagon, and $15 for the best trotting wagon.

We have named the above premiums to show the fairness with which all classes of exhibitors are treated in the distribution of favors. No industry has been overlooked, and none can complain of a want of due consideration.

## Successful Irrigation.

The Woodland Ditch Company are irrigating the grain fields along the line of their ditches, at the rate of five hundred acres a day. They had, up to the 22 inst., irrigated over five thousand acres of grain, and that to which the water was first applied was looking well and gave promise of a good yield. It is now believed that nearly all the grain irrigated by this company will produce a fair average crop. The same grain without such irrigation would have been an almost total failure. It is said that twenty-five thousand acres could have been irrigated by the ditches of this company, if they had commenced in season. The cost to the farms for the water is about $4 per acre, and the grain will probably be worth from $25 to $30. It is believed by many that winter irrigation will pay even in all seasons. It is stated that the increase of grain even in wet seasons is at least 20 per cent. on land well irrigated in the fall or winter before sowing.

Gypsum.—The Contra Costa *Gazette*, whose advice it is generally safe to follow, suggests that farmers should experiment with gypsum, in a limited way, upon their grass, grain, vines and vegetables. Its quality of absorbing moisture and gases from the atmosphere is well known; it seems also to have a peculiar power for giving them off to the crop or plant to which it is applied. There is very good reason to believe that its irriguous and fertilizing qualities might be made of much service to crops subjected to or threatened with drouth.

## MECHANICAL PROGRESS.

A POWERFUL PUMP.—At the Glen Carbon Colliery, near Pottsville, Pa., is a pump of recent invention, which is thus described by the *U. S. Railroad Register* of April 8th: "There is a cast-iron pipe eight inches in diameter and three hundred feet long, cast in longitudinal sections and bolted together, each section being six feet in length. In the intervals between these sections are shorter sections, one foot long, constructed in the same manner, with bearings supporting a shaft made of steel, one and three-fourths inches in diameter, extending the entire length of the pipe. Mounted on this shaft, at intervals of three feet, are screw propellers, with two blades seven and a half inches in diameter, with an angular pitch of sixty-five degrees, and revolving with the shaft. Midway between these propellers, and attached to the walls of the pipe, are wings or blades of the same pitch and form as the blades of the propellers, but of a reverse angle. At the lower end of the elevator is a basket or guard of cast-iron to prevent stones, coal or other obstructions from passing into the pipe. The toy of the elevator has a spout or nozzle to direct the stream of water as it passes out, above which is a novel and ingenious contrivance to support the weight of the shaft, with its propellers and the column of water. There is a disc sixteen inches in diameter secured permanently to the top of the pipe, upon which rests a ring of brass twelve inches in diameter, on top of which is another disc fourteen inches, embracing the outer periphery of the brass ring. This upper disc is permanently secured to the propeller shaft. By means of a small donkey-pump water is forced between the two discs under sufficient pressure to slightly separate them, so that the top disc, propeller shaft, and column of water are supported by the film of water between them, and thus the rotation of the propeller shaft revolving on the water causes only a very small amount of friction. The donkey-pump receives the water from a small tank, and any surplus water forced between the discs raises the ring of brass, and is discharged back into the same tank. The propeller shaft is revolved by a wire rope passing around a groove pulley above the upper disc, and driven by a steam engine. * * We found by the indicator that the volume of water passed through was ten thousand and ninety-eight gallons per minute."

A NEW THING IN WEAVING.—The *Bureau* is enthusiastic in the description of a new loom which it says will revolutionize the business of weaving. We quote: "The inventor is a Mr. Abel, of Vermont, and he calls his new machine the Weft-Thread Loom. We have studied its construction and operations, and can say to the more than seven hundred woolen manufacturers whom we address by our journal, that it is a most remarkable invention, and has imperative claims upon their attention. One fact alone will demonstrate this. A first-class Crompton loom will weave thirty yards of cloth a day. A machine of the weft-thread pattern of the same class, will produce, of equally good fabric, *three hundred yards daily!* The Abel loom is simple in construction, and can be made of any size required. For cloth of ordinary width, the extreme dimensions are five feet by six, or thereabouts. The movement is easy—a lad of fifteen being able, by a crank attachment, to supply power for several machines. It makes no more noise than a Wheeler & Wilson sewing machine, and runs as easily. Its motion is that of knitting and weaving combined. The yarn is taken direct from the bobbins, which are placed in a semi-circular form, close up to and forming part of the frame of the loom. On these bobbins the yarn is wound with ease and speed, on a machine invented for the purpose by Mr. Abel. There is no dressing, beaming, spooling, or warping; no use for harness, reed, or shuttle. The warp or filling runs in from the same bobbin as the weft-threads, and the product of thirty yards per hour is so firm, strong and stocky, that it is almost impossible to rend it, and it cannot ravel; while in smooth, even surface it is the equal of any cloth we have seen made. To these advantages it adds that of economy in the saving of waste, to the extent of at least fifty per cent. over any other loom in use. Its simplicity of construction will make its repairs easy and of slight cost. With these advantages, the machine weaves also every variety of pattern in plain, fancy, ribbed and striped goods, and uses any material in silk, cotton, flax or jute as well as of wool. In fact, the range of its production is from the coarse gunny cloth for cotton bales, to the most elegant cloths of our mills, East or West."

NEW WATER METER.—Fred. E. Bodkin, in a paper recently read before the Society of Arts, in London, upon the subject of "Water Meters," thus describes a new invention by Messrs. Cook and Watson:—"It consists of an upper plate, indented on the under side with a ring of thumb holes, and riding loosely in a chamber over a lower plate, through which inclined inlet holes are bored. The water rises through these holes, raises the upper disc, and, acting against the square ends of the thumb holes, causes it to rotate at the same time. This action, of course, requires some small power to commence, but as soon as the upper plate is lifted it must also necessarily rotate. When the supply ceases the upper plate falls, and forms a tight valve against the return of the water; and since, during its period of revolution, this plate floats in a film of incoming water, there are no wearing surfaces involved in the machine. Small stays are placed on the upper surface of the revolving plate, in order to produce regularity of motion under varying pressures, and appear, from the specimens I have at different times been enabled to test, to do so with complete success. These machines are not expensive, and offer but small opposition to the flow of liquid, and certainly appear to be the simplest and most practicable form of high-pressure meter yet invented."

PITTSBURGH MANUFACTURES.—"From a careful compilation of the statistics contained in the forthcoming census report, it is found that the cities of Pittsburgh and Alleghany, with their immediate suburbs, have a total of one thousand five hundred and fifty-seven manufactories of various kinds. Of these, the larger number are engaged in the production of iron or steel work, and in these branches a capital of $26,692,686 is invested; the annual consumption of raw material amounting to $14,734,883, and the value of the product being $36,328,711. These establishments give employment to 15,541 hands. * * The entire manufacturing industries of the two cites represent a total capital of $53,439,650, employ 33,635 hands, pay $17,434,566 in wages annually, consume raw materials to the amount of $35,338,099, and produce annually to the amount of $78,239,933."—*Iron Age, April 13th.*

THE PERFECTION OF MODERN TOOLS.—"Not fifty years since, it was a matter of the utmost difficulty to set an engine to work, and sometimes of equal difficulty to keep it going. Though fitted by competent workmen, it often would not go at all. Then the foreman of the factory at which it was made was sent for, and he would almost live beside the engine for a month or more; and after easing her here and screwing her up there, putting in a new part and altering an old one, packing the piston and tightening the valves, the machine would at length be got to work. Now, the case is altogether different. The perfection of modern machine tools is such that the utmost possible precision is secured, and the mechanical engineer can calculate on a degree of exactitude that does not admit of a deviation beyond a thousandth part of an inch. When the powerful oscillating engines of the *Warrior* were put on board that ship, the parts, consisting of some 5,000 separate pieces, were brought from the different workshops of the Messrs. Penn & Sons, where they had been made by workmen who knew not the places they were to occupy, and fitted together with such precision that so soon as the steam was raised and let into the cylinders the immense machine began as if to breathe and move like a living creature, stretching its huge arms like a new-born giant, and then, after practicing its strength a little, and proving its soundness in body and limb, it started off with the power of above a thousand horses to try its strength in breasting the billows of the North Sea."—*Smiles on "Iron Workers and Tool Makers."*

CUTTING GLASS BY THE BLOWPIPE FLAME.—At a recent meeting of the Albany Institute, a member exhibited specimens of glass cutting by the use of the blowpipe, which is specially adapted to cutting tubes. The cutting is done by directing the point of the blue flame against the side of the tube. Instantly, a small check or crack is formed, which may then be led in any direction by directing the point of flame to the part to be cut.

## SCIENTIFIC PROGRESS.

MORE OF ERICSSON ON SOLAR HEAT.—*Engineering* for March 17th has an article by Capt. E., showing that his calculations in regard to the temperature of the sun, based upon the indications furnished by his solar pyrometer, are corroborated by those based upon the indications furnished by an incandescent spherical radiator: although in the solar pyrometer, the radiator is only at boiling heat. We must omit the demonstration, but we quote a paragraph or two of the article: "Objections have, not unreasonably, been raised against my solar pyrometer on account of the low temperature employed. It is contended that unless the radiator is raised to the temperature of incandescence emitting luminous rays, the radiant heat transmitted to the focus will not furnish a true indication for determining the temperature of distant incandescent bodies. Numerous experiments, however, show that, relatively, there is no appreciable difference between the energy of the dark heat rays emanating from a metallic radiator of low temperature presenting a thoroughly disintegrated, or a blackened surface, and the energy of heat rays accompanied by a light, emanating from an incandescent metallic radiator. The temperature transmitted by the radiant heat to the focus is, in such case, directly proportional to the temperature of the radiant surface. Indeed, an air thermometer placed in the focus of a concave spherical radiator of ice, and surrounded with very cold substances, say 100° below zero, will furnish an indication by which the temperature of distant incandescent bodies may be ascertained with as much certainty as by employing a radiator heated to such a degree as to emit luminous rays. It scarcely needs explanation that my reason for constructing the solar pyrometer with a radiator kept at the low temperatures of boiling water, is that of admitting of operating within a vacuum, besides rendering it possible to measure the temperature with positive exactness. * * It is specially worthy of notice that the result of the experiment with the incandescent radiator corroborates the fact established by the solar pyrometer, that while gravitating energy depends on volume multiplied by density, radiant energy depends on area multiplied by temperature; both obeying the same law in traversing space, viz., diminishing in the inverse ratio of the square of the distances. In view of the foregoing statements and the demonstrations contained in previous articles on the subject of radiant heat, the correctness of our calculations fixing the sun's temperature at not less than 4,060,000° Fahr., cannot be controverted."

CHANGES IN WEIGHT BY OXIDATION AND REDUCTION.—Julius Thomsen shows these by the following lecture experiment: Cupric oxide is mixed with gum-water to a stiff paste and formed into cylinders, flattened on their sides, about a centimeter in diameter and three centimeters long. These are then dried, ignited, and reduced by hydrogen at the lowest temperature possible. A cylinder of metallic copper is thus obtained, very porous but sufficiently coherent to retain its form. These are wound with platinum wire, the two ends of which are melted into glass tubes by which they are handled. Two small tubulated glass bells are filled, the one with hydrogen, mouth downward, the other with oxygen, mouth upward, by displacement, the gases being allowed to flow slowly into them during the experiment. One of the copper cylinders is warmed to expel moisture, and immersed in the oxygen; it is raised at once to ignition and remains so until completely oxidized. It is then plunged into the bell-jar of hydrogen; it again begins to glow, the water formed runs down the side of the bell, and the cylinder is reduced to copper again. These combustions, the one in oxygen, the other in hydrogen, both evolving much light and heat, are very striking; and as the increase in weight of the cylinder by oxidation is almost a gram, it may be shown on an ordinary balance.—*Ber. Berl. Chem. Ges.*

EOZOÖN ONCE MORE.—Dr. Carpenter makes a final answer to Mr. T. Mellard Reade, in *Nature* for March 16th. We give the concluding paragraph: "Since I do not feel called upon to expend valuable time in giving to Mr. T. Mellard Reade the instruction which he requires to qualify him for discussing this question, I now leave him to the enjoyment of his own opinion. Whenever he shall have shown, by work of his own, his competence to criticise the observations of others who have made a special study of the subject he discussed, I shall be most happy to afford him the same opportunity of forming his judgment as to the organic nature of Eozoön, by an examination of my preparations, that I have given to the many eminent naturalists, who have thus fully satisfied themselves of the justice of my conclusions."

NUCLEI PROMOTE CRYSTALLIZATION.—the London *Standard* says: "The singular action of nuclei in promoting crystallization has long been known, but recent experiments by Mr. Chandler Roberts, chemist of the Mint, have imparted additional interest to the subject. Minute traces of lead, antimony, bismuth, or arsenic render the alloy of gold and copper known as "standard gold," crystalline, intensely brittle, and totally unfit for the purpose of coining. This remarkable effect is produced even when the amount of obnoxious metal does not exceed the 1-1900 part of the mass of standard gold."

THE REALITY OF SPECIES.—In a communication to *Nature* for March 30th, D. Sharp says that among the many misconceptions that have arisen in connection with the doctrine of evolution, is one that species have no real existence. We quote: "It cannot be too distinctly insisted on that natural selection opposes no barrier whatever to the reception of the idea of distinct and separate species. That which it has destroyed is the notion of the constancy of species if the idea of time be set on one side. To argue that species have at the present day no separate existence because they had formerly a common origin, is a foolish confusion. The separate existence of a full-grown and mature animal is not questioned, because at one time it was a bud closely connected with its parent. In point of fact the question of species is really very similar to that of individuality, viewed as a question of origin, the individual and the species are both untenable ideas; but viewed at any one moment, both individual and species are among the most prominent and undoubted facts of our experience. Equally futile is it to argue that species have no existence, because we cannot exactly define what we mean by a species. It is well known that all the efforts of biologists have hitherto failed to produce a satisfactory definition of life. Are we, then, to conclude there is no such thing as a living animal? The evolutionist contemplates throughout the universe a power underlying all things, indestructible and infinite, most various in its manifestations, always changing and always shifting, but steadily in a given direction, not revealed to man as a separate existence, but known only by its changes and movements, and veiled under the form of matter. Side by side with this universal and unknowable force he sees an opposing power, a tendency in things and matter to be always as they have been, a tendency which the restless force has ever to overcome; but as soon as this has gained its victory, again is it subject to the grasp of its ignoble foe; the struggle, though becoming ever more and more one of detail, is no spasmodic one, though more revealed to us in some phenomena than in others, and more evident at some moments than at others. The questions of the origin, the existence, and the value of species in such a system are easily appreciated."

ORIGIN OF DIAMONDS.—The following is from *The Academy*: "Professor Morris has started a new theory as the source whence diamonds are derived. Hitherto they have been looked upon as coming from igneous and metamorphic rocks, like garnets, rubies, and many other precious stones; a better knowledge of the geology of the diamond district of South Africa, leads us to conclude that these stones come from certain stratified beds containing, besides reptilian remains, numerous plants and much fossil wood. These beds are known as the "Karoo" or *Dicynodon* beds. Professor Morris calls to mind the remarkable fact (well known to botanists and mineralogists) that in the stems of the bamboo small crystals of quartz are found, known by the name of *tabasheer*; he suggests, whether it may not be possible that the diamonds yielded by these old plant beds similarly owe their origin to vegetable growth."

# CORRESPONDENCE.

## Notes of Travel in Marin County.

[Written for the PRESS.]

San Rafael, the county seat of this county, is situated on the northwest corner of San Francisco Bay, 14 miles from the city of San Francisco; 10¼ miles of this distance is made by steamer (to Point San Quentin), the remaining 3½ miles by railroad. Steamer fare, 50 cents; railroad fare, 25 cents. The town contains about 900 inhabitants, a prominent proportion of which are men of wealth, retired merchants of San Francisco. The valley in which this village is situated is about 10 miles long, and from 2 to 6 miles wide, and is considered the healthiest in the State. Until recently, one physician, Dr. Tolleferro, did the entire business of the county, including the State Prison containing an average of over 1,000 convicts all the time; he now has an assistant in the person of Dr. Du Bois, but their time is not all taken up, and is occupied principally upon diseases brought there. No fogs prevail here at any time of the year. The temperature for the spring and summer months does not vary over 15°, at any time. This place is accommodated with three hotels, and several fine boarding houses; of the former, the "Sheppard House" is just now undergoing repairs and receiving a complete new furniture out-fit. The "Tamalpais Hotel," completed last month, is one of the finest in the State. Of its exact size I am not posted, but it is about 60x80 feet, three stories high, of modern architecture. This house can comfortably accommodate from 75 to 100 persons. The furniture throughout is of heavy black walnut, the entire cost of which (including the dining room, silver and linen), cost upwards of $20,000. The hotel is lit throughout with "Maxim gas," which gives general satisfaction. Polite and attentive clerks and genial proprietor are in attendance. To those who can afford $1.50 per meal, it is one of the best places outside of the city to spend their money in.

The points of resort near this place are Tamalpais Mountain, the "red woods," trout fishing (the best found in the State 5 to 12 miles distant), also huckleberries in large quantities, found on the mountains between Tamalpais and Olema. At and near the latter named point exist the finest dairies; at least, the finest butter and cheese in this State are made here.

U. M. Gordon, Esq., capitalist, is now erecting a fine two-story brick building, 31x58 feet, at a cost of about $15,000, for the purpose of starting a private bank here, to be in operation by July 1st, this year.

Nelson & Co., and A. McLeod, are the principal carriage manufacturers. The latter employs regularly nine men.

J. B. Rice, Esq., whose office is situated at this place—San Rafael—is manufacturing by contract 2,000,000 bricks annually, and from that upwards. The brickyards are situated some six miles distant. Some 15 men are regularly employed. There are two livery stables here, the most prominent of which" the "Bay View" is kept by M. Murray, where the best of teams can be had at the cheapest rates.

A. D. Mailliard, of this place, is the owner of two of the finest stallions in the State, of which I give below a condensed pedigree of each. Young Eclipse is a dark bay horse, nine years old, 16½ hands high, by Imported Eclipse, out of Imported Barbarity, dam of Ruthless, Relentless and Remorseless. He combines the blood of Bay Middleton, Web, Waxy, Camel, Touchstone and Whalebone on both sides. Stallion Monday is a blood bay horse, seven years old, 15½ hands high, by Colton, out of the celebrated mare Mollie Jackson, by Vandal. He won the trial stakes at Jerome Park in 1866. In 1867, he won at Jerome Park, May 23d, a purse of $700; at Patterson, New Jersey June 4th, the "American Derby" with 33 entries, beating all competitors; 2 days later, the "Sequel Stakes," 2 miles in a canter, showing in all his races great speed and extraordinary bottom. Colton, his sire, was one of the fastest sons of Lexington, out of Topaz, by Glencoe, the dam of Austerlitz, Waterloo, Wagram, Lodi, Arcola.

Mollie Jackson's victory at Woodlawn, in 5:35½—5:34¾—5:28¾, with full weights for age, stands yet as the best three-mile race ever run in America.

Monday's grand-sire, Vandal, and his grand-dam, Topaz, being son and daughter of Imported Glencoe, unite in him to perfect the blood of that remarkable stallion. He is a perfect beauty.

Wm. T. Coleman, Esq., of your city, has invested at and near this vicinity (in lands alone) some $200,000. He now possesses about 2,500 acres of land here. I advise all who have not already, to pay San Rafael a visit. L. P. MC.

## Down the Coast.

EDITOR RURAL PRESS:—Thinking that you will have deemed me remiss in fulfilling a promise on my departure from your city, I take about the first opportunity which has occurred since my arrival at my new, and as I anticipated, my final home, of detailing some of the incidents of the journey, and a running commentary on the aspect of the country and its prospects.

I left San Francisco on one of Goodall & Nelson's steamers, that run weekly to Monterey, calling first at Santa Cruz, which has become a thriving, busy city. To those whom necessity or choice may induce to visit this county's noble bay, I can recommend this route, if free from sea-nausea, or if the disagreeable trial is calculated to be beneficial in future, as it is in many cases. The charge is only $5 and found, with meals of better quality than is usually provided by ocean-going steamers. We found general civilty and attention from the Captain to the cabin-boy, and markedly so on the part of Mr. Morton, the intelligent purser, and the mate, whose name we fail to remember.

Our eventual destination was Moss Landing, where we arrived about two hours after leaving Santa Cruz; but was prevented from leaving for some time, owing to a severe norther. Leaving Moss Landing, and traveling inland, we passed over a rich, low-lying country for four miles, at the termination of which we arrived at Castroville, a place of larger size and apparent prosperity, than might be anticipated. It is, however, the central point of an extensive and rich district where large quantities of butter, poultry and eggs are raised, and where large quantities of grain and potatoes are also grown and forwarded to your city. Flax, I am informed, has been introduced, and I saw a large acreage under mustard.

### The Country from Castroville to Salinas City,

A length of twelve miles, varies little from what has been described, and the same remark applies to the Salinas plains, lying southerly from that young city. The geographical features contain much the same as above noticed; but the physical character of the soil varies much, the former consisting of a blackish mould which, on approaching Salinas City, changes into a strong, almost adobe soil, which has produced heavy crops of wheat; but on which continuous cropping and a dry season evidenced their baleful influence. At this part of the Salinas Valley, the magnificent proportions of the "The Gavilan" display themselves with considerable effect; a prolongation of which at a lower level, closes the valley to the east for 50 or 60 miles; while the western side is formed by the range which divides the Salinas from the Carmel valley, forming on a small scale, a fair representation of the "Land of Canaan."

### The Climate

Along the course of the valley is colder and more foggy than would be anticipated, and somewhat over arid. It may be here mentioned that the recent providential rain which the RURAL PRESS of last week reports to have been two inches at your city, did not amount to half an inch with us, dwelling about 65 miles south of Salinas City. Moreover, its good effects were unfortunately neutralized by a three day's northern storm, while succeeding mornings and evenings have since not unfrequently afforded tantalizing hopes of pluvial relief, which the rising sun has so far dispersed, and is likely to continue to do so, unless we should be favored with stronger gales from southern quarters, and less violent northers. If some change does not take place soon, stock will fare badly in these southern districts. A change for the better is not quite hopeless yet, but is very doubtful. [The telegraph reports a good fall of rain there since.—EDS. RURAL.]

From your well wisher, RUSTICUS.
San Antonio, April 15th.

## The Donner Tragedy Once More.

### Reply to Mr. Reed.

In this regard I have very little to say. Have conscientionsly done what I believed my duty, and that, too, in the tenderest spirit of sympathy for the sufferers, and not intending to reflect severely on any one, I am content to know that, in the long run, truth and right will appear. Mr. Reed winces very sharply under a simple statement of truth; but strict justice in the historian would not have treated the subject quite so tenderly. All that he did afterward could never atone for what he neglected to do.

My informant was one of the general company, and traveled with, or near them, until the fatal mistake of attempting to cut a new road, when she and her companion pushed forward, getting over the mountains before the first heavy fall of snow. She was at Fort Sutter when the sufferers were brought in, and was in the habit of daily conversation with them and with the men who rescued them. She heard their stories when they first gushed forth from the heart in response to the look and words of sympathy. Was there not, then, a fair presumption that her account would be correct, especially when we consider her entire truthfulness and superior intelligence. No one who has ever seen her could doubt her word. Her character is, every way, above all suspicion. And as I know nothing of the facts myself I will briefly state what Mrs. C. gives me in reply to Mr. Reed.

"In the first place, I find truth so cunningly interwoven with falsehood it is difficult to separate them without making more words than the subject deserves.

"The assertion that we were in a state of starvation, made by Reed and McCutchen, is false. We had just killed a large ox; and besides, the bears had killed a fine cow, leaving part of her carcass behind. We had at the time five other oxen, which were driven to San Francis, and there sold. It would then have been absurd, though by no means disgraceful, as there seems to be an effort to represent, if we *had* fallen to eating dog; but at the same time we *had* killed one dog, on account of his howling so terribly. I made a mistake in regard to the name of the person who first came with Reed. It was not McCutchen, but another man. I am very forgetful of names.

"On my own personal knowledge I affirm that Reed and McCutchen were not out all night when they left our camp on their way over the mountains, nor did the two Indians leave their camp, as they assert, but ours. They (Reed and McCutchen) left a little before 9 o'clock in the morning and returned about sundown. We were greatly astonished at their return; and Mr. Curtis said if he had a wife and children in so perilous a condition he would have got through. This, no one can doubt, would have been practicable if the men had so determined, for it was the first snow; and Reed's objection that the provision they had was insufficient is of no weight, because the company might then have been brought over with much greater ease that when the passage was made in the heaviest depth of the winter snows. McCutchen says that '*no two men could have got through.*' But months afterwards, six men, with heavy packs on their backs, *did* get through; and what is the reason two could not have gone, and at that more favorable time?

"The incident of Mr. Breen's sickness was related to me by Mrs. Breen herself; and the account of Mr. Donner prefering her money to her life was given me by many witnesses. We gave the two travelers, Reed and McCutchen, all the aid we possibly could, socks, mittens, boots, etc., for which they have made but a poor return.

"The account of the altercation with Mr. Curtis about driving the cattle is generally false. We were behind, driving our cattle, and our mule got among theirs. We chose to keep behind, because Reed, the night before, had threatened to kill Mr. Curtis, for the reason that he would not submit to his overbearing behavior, and do the duty of a body servant. It is true that one of them struck Mr. Curtis with his *reata;* though, as it seemed, playfully. But when Mr. Curtis got out his pistols and loaded them, Mr. Reed found it convenient to take himself out of the way, and we saw no more of him till after arriving at Fort Sutter."

In conclusion I will just say, that they who are so ready to catch others had better mind how they are caught tripping.

FRANCES H. MCDOUGAL.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

### FOR THE WEEK ENDING APRIL 11TH.

FILTER.—James Brown, San Francisco, assignor to Ira D. Thompson, same place.

SEED-DRILLING MACHINE.—Oliver Hyde, Oakland, Cal.

DOVETAILING MACHINE.—David Pomeroy, San Francisco, Cal., assignor to Elander Heath, same place.

MACHINE FOR SAWING STAVES.—Assaria Rewrick, San Francisco, Cal.

FLY BRUSH.—David Shankland and Emerson B. Hopkinson, Nevada City, Cal.

AXLE-GAUGE.—Richard K. Vestal, Santa Cruz, Cal.

OIL RESERVOIR FOR AXLE-BOXES.—Ernest Von Jeinsen and James Munroe McDonald, San Francisco, Cal.

MANUFACTURE OF PNEUMATIC GAS FOR ILLUMINATING, ETC.—John W. Stow, San Francisco, Cal.

REISSUES.

WHEELBARROW FRAME.—Beckwith W. Tuthill, Oregon City, Oregon. Patent No. 110,698, dated January 3, 1871.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

ANKLE-BRACE.—J. S. Niswander, Oakland, Cal. This invention, for weak, sprained or diseased ankles, applicable also for the cure of club or misshapen feet, consists of properly formed metal plates, made to fit the foot, ankle and leg, and united by a concave or cup joint which fits over the ankle joint. This device can be worn either next to the skin or on the outside of the stocking, the boot or shoe concealing it from view. As an instrument for surgical assistance in reducing sprains and supporting weak or broken ankles, it is of great value, and being convenient to put on and not uncomfortable to wear, will be used by many who object to the ordinary splints.

HYDRAULIC NOZZLE.—H. Shaw, Nevada City, Cal. Mr. Shaw's nozzle, for hydraulic mining, is connected with a water-chamber or distributor, by means of a peculiar (C-shaped) pipe. It has several improvements in construction, especially in its interior, so that the water which is forced through it, will be delivered without the twist given to it when the ordinary nozzle is used. Again, it is connected with a novel arrangement for turning it in any direction, vertical or horizontal, as may be required. The entire machine is so constructed that it can be put together without the necessity of using bolts, rivets or screws, thus avoiding the necessity of transporting it in bulk, as it can be put together at the place where it is to be used by any person without need of other instrument than a hammer.

GRINDING MILL FOR ORES.—J. S. Niswander, Oakland, Cal. The object of this invention may be said to be two-fold,—to obviate the necessity of using iron grinding surfaces, and thus avoid the trouble of getting particles of iron into the ore; and to be able to use in the construction ordinary stones or quartz rock taken from the mine. On an iron disk, rock is laid with as even an upper or grinding surface as possible, the stones being laid close together and the interstices filled with smaller rocks or broken fragments. This layer is kept in place by a ring, hinged on one side and fastened at the other in any convenient manner, so that it can be clamped tightly around the bed. The muller consists of a circular rim or shell, with or without a cover, divided into several compartments, in which are placed loosely large stones such as may readily be picked up at any mine. The ore is fed in at the center. These are the principal points, in connection with which are several details of construction, rendering the machine more sensitive and efficient.

# Poultry Notes.

## Thoroughbred Poultry in Sonoma.

The out-look of Sonoma valley, and the fertility of its soil is scarcely excelled by any other; but it is distinguished above all others for its extensive vineyards and the superiority of its wines. The time is coming, no doubt, when the grape will be the chief production of this State. But no careful observer can fail to discover the special efforts being made by farmers to increase the variety and improve the quality of their stock, grain, grass, vegetables and fruits, as they are ascertained to be adapted to the soil and climates of different localities; but most of all, perhaps, because my taste is in that direction just now, I admired the rare assemblage of Thoroughbred Fowls of foreign variety on

### The Home Farm

in this valley, near Sonoma, belonging to the Morris brothers. If Mr. Pierce, of Solano, pays $5,000 for two Durham bulls one year old; and if Capt. Shillaber pays several hundred dollars for a pig when less than a year old, they are applauded and patronized by the people. All right; they make it pay, and the people are enriched thereby. But now, as the production of poultry and eggs is fast becoming one of the most important items of commerce on this coast, is not the man who will pay several hundred dollars to introduce a few thoroughbred chickens that will stock our villages and farms with the most beautiful, desirable, and profitable poultry in the world,—worthy of corresponding applause and reward from his fellow citizens?

I requested Mr. Morris to conduct me through the different apartments of his new chickendom. This he did with as much enthusiasm and business pride as Mr. Pierce or Mr. Shillaber does when they run over the pedigree of their Durham bulls and thoroughbred boars. It seems to be the case that all the young amateurs leading off in the various directions of agricultural reform, have bull, stud, boar, ram, rooster, fruit, silk, sugar, etc., "on the brain." This is just as it should be. Success in any given enterprise or reform demands a zealous energetic pride. If we would serve God or our country properly, we must be "zealous in business." We must let it enter into our brain-work, only we would respectfully caution the successful vine-growers on quite all these beautiful hill sides, to carefully avoid getting *too much* juice of the grape "on the brain," for we noticed in several instances that it had already began to "give its color" in their faces.

Mr. Morris has lately imported five distinct breeds of poultry, cooped in five separate apartments. First of all comes a trio of dark Brahams, imported one year since from J. C. Porter of Limerick, Ireland, now near three years old. The original cost of this trio in Ireland was $150. They have progeny from seven to eight months old. The light brahmas, now so common, are the favorite hen at present; but they bear no comparison with these dark brahmas, which are noted for extraordinary size; for their large eggs, and for their good qualities for the table. One dozen of their eggs will weigh equal to 1½ dozen common.

The Morris brothers will have about 50 chickens for sale about the first of August. This breed of fowls will stand at the head of the list with the public because they are large, healthy, prolific and delicious.

As the Pacific Rural Press designs to be honest with the people, in every department of agricultural commerce on this coast, it is right to say that neither the light or dark brahmas are a success in cold and foggy regions. In such places it might be advisable to cross the English white dorking with the Asiatic dark brahmas. It would, doubtless, make them more hardy and perhaps improve their quality for table use and laying eggs.

But after all, the pure white dorkings or some other breed, with a warm coat of feathers from the start, would thrive and pay best in cold and foggy localities. But in all localities where the climate is uniform, mild and free from fog, the pure dark brahmas will hold the pre-eminence in the market for the size of chickens, of eggs, and for flavor of meat.

The second yard contains the Golden Spangled Hamburgs, imported direct from John Bailey & Son, London. This trio of beauties cost $120 dollars. The Golden Spangled Hamburgs are distinguished from dark Brahmas for their non-setting qualities and fine plumage. As layers they are unsurpassed. Those who wish to make the egg market a speciality will prefer this breed. About 25 chickens will be in market the first of August.

The third yard contains the "Silver-laced Sebrights," shipped direct from John Bailey & Son, London. The peculiarities of this fowl are its diminutive size, great personal beauty, and hieroglyphic marking of its feathers. They are fair layers and the eggs are of ordinary size. They will be admired as a picturesque and fancy bird, more for ornamentation than for profit or food.

The fourth yard contains "The Sultan," improved by I. C. Cooper, of Ireland, direct from Turkey, to Morris brothers, Vallejo, Cal. They are medium size, with plumage white as the snow-flake as it falls from the clouds. A large cluster of feathers grow up from the head, turning over in silky graceful folds towards the neck. Out of the midst of this feathery top-not grows the comb, resembling the crescent set in a Turkish turban. They walk about with a significant strut, putting on aristocratic airs of conscious self-respect, as if to imitate the grand sultan from whom they are named. The Sultan more than equals the Poland as layers, while their flesh excels in flavor, and their eggs in size. They are the more valuable because non setters; lay right on. For this cause they are sought after more than the other breeds, and their great expense makes them rare at present; but they will become great favorites with the people as they become more plentiful.

So far as we know, the Morris brothers have the only thorough-bred Sultans on the Pacific coast. With fair success they will have at least 50 full bloods in market the first of August, 1871.

But the last and greatest favorites of all, with Mr. Morris, is a pair of "Buff Cochins," imported directly from I. C. Cooper, Limerick, Ireland. The Buff Cochin is the largest fowl known, belonging to the chicken family. It has a cream colored plumage, with heavy feathered feet; rather clumsily built, in every respect, are an irregular, solid, massive, noble bird.

The dark Brahmas are next to them in size, more round, plump and desirable, perhaps, for ordinary use; but the Buff Cochin reaches a greater weight, in body and in the eggs. They are great layers, and their eggs correspond with the size of their bodies. A rooster now in the yard, eight months old, weighs over 15 pounds! Their fine-grained, richly-flavored flesh makes them sought after by the well-to-do people for table use. But the peculiar quality that makes them more desirable and profitable to the producer is, their great domesticity. They are tender, loving mothers; manifesting a maternal care for the young brood that is quite remarkable. Madam Buff Cochin walks about with her chickens, but scarcely ever scratches for food. She lifts the foot high every step and sets it down carefully as to avoid stepping on the little chicks.

No domestic animal of any kind excels the Buff Cochin in her domestic habits. When a stranger comes near she does not *scream* out and run, scattering the afrighted brood in all directions, so that half an hour is lost in re-assembling the family, and some never; but with a low clucking noise, and significant shuffling of the wing on the ground, *coaxes* the little fellows to come under shelter. After this is done a stranger may approach carefully and run the hand down from head to tail without frightening the mother! They seem to have a natural propensity to sit on eggs and nurse the brood all the year. For this reason the non-setting, good layers, may be kept for the production of eggs, and the Buff Cochins, for setters, and nursing mothers. Such a combination would perfectly utilize the two breeds, and reduce the production of poultry and eggs, to a complete system, the year round. Permit me to conclude these observations with a moral. When one of these efforts to protect a brood from apparent danger was being made with a "fond mother's care," we noticed that a naughty little chick or two would not come under the mother's wings. Perhaps they did not see the danger. But it brought to mind the beautiful words of the great Teacher "How oft would I have gathered you, as a hen gathers her brood under her wings, but ye would not." This language is appropriate in its application not only to Madam Buff Cochin and her brood, but to many other domestic circles.

J. B. S.

## New Publications.

Bicknell's Village Builder. — Elevations and Plans for Cottages, Villas, Suburban Residences, Farm Houses, Stables, Store Fronts, School Houses, Churches, Court Houses, etc. Also Exterior and Interior Details, Forms and Contracts and Specifications, including Prices of Building Materials and Labor East and West. Containing 55 Plates drawn to scale. A. J. Bickwell & Co. Troy, N. Y. 1870. Quarto. Price $10, post-paid.

This really very fine work includes a great variety of styles of building and is better adapted to all quarters of the country than any other with which we are acquainted. It is made up chiefly of elevations, plans and details of cottages, villas and suburban houses; yet much attention has been given to model designs for churches, court houses and other public and private buildings. The elevations are drawn mostly on a scale of one-eighth, one-twelfth or one-sixteenth, the details on a scale of one-half to three-fourth inch to the foot, all of which can be easily comprehended and executed. The estimates are made at the various localities where the designs have been prepared, including all the large cities east, north, west and south. The designs include buildings of moderate cost for the most part, with some very elaborate specimens, and are exceedingly good; a number of well-known architects having aided in perfecting the book, which consequently is not characterized by the style of any one author or locality, but is general in its adaptation. Such a work is much needed, and we commend it to architects and builders. The publisher may be addressed, after May 1st, at 27 Warren street, New York City.

Harper's Monthly Magazine. Harper & Brothers, Publishers, 327 to 335 Pearl street. Franklin Square, New York.

The May number of *Harper's* has just been received. The magazine is an old friend, and we have on our book-shelves a long row of bound volumes. We often take them down for a half hour's recreation and never fail of pleasure in perusing them. In the present number we have, although pressed with work, read several articles, and have been beguiled into spending more time over the pages than we could well afford. We must even confess to having found the Tragical Comedy, or Comical Tragedy, of Punch and Judy of sufficient interest to cause us to finish it at one reading, and to have been highly amused at the engravings. No doubt there is much better matter in the magazine, and none of it is bad, we are ready to guarantee.

What I Know of Farming: A Series of Brief and Plain Expositions of Practical Agriculture as an Art based upon Science. By Horace Greeley, New York: Published by the Tribune Association. 1871. 8 vo. pp. 335.

What *we* think of the series of papers which make up this book, has been sufficiently indicated by the fact that we have published them as they appeared in the N. Y. *Tribune*. This was the highest commendation which we could give, and we think that further comment would be superfluous. We advise all our readers interested in agriculture, however, who have not read the papers, to get the book and judge of its merits for themselves. We give here place for a few extracts from the preface with regard to Mr. Greeley's qualifications.

I only lay claim to an invincible willingness to be made wiser to-day than I was yesterday, and a lively faith in the possibility—nay, the feasibility, the urgent necessity, the imminence—of very great improvements in our ordinary dealings with the soil. I know that a majority of those who would live by its tillage feed it too sparingly and stir it too slightly and grudgingly. I know that we do too little for it, and expect it, thereupon, to do too much for us. I know that, in other pursuits, it is only work thoroughly well done that is liberally compensated; and I see no reason why farming should prove an exception to this stern but salutary law. I may be, indeed, deficient in knowledge of what constitutes good farming, but not in faith that the very best farming is that which is morally sure of the largest and most certain reward.

I hope to be generally accorded the merit of having set forth the little I pretend to know in language that few can fail to understand. I have avoided, so far as I could, the use of terms and distinctions unfamiliar to the general ear. The little I know of oxygen, hydrogen, nitrogen, etc., I have kept to myself; since whatever I might say of them would be useless to those already acquainted with the elementary truths of chemistry, and only perplexing to others. If there is a paragraph in the following pages which will not be readily and fully understood by an average school-boy of fifteen years, then I have failed to make that paragraph as simple and lucid as I intended. * * * And, whatever may be the judgment on this slight work, I *know* that, if I could have perused one of like tenor half a century ago, when I was a patient worker and an eager reader in my father's humble home, my subsequent career would have been less anxious and my labors less exhausting than they have been.

The British Quarterly Review. January. 1871. New York: Leonard Scott Publishing Co., 140 Fulton street.

The first number of the American reprint of the *British Quarterly Review* has just been sent to us by the Leonard Scott Publishing Co. Briefly, its contents are as follows: The American Press, International Coinage, The Malmesbury Papers, Explorations in Palestine, Early Sieges of Paris, Established Church in Wales, Greek New Testament of Dr. Tregelles, the War of 1870, and a very valuable miscellany of Contemporary Literature. This review now takes the place left vacant by the discontinuance of the *North British Review*; and there is every prospect of its becoming quite as popular as any of the series. The present number is furnished without charge to all who had subscribed for the *North British* for the current year.

## The Studebakers as Wagonmakers.

Editors Press:—According to your paper of the 15th inst., the Brothers Studebaker have in their factory within one year wrought into vehicles 3,000,000 feet of lumber and 2,000,000 pounds of iron; making 6,500 vehicles, working 250 men. A little study of these figures may enable us to see the secret of their success.

1st. Three million feet of lumber piled absolutely solid would make a heap 12 feet high, 12 feet wide, and 1,736 feet long.

2d. This divided gives each of the 250 men 12,000 feet, or a pile 12 feet high, 12 feet long and 7 feet wide (nearly). I know it would not take long to work this amount of lumber into houses; but to work it into vehicles is somewhat more laborious.

3d. Let us look a little further. These 250 men made 6,500 vehicles, or 26 each. That is, every wood-worker, blacksmith, painter and trimmer, made an average of a vehicle every two weeks. Every vehicle had in it an average of 307½ pounds of iron and 461 feet of lumber. If each of the 250 men had been blacksmiths, they each must needs forge and use up four tons of iron each year. If they were one-third blacksmiths then each used 12 tons.

Now the man I board with, thinks that few men, if any, can make an average vehicle, paint, finish and trim and all, in *two weeks*. I thought I would write you about it. If the account is all true, the secret of their success must be in their rapid workmen. Truly yours,

Jeigh Arrh.

In reply we would state that we collated the facts and figures used from the South Bend *Register*, in which was an annual statement of the manufacturing industries of the city including that referred to. This company, it will be remembered, have the advantage of all the most approved labor-saving machines and can do a great deal more work with a given number of men than they otherwise could have done. The iron and lumber may not all have been used in the manufacture of the 6,500 wagons. They undoubtedly manufactured sleighs, cutters, and many other articles in their line. We gave the figures as we found them and have no reason to doubt their substantial correctness. The boxes of so large a number of wagons would require a large amount of lumber, to say nothing of the boxes for sleighs, cutters, etc.

The object of the article was to show by the success of this company, what may be done by other companies which have the command of equal facilities and to call the attention of California mechanics to the danger with which their business is threatened.

A Cheese Factory of 300-cow power is to be built at Macon, Michigan.

# AGRICULTURAL NOTES.

## CALIFORNIA.

LASSEN COUNTY.—The *Sage Brush* says that Lassen county has millions of acres of the very finest agricultural and grazing lands, subject to settlement by any who wish them, and in a climate adapted to the growth of almost all kinds of fruit. For stock raising purposes we believe this county far ahead of any in the State.

The people of Susanville rejoice greatly over the establishment of a Land Office at that place.

LARGE WELLS.—Mr. Kelsey, on the Telegraph road, just out of Oakland, has a well on his place 40 feet deep by 10 in diameter, containing 25 feet in depth of water. The proprietors of the Oakland Brewery are digging one of the same size. Wells of such large diameters are capable of supplying very large quantities of water.

ARTESIAN WELLS GIVING OUT.—Mr. L. A. Gould, of Santa Clara, has four flowing artesian wells on his premises, which in ordinary season overflow in sufficient quantity to furnish all the water needed to irrigate his entire ranch, covering about 160 acres. The light rain fall of the present season has been insufficient, however, to keep any overflow whatever, and Mr. G. has been obliged to put a large pump into one of his wells driven by a 25-horse power engine. The tubing of the well is made to answer for the pump cylinder, it having been especially calculated for just such an emergency.

POPPY CULTURE promises a success in both Lake and Santa Clara counties.

FINE WHEAT.—A bunch of wheat measuring thirty-nine inches in hight, from a ranch in Petaluma Valley, was left at the *Alta* office, in this city, on Saturday evening last. The north winds which have prevailed in that locality for the past few days have taken up much of the moisture on the surface, and the ground is again becoming dry.

THE AMADOR WINE ASSOCIATION is now fully organized, and the principal part of the capital stock already taken up. J. F. Turner has been chosen President; Charles Back, Treasurer, and C. H. Turner, Secretary; Trustees: E. Ginnochio, Mark Levinsky, A. Chichiola, Frank Hoffman and J. F. Turner. It is confidently expected that the advantages to be derived from this association in behalf of the community generally in that county, will be very large.

PROLIFIC COWS.—George McIntyre, of Markleeville, owns an extraordinary prolific cow. A few days since she dropped two calves, this being the fourth time she has performed that feat.

A cow belonging to a farmer near Elizabeth, Illinois, recently gave birth to five calves, each of which weighed thirty-four pounds.

TRESPASS LAW FOR TULARE.—The Citizens of Pioneer District, Tulare county, recently held a public meeting at which it was resolved that the interests of that county imperiously demand the passage of the trespass law, for the reason that the farming interest there is now in the ascendancy. It was also resolved to support no man for the coming Legislature, who would not pledge himself unequivocally to the support of such a law.

STRAWBERRIES IN PLACER COUNTY.—The Auburn *Stars and Stripes* speaks thus of Silva's strawberry patch near Newcastle:—Of strawberries he has several varieties, but his chief reliance is on the Longworth for early supply, and the Agricultural for steady bearers throughout the summer and well into the winter. Altogether, he has about 30,000 vines set out, placed in straight and parallel rows about two feet apart in the rows. * * * The older—six years—vines are safely counted on for ten pounds to the stool during the current season, and we consider it by no means extravagant to calculate on an average of twenty-five cents worth, each, from the 30,000, or a gross product of about $7,500 from hardly more than four acres of rocky hillside. One of Silva's greatest advantages consists in his nearness to the railway station, which obviates cartage and the consequent damage therefrom. His berries are all carried from the patch to the cars on hand-barrows, and are landed at Reno and other points east of the mountains unjammed and in better condition than it would be possible to deliver them after even a single mile of cartage over ordinary roads. Many of Silva's berries, of the Agricultural variety, will weigh an ounce apiece?

CATTLE IN TULARE.—The Tulare *Times* says: Our cattle men are now fairly under way with their spring rodeoing. Vaqueros are flying through our streets on their steeds, camp wagons moving in all directions and thousands of cattle will soon be reviewed, each owner laying claim to his annual gain, and we hope the result will prove satisfactory to everyone.

DECOTA.—The Decoto Land company have made a division of lots. Mr. Elisha Card has recently made two double-cranked-axle gang-plows and did job work to the amount of forty dollars in one week. He affirms that "his is a little the best plow" ever offered to the public.

HORSE STRANGLED.—Mr. Lewis, of Watsonville, recently lost a valuable horse, in a singular manner. The animal was tied in a stall, and in rubbing himself got his feet over a low partition, and by some means slipped and fell into another stall, and was strangled before help arrived. It was a noble animal, and was worth about $300.

FLAX.—The Malcolm Bros., says the Monterey *Republican* have a 300-acre, field of flax in that vicinity in full bloom.

THE SANTA BARBARA PRESS, which, by the way, is one of the most industrious journals in the State in searching out items of local interest, comes to us sometimes brim full and running over with such matter, much of which has an important practical interest to farmers generally. By an oversight we have overlooked the following items, which we had clipped from that journal some two weeks ago:

A FINE GROWTH.—On Tuesday last we took a look through the fine block of Mr. Jas. H. Summers, near the Episcopal church. Two large almond trees attracted our attention. They were planted in '64, "the dry year," as it is called. They were never irrigated. They are now seven years old, sixteen feet high, with fine spreading top, and ten inches in diameter at the ground and full of nuts. He had also about 200 three-year old trees from the nut, two years from the graft, which are three inches in diameter at the greund, ten feet high and full of nuts. His peach, plum, nectarine, and other fruit trees are coming on finely and will be loaded with fruit.

THE ELM.—The elm grows as thriftily in this country as in its native latitude. Fine specimens of this beautiful tree may be seen in the handsome grounds of Judge Fernald at his residence.

ITALIAN CHESTNUTS.—We have no tree in this climate which grows with more vigor and satisfaction than the Italian chestnut tree. We are sorry to add that but few of our land and lot owners have as yet planted them. Probably no tree except the orange is really more profitable or enjoyable.

LARGE FIGS.—The *Press* of April 1st says: On Monday Dec. 5th, last we gathered some very fine, large Smyrna Dutch Figs from a tree about four years old, on Mr. J. H. Summers' place, in the lower part of the town. We measured one of them, the largest, which proved to be 8⅜ inches in circumference one way, and 7¼ the other way, making it about the size of an ordinary Wine Sap apple. The flavor of these figs is fine, while this variety ripens more slowly, and comes in later, than any other. The tree is a great bearer.

THE OLIVE is becoming an important and profitable crop in Santa Barbara county. The *Press*, of Santa Barbara says that both the olive and almond is a never-failing crop there. In a very few years they will begin to ship the products of these two trees, in quantities which will relieve the constant drain upon the currency of the community. Olives make a fine growth in this county. In no case of which we have learned are they irrigated. On the fine hillside, a southeastern slope, lying in plain view of town, on the north, is the young olive orchard of Messrs. Fernald, Blanchard and Towle. Although so much exposed to the sun, none of the trees are irrigated. The plow does the work. Results are gratifying. They have trees four years from the cutting which are twenty inches in circumference.

ANAHEIM is prospering, and comes fully up to the most sanguine anticipations of its projectors, who are both the proprietors and workers of the soil. Large quantities of wine and brandy are being made, all of which finds a ready market at fair prices. The people there are fast becoming independent in financial affairs, and new sources of wealth are constantly being offered.

RAISINS.—Different varieties of the grape are being tried at Anaheim, and among others, the genuine Malaga, from which excellent raisins are being made. Many thousands of these vines have been already planted, and it is expected that within three or four years, Southern and middle California will be able to produce all the raisins that will be need to supply the entire United States.

SAN BERNARDINO.—The S. B. *Guardian* of the 15th inst. has the following: "Col. Oscar White has shipped to San Francisco in the past three weeks, 120 pipes of wine, manufactured from the old Mission grape and other varieties. The wines manufactured by Colonel White are superior in flavor and lightness to the celebrated Cocomungo wines that are now having a world-wide reputation, and it will require but a short time, after being placed in the market, to acquire the same reputation abroad they now possess at home.

Mr. Starke has sunk an artisian well on his hotel lot, and on Monday morning, at the depth of 97 feet, a fine flow of water was obtained, but on boring four feet further into the gravel the water came gushing forth in a magnificent stream.

On Saturday last, we were visited by one of the heaviest soaking rains that has fallen in the last five months. It began about noon and continued to fall until dark.

THE LOS ANGELES *News* says that about 1,500 acres of wheat will be raised in the Cajon Valley, if they have more rain. [The rain has come.]

THE Cocumungo vineyard, which suffered very seriously from grasshoppers last year, is threatened with destruction by them again.

## OREGON.

SPECIAL PREMIUMS.—Quite an interest, if not rivalry seems to exist in Oregon on the subject of special premiums offered by private individuals, aside from those offered by the State Agricultural Society. The *Willamette Farmer* of the 8th instant contains the offer of no less than nine different premiums offered by five different individuals. Quite a number of offers had already been made public in previous issues, among which was a $100-set of furs, for the lady exhibiting the best bread. The outside offering of these premiums gives evidence that an unusnal interest is being felt in the coming exhibition.

RULE REVERSED.—J. M. Johns, President of the Yam Hill Farmer's Club says "there is no doubt but that the rule of plowing to keep ground moist is reversed in Oregon, and it has a contrary effect. Stirring the ground in summer is an injury to any plant unless it is done in a rain."

PLANTING POTATOES.—Mr. D. B. Crawford, of Yam Hill informs the *Farmer* that in planting a field of potatoes he had cut the tubers in *two*, or, if large in *four*, while his assistant, in the same field cut the pieces to a single eye. A great many hills missed, and in digging down in such hills, he found the little one-eyed pieces drying up without any attempt at growing.

LARGE EGGS.—Jackson Ends, of Meadowville, Umatilla county, writes the Willamette *Farmer* that he has a stock of hens that produce eggs weighing from 2 1-16 to 3 ozs. each, and wants to know if any of our Oregon poultry men can beat them.

PEANUTS are to be cultivated this season in the Walla Walla and Touchet valleys.

PEANUTS were cultivated in the Bitteroot Valley, Montana, last year.

A NOVEL WATER RIDE.—James Cook, of Portland, Oregon, purposes to take a ride on the river in a wash tub drawn by geese. He has secured nearly a full team of geese for the experiment.

BUTTER.—The *Mountaineer* says there is no butter at the Dalles, excepting what is brought from California—which is sold at sixty cents per pound, and is scarce at that price.

EXTENT AND CAPACITIES OF OREGON.—A correspondent of the Oakland *News* writes as follows:—The State of Oregon extends 350 miles east and west, and 375 miles north and south, and embraces more territory than New York and Pennsylvania combined, a great portion of which is adapted for cultivation. The land in the valleys is immensely rich, quite as good as that of Alameda or Sonoma counties of our own State. We are now referring to what is known as Western Oregon—that portion lying between the Cascade Mountains and the Coast Range, and between the Calapooya Mountains and the Columbia—an area large enough and rich enough to sustain millions of people.

The great Willamette Valley is another "Valley of the Nile," in length about 150 miles north and south, and about 50 miles wide, formed of level and rolling prairie lands, and with frequent groves of small fir trees. The navigable Willamette River flows the entire length of the valley, nearly in the center; and at present a railroad is in operation on the east side of the river, from Portland to Albany, 75 miles. Another railroad is to be constructed on the west side of the Willamette, midway between the river and the Coast range, the two roads to unite near the head of navigation and come on to California.

Conceive of a territory of such magnitude, structure and fertility, and with such facilities for transportation and travel, bordered by a mighty river carrying ocean steamers, and bisected by another as large as the Sacramento, and then estimate what Willamette Valley is to be in the future. That majestic and sweetly beautiful valley alone, not to mention many others of lesser magnitude and no less fertility, would sustain a million of people in opulence. There the climate is temperate, and the winters are so mild that stock is usually fed out at all seasons of the year. The crops are always sure, wheat ranging from 25 to 40 bushels to the acre; oats from 50 to 100 bushels, and hay from two to three tons. Improved lands are now available at prices ranging from $5 to $25 an acre, according locality; unimproved land from $1.25 to $7; Government lands still available for homesteads in various portions of the State. There are no bad land-titles in Oregon, and no land-grabbers; the only difficulty being that under the Oregon land system, preemption or homestead claims were too large, and most of the farmers own far more land than they can cultivate.

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A REAL YANKEE IDEA.—Under this heading, the *Arbeitgeber* gives the following: In order to make dollars, the American inventor exercises his brain mightily, and leaves no working process unstudied, in order to see whether one cannot, by means of some improvement, or by a new method, economize in time and labor, and lead into his own pocket a part of the economy in the shape of money. It is well known that the skinning of cattle takes considerable time. An American has proposed a plan for shortening the process, which will be of considerable importance for large slaughter-houses. The speculative experiments on this subject have arisen naturally where the necessity urges—in the Pampas of South America, where many animals are killed merely for the sake of the hides. The inventor's proposition is to force air by means of an air pump, between hide and skin, thus separating them. We have not yet been informed whether the thing has been put in practice. It is certainly worth the trial.

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PUNCH AND JUDY IN EUROPE.—One pleasant summer day, a few years ago, the writer of this article was standing with an officer of the Bavarian army in the Odeon Platz, at Munich, watching the entertaining performance of "Punch and Judy." At the most thrilling moment of the mimic tragedy, a slight movement among the spectators caused us both to look round; and to my amusement, and my military friend's dismay, we encountered the kindly eyes of old King Louis. Noticing the officer's confusion at being caught amusing himself in this rather unfashionable manner, the genial old gentleman pleasantly bade him be at ease. "You need not feel ashamed to be seen here, Herr Lieutenant," said he, "I often stop myself to see the performance, and find it very amusing." He remained a few moments, laughing like the rest of the crowd at the droll mimicry of life exhibited in the little playhouse, and then, with a pleasant smile and word, withdrew. The incident was characteristic of the man and the people. While he stood there, no one took more notice of him than if he had been a private gentleman. There was no rude staring to which persons of exalted rank are always subjected by Englishmen and Americans. Every one quietly attended to the play until the King took his leave, when those immediately about him raised their hats with every mark of that esteem and affection which even his unfortunate infatuation for Lola Montez could not eradicate from the hearts of the Bavarian people.

The performance which old King Louis found so amusing, has not been naturalized in this country. It was exhibited for a short time at a popular place of amusement in this city about a year ago, but did not take sufficiently with the audience to induce the manager to go on with it. It was considered silly and stupid; and yet it may be made the medium of the most amusing whimsicalities. In Europe its popularity is unbounded. Even royalty, as just related, unbends to enjoy it; and we are told that so grave and dignified a personage as an English Secretary of State is certain to be, once paused on his way from Downing Street to the House of Commons on a night of important debate to witness the whole performance.—From "The Story of Punch and Judy," in *Harper's Magazine for May.*

# Home and Farm.

## Santa Cruz Farmers' Club.

Regular Meeting, Saturday, April 15th, President Mattison in the chair. D. M. Locke Secretary. John Woods, of the Committee on

### Inquiries in Pacific Rural of March 4th,

Said that he knew of no grasses that would survive our dry summer unless it is burr clover. (Does this? or does it not seed itself like other grass in Cal.?—Reporter.) He had seen some alfalfa growing, but very scattering, and it made poor hay, only fit for use while green. [Burr clover will not survive our dry summers, except in very moist localities. It usually seeds itself.—Eds. Press.]

Mr. Cahoon, of same committee, said he could raise two or three good and profitable crops of alfalfa per year, without irrigating, were it not for the gophers. Ground squirrels have also appeared within the last four years—so there are two pests to fight.

*Mr. Thompson.*—I sowed ten acres to alfalfa; it came up finely and grew well, but my hogs rooted it all up the next winter, and "went" for it so eagerly that they looked as though they were standing on their noses.

A friend of mine in Watsonville, sowed some and at the end of two years became so alarmed lest it should take possession of his farm that he plowed it all up—using three yoke of oxen—and roots were found as thick as a man's thigh. [?]

*Mr. Mattison.*—I sowed lucerne in my orchard; it came up well, but I plowed it and found roots 18 inches long. I think it makes better hay than alfalfa, which is in my opinion, poor feed for stock.

*Mr. Locke.*—Corn is used with good results by dairymen in this county, as green fodder. I think it might be made a valuable rotation crop for hay, as suggested in "Ogden Farm Report" in *American Agriculturist* for April. I have tried sorghum for milch cows, and have a high opinion of it. As cutting does not kill it, two crops in a season may be taken.

### The Gopher and Squirrel Nuisance.

*Mr. Cahoon.*—In regard to those nuisances—the squirrels—I think they may be destroyed by drowning, where water is available in sufficient quantity.

*Mr. Thompson.*—I will present the following prescription, which may be of use to those who cannot practice the "water-cure." Dissolve one stick of phosphorus in as much boiling water as six or eight quarts of dry wheat will absorb, and after it is well soaked and yet hot, stir in some brown sugar. This *sugar-coats* the dose, prevents the phosphorus from running out, and possibly makes it more palatable for the gopher. Carefully put this into their runs in every direction, and *persevere.*

*Mr. Feeley.*—They can be smoked out by saturating cotton cloth with sulphur and coal oil, and burning in their holes.

*Mr. Mattison.*—When using poison for vermin, keep a sharp look out for the safety of domestic animals.

### Sweet Potatoes.

Mr. Cahoon, who lives upon Soquel Creek, about four miles inland, gave his experience as follows: "I start them in hot beds; then set out same as cabbage plants, about the first of May. No manure, no water, but *clean cultivation.* I raised about five tons upon one half acre, all very fine, and some weighing 4½ pounds each. Had no difficulty in keeping through the winter, placing them in boxes, same as apples, and storing in the chamber of my house. Some were preserved in fine condition, simply hung up by their own stocks. They must not be bruised in handling, and are as sensitive to frost as the tomato.

*Mr. Sawin.*—I tried them at my place under the bluff (near the coast) and found it too wet. They all rotted in the fall.

*Mr. Locke.*—At Knight's Ferry, I raised 28½ pounds from one sprout of the Carolina potato. They require a sandy loam and a warm exposure. Almost every farmer has enough suitable land to raise an abundant supply of this most excellent vegetable; and they will taste all the better when swallowed with the comforting assurance that an ample home production has stopped a big leak in the pocket. I seldom come to town without seeing farmers buying potatoes.

In the hot bed they may be close together—splitting the large ones, and placing flat side down. Cover about two inches deep with rich compost—keep moist with warm water. One set of sprouts may be pulled off, the potatoes returned to hot bed, and another set will grow. Every pound of seed should produce one hundred and fifty pounds of potatoes.

In planting out, turn up ridges with the plow about three feet apart, and plant upon the top about sixteen inches apart. If manure is required, it should be spread upon the surface before turning the ridges. Planting out may be done the first of May, also as late as the latter part of June. I have seen the "Heathen Chinee" raise a crop from the tops of those already growing—using the toys for slips or layers; but this could not be done in many places.

The vines should be kept upon the ridges as much as possible, to prevent too much shade. For early use the largest may be carefully removed from the hills, and the rest left to grow. They should be dug before or immediately after the first frost, otherwise they will soon decay. The tops are valuable as green fodder; milch cows eat them with great relish, and I am not certain but they are worth for this purpose, at least half the whole expense of raising.

The whole secret of preserving may be thus summed up: "*Dig before infected from frost-bitten tops. Handle very carefully, as carefully as eggs. Keep warm and dry.*" After all these precautions there remains but the usual inveterate destroyer of nice winter stores, the generous housewife, urged on by a desire to tickle the palates of her family.

There is no good reason why sweet potatoes should be scarce and high priced. Perhaps few farmers understand sprouting them, or have time or inclination to attend to it; yet by a little inquiry, enough sprouts can be had of those who raise them, either in the immediate neighborhood, or from a distance by express or mail.

Let those who can spare them, advertise in their local paper, and in the Pacific Rural.

My first experiment was with one dozen sprouts, kindly furnished by a neighbor, from which I gathered near three hundred pounds. It occurs to me that we can hardly *afford* to miss raising a few sweet potatoes.

### The Jerusalem Artichoke.

*Mr. Mattison.*—Has any member had experience with the Jerusalem artichoke? In many places it is grown with great profit, and upon dry soil. On motion, the following committee was appointed to investigate the matter, and report: A. Bartlett, R. H. Swain, D. M. Locke.

*Mr. Locke.*—What is the best corn for family use?

*Mr. Feeley.*—Small eight-rowed early yellow or Canada corn ripens early, and makes rich, superior meal.

*Mr. Wood.*—It is too hard and gritty, small white is better. Corn gets much harder in California than east of the mountains.

*Mr. Thompson.*—The Haleom corn is best—worms do not trouble it. Its yield, however, is but little over one-half that of the dent corn.

*Mr. Mattison.*—The Ohio dent or Parish is very good.

*Mr. Cahoon.*—When is the best time to plant?

*Mr. Sawin.*—First of April.

*Mr. Thompson.*—It depends upon the season, and the particular piece of land. Every farmer must judge in a measure for himself. This season is rather backward, but I shall plant mine next week.

Adjourned. D. M. L.

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An Indigenous Palm.—The Los Angeles *Star* says there is an indigenous palm tree that grows on the eastern slope of Mount San Bernardino, and bears a small black edible date in clusters as large as a bushel basket.

A date palm tree forty years old, at Los Angeles, in the garden of Mr. Prudhomme has commenced to bear fruit, and we may henceforth class dates among the productions of California. As the tree is highly ornamental, and the fruit palatable as well as nutritious, the young trees should be set out in every orchard on the southern coast. They will grow as far north as Colusa, but whether they will bear fruit this side of Santa Barbara is still to be determined. It is a common saying on the shores of the Mediterranean that the palm tree does not bear until it is a century old.

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Salt on Wheat.—A correspondent of the Santa Cruz *Sentinel*, says that he sowed one and a half bushels of salt per acre upon one-half of a ten-acre field just after seeding it with Spring wheat, and the result was that the salted portion was ready for the sickle five days earlier than the unsalted portion, and not a particle of rust or must could be found, and the increase of crops he estimated at five bushels per acre. The *Sentinel*, asks: Have any of our readers observed a similar effect from the application of salt?

# Sericulture.

## Feeding the Worms.

In our last article on this subject, we had watched and fed the little worms, from the day we lifted them off the cards of eggs, until they had grown to more than double their size when first hatched. We had noticed their gradual change of color from an almost jet black to a grayish color, especially about the head. We had seen that as they approached the time for the first sleep or molting, they had assumed a yellowish or bilious look, and that many of them had disappeared under the leaves. We had waited from 24 to 48 hours and had seen them re-appear on the surface of the leaves, very much brighter and lighter colored, and anxiously moving about over and under each other, and at the slightest movement near them, sticking up their heads and swinging back and forth as if trying to reach something. And when we noticed them more closely, we observed that all the little fine black hairs that covered their tiny bodies before they went to sleep, had disappeared. These several changes are indications that the first age of the worm had passed—that they had shed their skins for the first time; or in other words that they had passed the first molting and had entered upon the

### Second Age.

That we may be more certainly understood by new beginners, for it is for their instruction that we write, we will state here that the silkworm passes through five stages or ages from the time of hatching to the time of making its cocoon. The first age is from hatching to the first molting, and, under favorable circumstances—that is, in uniform warm weather and good feeding and care—the time of this age is from five to six days. The second age is from the first to second molting—a period of from four to six days. The third age is from the second to third molting—from five to six days. The fourth, from third to fourth molting—from six to seven days. The fifth from fourth molting to spinning cocoons—from eight to ten days.

In good weather all these changes are passed in this State in about thirty-two days. We have had the Japanese bivoltines make cocoons in twenty-eight days, and we have known the annuals to occupy forty days,—when the weather was unfavorable.

In China, the Chinamen say that the worms frequently make cocoons twenty days old. The nights there are much warmer than here, and the worms eat as rapidly in the night as in the day time, and grow much more rapidly and pass through the moltings more quickly, than here where the nights are cool.

We will give here a description of the appearances and changes of the worm as it approaches all the moltings except the first, which we described last week, so that even the new beginners can not fail to perceive when these changes are approaching. The first indication is that the appetite begins gradually to fail; and the worms seem inclined to rest or lay quiet. When fed they will stir up and crawl on the fresh leaves and eat a little, but soon leave off eating and crawls over the food, not in search of something to eat but for a spot for rest, and some leaf or stem to which to attach itself for a long quiet sleep. When these signs are noticed, feed very lightly and with very finely cut leaves, so as to let the bed of leaves become dry and in good condition for the worms to sleep on, as they will pass through the molting much more successfully on a dry bed than on a cold wet one. When the worms are asleep they must not be fed at all.

At these molting times is the greatest danger of trouble. If the bed of leaves is too thick and damp the worms are a long time in molting, and they are apt to come up from molting very unevenly as to time and to appear weak and feeble. This latter condition may be known by the great amount of fine web, spun by the worms on the surface of the bed as they wake up and begin to move about. When you see this it is best to remove them from the old bed as soon as possible, even though you leave some still asleep to be thrown away. If, however, the bed is in good order and dry, the worms will wake up evenly, appear strong and vigorous and hungry, all other things being well. If the bed of leaves turn black under the surface at any time it is an indication that they are heating or fermenting and the worms should be got off of that bed as soon as possible.

### Changing and Dividing.

We have as yet said nothing about changing the worms from one bed to another, so as to keep them clean, and dividing them up and spreading them out as they become too crowded by their growth.

As a general rule the worms should be changed from the old bed about every other day. The best way to do this is, at the regular time of feeding, instead of giving them their food in its usual condition, cut fine, to select some very tender soft leaves and cut them up into strips, say half an inch wide, and lay them all over each bed of worms to be changed. As the worms grow larger these strips may be cut wider, and when the worms are still large, whole leaves may be used for this purpose. The worms will leave the bed of fine leaves and climb upon these strips. Now watch them and when they are generally on the strips and before they have eaten them so much that they will not hang together, lift these strips up carefully one by one and lay them carefully down, on a clean paper. If the worms are too crowded on the old bed, and they generally will be so about every other day, put those from one paper on two or more papers. It is very important that this matter of changing and dividing be properly and most rigidly attended to.

It may be of some assistance in aiding the judgment of new beginners to observe the following directions as to space that a certain number of worms should be made to occupy during the different ages.

For convenient reference on this subject and to assist in determining what number of eggs should be hatched or worms fed on any given number of trees, we will state here the amount of space, say one hundred thousand worms or those hatching from about three ounces of eggs should occupy at the close of each age, and the number of pounds of food they will consume during each age.

One hundred thousand worms should be made to occupy at the close of the first age, about twenty square feet of surface, and they will consume during that age about twenty-five pounds of leaves. During the second age they should occupy about forty feet of surface, and will consume about 75 pounds of leaves. During the third age they should occupy about 90 feet of surface, and will consume 230 pounds of leaves. During the fourth age they should occupy about 225 feet of surface and will consume 695 pounds of leaves. During the fifth and last age they should occupy about 500 square feet of surface, and will consume about 5,975 pounds of leaves, or 6,995 pounds in all.

It will be seen by the above that while the worms occupy but little space, and eat but little during the first half of their existence, during the last half they spread out very rapidly and eat very voraciously. So that while there is but little work to attend and feed them during the forepart of their lives the work increases very rapidly during the latter. After each molting the worms may be feed once or twice before they are removed from the bed where they have deposited skins, but not more than that. The first feeding after molting should be light and of tender food, as the worms are then weak and very hungry, and if fed too much then they are apt to hurt their appetites for food when they become stronger and should have good appetites.

# POPULAR LECTURES.

## The Classics as Allied to Science.

[Prof. Martin Kellogg before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Fourth Series. Reported expressly for the PRESS.

LECT. 1. April 22.—Prof. Kellogg, in commencing his lecture, referred to the changes which had been made of late years in the courses of instruction in our American colleges and also in similar institutions elsewhere. The scientific element is now being made more prominent, modern languages receive a larger share of attention, while the classics have lost the almost exclusive ground which they once held. The professor would not now enter into the discussion of this matter which has been so long and is now being agitated. Believing, however, that there was at least danger of going too far and of unjustly neglecting the ancient languages, he would speak of their claims in certain respects, and, entering into the spirit of the hour, would aim to present the Greek and Latin languages as true helpers to modern science.

The proposition he would make and endeavor to uphold is, that modern science finds most useful allies in the classics, and owes so much to them that it cannot afford to disparage or neglect them.

### Science Needs Greek and Latin for its Terms.

Science is obliged to have recourse to the dead languages for terms. The reason of this is that the words in popular use lack definiteness of meaning, and science insists on definiteness and precision in this respect. Take the word "word," for example. What does it mean? The dictionary tells us that it is the spoken sign of a conception or idea; it is also the written character expressing such a term; it means talk or language; account or message; signal and order; statement, declaration or promise; dispute; an expression, phrase or clause; the Scripture considered as the revelation of God to man. You see how indefinite it is of itself. And a host of similar examples could be given, of which the lecturer named several.

Now, we cannot take one meaning without having objections made. Words in popular use cannot be selected because they are in popular use. But we can go back to the dead languages, the Latin and the more flexible Greek, which are rich in more precise expressions, and can take a word, giving it an exact meaning without objection thereto. In this we are aided by the character of those languages.

### Classical Study Helps to Communicate Ideas.

Again, classical study helps the man of science to communicate his ideas to others. What is the medium of communication? It is (for us) the English language. Now classical study is the greatest help for the study of the English language and for its expression. The same is true for other modern tongues.

Many words are derived directly from the ancient languages; a number of examples were given. Again, the words which came from Latin and Greek are pre-eminently such as science employs, are pre-eminently the words of intellect, and express accurate and refined thought.

A knowledge of the original tongue causes one to use a derived word more properly and gives force and vividness to it, makes it more clear and calls up a picture, as it were.

### Classical Study Needed for General Culture.

For general culture men of science cannot afford to neglect the classics. They are necessary, not only to learn our language, but for language in general. One must go to them for thoughts in which they are so rich.

In order to best learn and best teach scientific facts, we need these ancient languages. By the art of expression, learned therefrom, the scientific men of our day have been enabled to call attention to science and give it its position. If they neglect it, they will lose the present prestige.

Prof. Kellogg cited throughout numerous examples to sustain his propositions, of which the above is a mere sketch. He will lecture again this evening (April 29). The hour is 8 o'clock. The subject will be "The Latin we Speak;" and that of the third lecture "The Greek we Speak."

# GOOD HEALTH.

## A Grain of Wheat.

BY C. L. ANDERSON, M. D.

In a popular journal, such as the PACIFIC RURAL is, going as an instructor into thousands of families, it seems to me that gross errors should not be overlooked, or passed without correction. That errors will occur in the best of journals we all know. Most of them are so immaterial that the reader will readily make the necessary amend. But the one to which I wish to call attention to has been repeated so often that I am constrained to think the writer labors under the impression that his statements are in accordance with facts.

In the number for April 15th, is an article on "Water in the Stomach," in which this statement occurs:—"Nothing but organized matter seems to aid in building up the system. Meat, flour, corn, barley, etc., when taken into the stomach in their natural condition, undecomposed by either cooking or any other exposure are immediately digested; but when decomposition commences before they enter the human stomach, that decomposition is only accelerated there and they are converted into poisons."

Now if this statement is true it will be necessary to revise our standard works on Physiology and Chemistry. Indeed, the processes of Nature herself will have to be investigated, and different conclusions arrived at, in order to confirm this announcement. I propose therefore to give the history of a grain of wheat as collected from the best and most reliable authorities in order to show what processes and changes it passes through in order to reach its position in the human body.

A grain of wheat is a miniature storehouse containing a great many little bundles of various shapes and kinds of material. How and by what means this storehouse was built does not enter into our history. Suffice it to say that it contains several distinct apartments, and in each one of them there are hundreds of neatly constructed packages done up as no art can more than very rudely imitate. These little bundles are not labelled, but by their peculiar color and shape we always know what they contain. One of the largest compartments is filled with little round packages of *starch*,—plain, everyday starch, such as we may find any day in our stores. These packages of starch are by no means large. We might place five thousand of them in a row within the space of an inch. Some authors call them cells. Each one has a very strong envelope called "epidermis."

Another compartment contains an article called *gluten*. In fact, this gluten seems not entirely confined to one place. It is all through the storehouse, filling up spaces even between the starch packages. There are also a great many little parcels containing gum, oil, sugar, albumen, phosphates, etc. These are systematically arranged inside this little storehouse.

And now what are all these nice materials intended for? Some one may answer, to nourish man. Not so, in a direct sense. Inside, and occupying a central position, is a vital principle—*life*. We call it the *germ*. Now this germ or life principle can only increase or propagate, by feeding on these stores or their like. Decomposition must take place. St. Paul expressed this fact more forcibly than I possibly can: "*Thou fool, that which thou sowest is not quickened except it die.*" The building up of a body necessitates the tearing down of some other. Organization and disorganization succeed each other continually. The material stored in the grain of wheat is intended to be disorganized by the forces of nature that it may nourish the tender plant. The grain dies that the plant may live.

But suppose the grain of wheat be used for another purpose, that of feeding one of our bodies. We are informed by physiologists, and every day's experience teaches us the same, that in order to bring all these little parcels (cells of starch, etc.,) into ready contact with the digestive fluids of the stomach and intestines *some* means must be used to break the envelopes, for the digestive apparatus acts very slowly or not at all on the epidermis of the grain of wheat, and not always are the little packages inside broken. But there are several means used to break these enclosures; pounding, grinding, boiling, etc. Each one of us has a set of grinders (when not decayed by hereditary taint, or disease of our contracting) between which these grains should be broken and triturated. But this process would be laborious and even impossible in some cases. Hence grinding in mills is resorted to, and afterwards boiling, steaming or baking. Water, as a solvent, is necessary so as to divide or decompose the particles and the process of digesting this grain of wheat is thus very much aided.

But what do we mean by digestion? Having broken open the storehouse, and each separate package by whatever means, and scattered the contents over the mucous membrane of a good healthy stomach and along the intestine, the presence of this material calls forth the action of certain glands and vessels and fluids to seize each particle that can be captured, and carry it away to be thrown into that great red stream which flows through the air-circulating apparatus called the lungs. Here a purification takes place. Much carbon and effete matters are winnowed from this stream, after which it is again collected into vessels and carried into the great chamber (the heart) and sent out from there by other vessels to supply the waste which is going on continually. And thus the grain of wheat has been changed from starch, and gluten, and sugar, and phosphates into muscle, nerve, bone, sinew, membrame, and other things analogous in the human body. As a whole the grain of wheat could not be assimilated, but by taking it to pieces and shaping each particle so as to fit in its new place with other materials. We see it again in our bodies and we give it a new name; but after all, the little phosphatic particles that clustered about the "germ," are found in the bones,—and for the present we must leave them there ever wondering at the beautiful processes we contemplate in Nature.

Our correspondent has given a very interesting article on the organization of a grain of wheat, and the changes which it undergoes when taken as food; but we cannot see how he controverts any position which we have taken in the article upon which he comments. What we intended should be understood in the extract quoted by our correspondent was, that "when *putrefactive* decomposition commences," etc. With this explanation we think our views will harmonize with those of our correspondent.

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OIL OF PEPPERMINT TO RELIEVE PAIN.—A writer to the London *Lancet* says: "A few days ago, when in China, I became acquainted with the fact that the natives, when suffering from facial neuralgia, applied oil of peppermint to the seat of pain with a camel's hair pencil. Since then, in my own practice, I have frequently employed oil of peppermint as a local anaesthetic, not only in neuralgia, but also in gout, with remarkably good results. I have found the relief from pain to be almost instantaneous."

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AN American physician has discovered by a long series of experiments, that the weight of persons increases during the hot months. He found that there was a progressive loss of weight from September to march, and a gain from April to August. This view differs much from the commonly conceived idea. So far as our observations have led us, it is quite the reverse. A loss in the hot seasons and a gain as the colder season approaches. In all cases much depends upon climate, habits, dress and occupation of an individual.

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BEE STINGS.—A writer to the *Scientific American* says that "a good absorbent" will case the pain of stings: "The best absorbing substance that I have tried is lean fresh meat. This will relieve the pain of a wasp-sting almost instantly ,and has been recommended for the cure of rattlesnake-bites. I have also used it with marked effect in erysipelas."

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APPLES.—An eminent French physician says the decrease of dyspepsia and bilious affections in Paris, is owing to the increased consumption of apples, which fruit he mantains, is an admirable prophylatic and tonic, as well as a very nourishing and easily digested article of food.

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IT has been proved that geological conditions have an influence on the health.

## Clear Creek County, Colorado.

The Georgetown Committee, appointed to collect statistics with reference to the building of a railroad to their place, have a report, which is given in full in the Colorado *Miner* of April 13th. We give some of the principal items in brief.

The amount of freight received and shipped in the county, in 1870, was 9,330,854 lbs., for which the freight charges were about $108,000. This represents only the freight handled by merchants, livery stable keepers and mining companies. The amount of smelting ore which would be produced on the completion of the proposed railroad is estimated at 200 tons daily. The amount of wood now consumed exceeds 200 cords per day, unsawn pine costing over $5 per cord. It is estimated that the daily consumption of coal, were the road completed, would amount to about 100 tons. The passenger travel per day is set down as 15, which number is probably a typographical mistake.

Any such estimates as the above, being difficult to make, are of course merely general. We are inclined, from what we have seen, to think these under-estimates, as the Committee have endeavored to be on the safe side. A railroad to Georgetown from the valley would be of great benefit to the place, and would infuse new life into the surrounding regions. We hope the people will earnestly set to work in the matter, and we suggest that they examine into the merits of the narrow gauge. They can get such a road at a comparatively small expense in a short time; its benefits would be exceedingly great.

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COUNTING FLAME VIBRATIONS.—Chas. J. Watson details, in *Nature*, some experiments on vibratory phenomena. "The apparatus made use of consists simply of a card-board disc furnished with radial slits, and which can be rotated with any desired velocity. To examine a coal-gas flame singing in a glass tube, the disc is placed in front of the flame, and the eye placed where the slits pass in a vertical position. When the disc rotates with such a velocity that the interval between two slits passing the eye is just equal to the period of a complete vibration of the flame, the flame appears to be motionless; but if the velocity of the disc be slightly reduced, the flame is seen slowly to go through its changes of form, appearing to consist of a series of puffs, resembling those from the funnel of a luggage locomotive. When the interval between the passing of the slits is equal to, or is one-half, one-third, etc., of the period of vibration of the flame, a singular appearance of a phantom disc is seen, having as many or twice or three times the number of slits really in the disc; this phantom wheel appears motionless if the periods exactly coincide, but if they do not, it slowly revolves in one direction or the other. It is obvious that this affords an easy method of counting the vibrations of the flame. With a sixteen-inch tube I thus found the number of complete vibrations per second to be about 453."

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HOW LONG WILL LAND CONTINUE TO INCREASE IN VALUE.—An acre of land was recently sold in the city of London for $3,600,000, and in nearly every portion of the city land is said to be increasing in value every year. It may be an interesting question, "How long will land continue to increase in value?" Will it ever arrive at a figure above which no one can buy it, and make a profit for its use? Over three and a half millions an acre, and still increasing in value!

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TELEGRAPH SOUNDER KEY.—J. Gamble, S. F. This is a very neat device by which the hand can be taught the proper motion for writing with the signal key, and the ear rendered familiar with the telegraphic sounds or clicks, without the necessity of having a battery. It is convenient, neat, and cheap, and is coming largely into favor among those desiring of learning to operate.

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DR. JOHNSON said, when in the fulness of years and knowledge. I never take up a news paper without finding something I would have deemed a loss not to have seen; never without deriving from it instruction and amusement.

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SAN FRANCISCO:

Saturday, April 29, 1871.

## Our Weekly Crop.

Apparently the RURAL has succumbed to the popular frenzy, for the conductors have concluded to provide Roller Skates for our friends, on which to glide gracefully among the varied productions of the week. These skates appear to have the properties of the seven-leagued boots. They take us in a moment up to Sacramento to enquire about the State Fair. They whirl us up to Yolo county to inspect the Woodland Irrigating Ditch. They circle slowly around the Library of Mechanical and Scientific Progress, which has rendered possible their existence. They fly off at a tangent to Marin county on a pleasure trip. They take a run Down the Coast to see what is there; then up to the mountains, to review the Donner Tragedy; and finally they dally lovingly among their brethren, the Recent Inventions.

Getting an agricultural "cramp," they curve off to the Poultry Yard with a lively crow; becoming literary, they notice the New Publications; growing critical, they go through the Studebaker Wagon-Makers; and then resuming their greatest possible activity, they rush along the coast, gleaning Agricultural Notes from all sections.

With another turn (or, technically, cramp) they take us to the meeting of the Santa Cruz Farmers' Club. Then they visit our Cocoonery and treat us to an interesting article on Sericulture,—more especially on the Silkworm. With a classical twist, we are brought face to face with Prof. Kellogg for a discussion of the Value of Greek and Latin as Aids to Science. For fear this last twist may have given us a pain in the side, we are carried to the doctors for advice concerning Good Health. With renewed strength, we rush off to Clear Creek county, Colorado.

Slackening our pace, we examine the Crop Prospect and enquire concerning the effects on industrial pursuits of the Savings Banks of California. Hither and thither we go as our correspondents call us, and we catch a glimpse of Editorial Notes Eastward. Directing our steps (or rolls) to the Sheep Ranch, we view a full-blooded South-Down. Casting our eyes heavenward, we enquire about the state of the We(a)ther.

To our heavenward gaze appear the ladies of the Home Circle, who by their pleasing conversation carry us still higher in the realms of bliss, and then gradually and gently set us down in the kitchen with their soft notes of Domestic Economy. When we are well back in mundane matters, the irresistible skates resume control, carry us through the Premium List of the State Agricultural Society, stuff our pockets with useful advertisements and Market Reports and, with a last, powerful effort, launch us into the middle (end) of next week.

THE PERCHERON HORSE.—We have received a note from Mr. Wilsey, of Petaluma, informing us that we were mistaken in the supposition that Mr. Myer, of Oregon, was the first to import the Percheron Horse to this coast. Mr. W. imported a three-year-old colt of that blood in 1865. We shall give his letter next week.

A THOMPSON ROAD STEAMER will soon be running, in Nevada, between Taono and Pioche.

## The Crop Prospects.

Notwithstanding the encouraging words put forth by most of our interior exchanges, the fact is becoming more and more apparent, that under the most favorable circumstances that can now be expected the grain and hay crops must be light.

The late rains were productive of much good; but their beneficial effects are nearly exhausted, already, and there is but a small store of moisture in the ground, held over from the early rains, upon which the crops can draw when the surface moisture fails.

In the more favorable portions of the State good crops are insured; in many others, fair crops; but there are unmistakable signs that throughout a large area we can hardly expect much more grain than will suffice for home consumptiom and next season's seeding.

It may be that with the increased price, brought about by the scarcity in Europe, we may bring up the aggregate value of exports to such a figure that the State in general will not seriously feel the deficit; but that there will be much individual disaster and suffering, in the more arid portions of the State, and where late sowing and poor tillage has been the rule, there is now scarcely room for doubt.

As we write, (Thursday noon,) the sky is overcast, and there are signs of rain, which, if it comes in any considerable quantity *now*, may save much grain that is now doubtful; but if the rain is delayed few days more, no amount can be of any avail in many large districts.

It is to be hoped our fears may not be verified; but the facts as they exist to-day, should be fully recognized, and every possible effort be made to make the most of the resources, still at the command of those who are threatened with disaster.

In many places, if the worst comes, corn may yet be planted, and it is possible that much tule land, independent of pluvial favors, might, even at this late day be prepared and sown, as all danger from overflow has now passed. There are also various means of irrigation that can be more or less extensively employed to save a portion of the crops. An ordinary windmill might be made the means of maturing quite a little patch of grain or vegetables, which would be of inestimable service in feeding a family through a period of scarcity.

We have in mind a man, who, a few years since, saved several acres of potatoes, by putting a common box pump into a neighboring slough. He made the pump and operated it with his own hands, and the product thus saved formed the main source of sustenance for his family during the ensuing summer. Such a stream as can be obtained from a common windmill pump, may be made to save a strip of wheat 12 to 15 feet wide or more, for as long a distance as it can be made to flow for 24 hours. The stream can then be changed to another strip, and so on. A rough mill might be built and put in operation by almost any one.

We have still six months of growing weather, during which much might be done by hard and determined work, on farms where absolutely *all* hope of maturing a crop by natural moisture is past. A folding of hands and lamentation will do no good. A little extra work in preparing for the worst will do no harm. The time has fully come with many, when it will be well to look the worst in the face, and do their very best to meet any possible contingency.

ANOTHER RAILROAD PROJECT.—The Central Pacific R. R. Co. are said to be contemplating an air-line road from Sacramento to the head of San Pablo Bay, thence across the marsh, *via* San Rafael, to Saucelito. Here connection will be made by steam ferry.

## California Savings Banks vs. California Improvements.

Within the last four or five years past there have been established in nearly all the cities and interior towns of this State, banks for the deposit, safe keeping and loan of money,—generally called Savings Banks. The extent to which these institutions have succeeded in accumulating together the money of the country, both in large and small sums, is truly astonishing. Notwithstanding they have also been very successful in loaning out large and truly astonishing amounts of the money so accumulated, there are yet millions of money constantly lying idle in their vaults.

The periodical reports of these institutions show them generally in a most flourishing condition, and their business constantly on the increase. They are all at this time using the greatest exertions to keep up the monthly dividends to their patrons of one per cent. per month. Indeed there seems to be a sort of business rivalry going on between them, and the point to be gained by this rivalry seems to be, in the opinion of their officers, that the institution that succeeds in making the greatest monthly per cent. dividends will be entitled to and will receive the greatest amount of public favor and patronage. All this seems very well. It is claimed that these banks are begetting habits of frugality and economy among the laboring class.—That they are thus utilizing the loose capital of the country and assisting energy and enterprise to improve our farms and generally to develope and turn to good account the resources of the State. These are undoubtedly good objects, and those in part for which Savings Banks on this coast were originally organized and set in operation. But are not most if not all of these objects being defeated by the manner in which these banks are managed? Will a strife or rivally between these banks to keep up money to a high rate of interest help energy and enterprise to develope the resources of the State? Will one and a fourth per cent. per month improve our farms, open and work our mines, build and run our factories? Will this high rate of interest beget and sustain energy and enterprise in any permanent and legitimate business? These are the abuses and not the uses of savings banks, and these abuses call for the exercise of the law-making power of the State.

But there are other points of complaints against these banks, which can only be removed by the force of public opinion, and the exercise of good liberal business judgment and discipline by their managers. Some of them refuse to loan money except on city real estate, and would prefer to take as security a non-productive sand bank owned by a speculator merely because the winds have heaped that sand up within the limits of San Francisco—than a good productive and well improved farm in the country, owned and worked by a judicious, energetic farmer, with a well established reputation for honor and integrity.

Again, the officers of these banks by refusing to recognise the intrinsic value of permanent and valuable improvements on land, are discouraging and retarding those improvements when by their position they could and should encourage them. For instance we published in our last week's issue the fact that Mr. Bugbey of the Natoma vineyard, in an action against the Natoma Canal Co. for damages in going through his vineyard, showed, by several witnesses, that eighty-five to ninety thousand of his vines produced from 600 to 800 tons of grapes, worth at least $50 per ton, or more than $30,000, and that after the commissioner had taken testimony in the case for more than twenty days, and had visited the place, they rendered an award in favor of Bugbey and others for nearly $2,000 per acre for the land and vines thereon used and destroyed by the company. Again it is a notorious fact that the product of good vineyards throughout the State is at least three tons of grapes a year per annum and that they are sold at from $20 to $30 a ton for wine purposes. Notwithstanding these facts which all other business men recognise and act upon; we know that some of the Savings Banks refuse to place any additional value on land in consequence of its having on it valuable productive vineyards, and that this unnecessary and illiberal rule is working very disadvantageously to the increase of this crop of valuable and permanent improvements in the State. There is too much idle money and too many idle men among us, and this illiberal course of the Savings Banks is increasing rather than relieving the difficulty.

## Kind Words.

A LIFE INSTITUTION.—"F. S." writes us from Hoopa Valley as follows:—"We were paying for so much reading matter we intended to take your paper only till our subscription run out. In its changed form, (our correspondent subscribed originally to the SCIENTIFIC PRESS) or as the PACIFIC RURAL PRESS, it has so attached itself to our family, we think of making it a life institution."

MEETS A READY WELCOME.—A correspondent writes from Tehama:—"The RURAL meets with a hearty welcome at many a fire-side in this portion of California. It never ought to go begging a subscriber. It should be the pride of every household to possess it."

CHUCK FULL OF INFORMATION.—A subscriber, "G. W. S." whose communication has been accidentally mislaid for several weeks writes from Stockton as follows:—"We receive the PACIFIC RURAL PRESS with great joy. It is chuck full of solid information to the farmer; and every farmer on the coast should read and study it well; it will pay them a thousand fold. I am canvasing among my neighbors for your valuable paper, and am in hopes to send you several names in a few weeks. There is no State where the farmer needs agricultural knowledge so much as they do on this coast, thrown together as we are from all parts of the world. Every man here has a notion of his own. Most of the farmers in this section have nearly skinned the surface, year after year, until their land produces but little more than weeds and wild oats. There is need that they should be educated up to a higher system of agriculture."

JUST WHAT IS WANTED.—A subscriber writes from Watsonville as follows:—"I am pleased with your paper. It meets the enquiry of more reading minds than any paper I have ever read on this coast. I shall take some pains to show it to my neighbors, and add to its circulation." W. M.

## Dr. Mendenhall's Rain Theory.

EDS. PRESS:—I would like to ask some of your meteorological contributors why it is that the north wind, which occasionally sweeps across over the State with such damaging effect, is dry and hot, coming as it does from anywhere but a hot and dry country.

If not troubling you too much I would also like to make a remark in regard to an article in your issuse of March 11th, about a Dr. Mendenhall acting upon a theory in his farming that as the rains are in Central America and Mexico, so they will be in California. A similar statement was published by the *Alta* in the fall of 1869 and a wet season predicated. I saw the same theory adverted to in the *Bulletin*, in the fall of 1870, and supposing it to be reliable, a very wet season was again announced.

In both years the theory has most completely failed. May we not have got the wrong end of the story—got the bull by the tail instead of the horns. We are taught that all our moisture rises under the equator and is carried north by regular trade winds; the evaporation is constant and regular. If through climatic changes of which we have no data the rainfall should be excessive in Central America and Mexico, would not our share be proportionally less; they receiving their share and part of ours? If their rainfall was light would we not be likely to get an overdose. Yours respectfully, G. W. T. C.

San Gregorio, April, 1871.

## Editorial Notes Eastward.—1.

### Oakland to Sacramento.

DEAR PRESS:—As you know, it is with strong effort that I have thrown myself out of the routine of office duties for a few weeks, to visit a dear mother who longs to see again her "boy" before her declining steps are even more feeble. While I cannot promise to write you formally when absent, I will yet send you a few items for the forbearing reader.

From Oakland to Sacramento, I cannot say how fine the grain looks by the way, but the wild flowers are out in their gorgeous hues, acres and acres of bright colors clothing our Mother Earth with richer loveliness than is her lot in any other clime or quarter of the globe. They evidently do not take cognizance of a dry season. The scene reminds that while the middle of May is early enough for the tourist to visit Yosemite, yet all comers for sight-seeing would do well to spend a few weeks previous in rambling over one or more of our lovely valleys while carpeted with these annual flowrets.

Our C. P. R. R. train from Sacramento seemed well filled with eastern-bound travelers, but our conductor says that he will return with about double the number of in-coming passengers for California.

### A Trip Eleven Years Ago.

One evening eleven years ago, I mounted the "upper deck" of a 6-horse stage, at San José, bound for a journey overland *via* the southern route through Arizona, Texas, etc. Well do I remember the weariness of the first night's ride. To Gilroy, the novelty of our situation kept us awake, but after midnight came sleepiness. Repeatedly our hands commenced to loosen the grasp which kept us from falling, and repeatedly did we respond to the call of "down heads" to save our hats (and their contents too) from being swept off by the overhanging branches of the wayside oaks.

Breakfast was called at 2 A. M. at the Mountain House. (Dimly responded to.) All day long we crawled through the hot sand and suffocating dust of the San Joaquin valley, to find that we had made a little over a hundred miles, riding all night and all day. Our friends could hardly have recognized us or rated us at a higher grade of color than half-breeds, and we felt just as dirty and disagreeable as we looked, as we entered our second night of perpendicular dose—not sleep.

The next morning we were remarkably polite. Our heads nodded with an incessant repetition to the rising sun, before whose coming a half of the party had even taken off their hats and deposited them by the wayside, riding all the time until his majesty retired to rest, (would that *we* could have done the same) with heads respectfully uncovered. And this was only the commencement of our twenty-two days' punishment, continued incessantly as we traveled in the crowded, cramped thoroughbrace stage on to St. Louis.

### The Difference.

How different our start to-day in the palace car! Here we can enjoy our little circle of friends, amuse ourselves with books and games, enjoy "chatty lunches," and take "square meals" at the stations at convenient hours. Verily, this demonstrates progress for the Pacific Coast.

Anything like a wordy description of a trip over the Central Pacific now would be indigestible. The greatness and completeness of the enterprise are prominent in our recent history. Its engineering management is even more skillful and thorough and commendable than during the rapid construction of this great railroad thoroughfare.

The published photographs and stereoscopic views gave me the best ideas of that part of the route which I had not previously seen, although they are but meagre without the actual natural life which causes the pleasing and lasting impressions one experiences in "going through" them. The best I can do for our appreciative readers is to present them with wood illustrations of the most striking features of the route; for a glance at these will present to them more truth than tongue can utter of the marvelous views. We are indebted to the officers of the C. P. R. R. for the use of the fine engravings. D.

## All Farmers Should be Sheep-Growers.

There are many reasons why almost every farmer would find it profitable to keep a small flock of sheep on a farm, even in California, especially where grain is the principal crop. By raising his own mutton a large saving will be made in his butcher's bills; while the sale of the wool will bring ready money just before harvest, when the grain farmer needs it most, and when, ordinarily, he finds it the most difficult to obtain.

Good mutton, well fatted and neatly butchered, as elsewhere described in today's issue, is the most wholesome, nutritious and most palatable meat which we can eat, and the cheapest. Its more general substitution for pork, on the farm and elsewhere, would be a long stride in the hygienic and financial elevation of this or any other State. A more general introduction of sheep-raising will moreover be found an important step towards the system of mixed farming, which all acknowledge to be so essential to genuine and permanent prosperity in agriculture.

Sheep are the best scavengers that can be put on a field, after the grain is cut, to clear the land of weeds; while their droppings are of far more value as a fertilizer than would be the weeds and stubble which they consume, if even carefully plowed in.

A SOUTH DOWN EWE.

When sheep-raising, in a small way, shall become, as a general thing, a part of every farmer's occupation on the coast, we may look for a rapid increase in the standard grades of wool produced here; as it will be in the power of small growers to more carefully cull out the inferior animals and to retain for breeding purposes only such as are superior.

Moreover, such a general attention to this business would make the profits of the same more widely and more certainly known. Those persons who have made the largest degree of success in sheep husbandry on the Pacific coast, are those who commenced with a limited number of sheep, and who thus learned their business by personal experience. We believe the true principle of sheep culture requires that it should be divided up among numerous proprietors. It is at least a matter of much doubt whether the aggregation of ten, twenty, or thirty thousand sheep or more, in the hands of a single proprietor, is correct economy, in this branch of agriculture. Like wheat, under favorable circumstances the, year's gain may be satisfactory; but let drouth, or any great depression in prices occur, and the business would be likely, to be attended with discouraging if not disastrous losses. Furthermore, such a policy, introduced into our system of husbandry here, would utilize much land, material and labor, which is now lost, and soon result in bringing up the aggregate of our wool product, to a total that could not fail to exert a most healthy and important influence on the general prosperity of the coast.

### What Kind of Sheep to Keep.

The choice of the kind of sheep which should be kept depends so much upon circumstances, that it would require a volume to anything like fully discriminate. We shall take the opportunity from time to time to give important information in this direction, and to present the characteristics and economies connected with the different breeds of sheep; but as in the present instance we started out with the idea of a general introduction of sheep upon the farm, for mutton, as a prominent object, we have introduced here a fine portrait of what we consider one of the very best mutton producing sheep—the *South Down*.

### The South Downs of the Present Day

Are as marked an improvement upon the original breed, as that exhibited by the Leicesters or any other breed. Is is now about 50 years since systematic efforts were first commenced in England to improve the character of these sheep, and so successful have these efforts been, that they are now regarded there as the best mutton sheep which have ever been produced.

As will be seen by the portrait of an ewe, herewith presented, the form of the animal is fine and symmetrical in appearance; still they are very hardy, and keep in good condition on moderate pasture, and more readily than most others, adapt themselves to different districts and systems of keeping. They are very docile, thrive well on artificial food or pastures, or the miscellaneous growth of arable fields.

They grow rapidly and take on fat readily, and will average from 80 to 90 lbs. when 12 or 15 months old, and from 100 to 130 at two years. They are very prolific, excellent mothers, dropping a large proportion of twins, and are less subject to disease than most other breeds. The fleece, though not equal to that of some other breeds, is nevertheless good, closely covering the whole body. It is short in staple, but fine and curly, with spiral ends.

The improved South Downs have been extensively imported into the United States and to this coast, where we are informed experience has fully justified all that we have said above. For general introduction, in small flocks, upon the grain and dairy farms of California, especially where mutton forms an important object, we hardly think any one better breed can be selected.

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THE OROVILLE RAILROAD.—The Marysville *Appeal* denies the statement that this road has been purchased by the California Pacific, although its gauge is being narrowed to conform to that of the latter company's road.

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WHAT NEXT?—A "petrified whale ha been discovered in Los Angeles county, about 10 miles inland, near Aliso Springs. Petrified trees are at a discount.

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF | | | | | THER* | | | WIND. | | R'N† |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Barometer Corrected. | Temp. Air. | Rel. Hmdty. Satura'n 100. | Force of Vapor. | Amount of Cloudiness. | Maximum. | Minimum. | Range. | General direction f'm which it moves, and the Forces. | | Gauge 50 ft. ab've sur'ce |
| APRIL. | INHS. | DEG. F. | C. | INHS. | 0–10 | DEG. | DEG. | DEG. | DIR-TION. | F'CE. 0—10 | INHS |
| Sunday..16 | 29.577 | 48 | 70 | .240 | 10 | 51 | 43 | 08 | S. E. | 4 | 0.120 |
| Monday.17 | 29.773 | 51 | 73 | .301 | 8 | 60 | 40 | 20 | S. E. | 3 | 0.265 |
| Tuesday 18 | 30.307 | 50 | 61 | .245 | 2 | 67 | 36 | 31 | S. E. | 3 | ..... |
| Wednes..19 | 30.278 | 58 | 64 | .329 | 2 | 70 | 38 | 32 | N. | 1 | ..... |
| Thurs...20 | 30.159 | 63 | 59 | .328 | 0 | 76 | 45 | 31 | N, | 1 | ..... |
| Friday..21 | 30 010 | 67 | 58 | .376 | 1 | 80 | 51 | 29 | N. | 1 | ..... |
| Sat'day..22 | 29 798 | 67 | 53 | .353 | 0 | 78 | 48 | 30 | N. | 3 | ..... |

*Thermometograph. †Rain.

REMARKS.—The week has been characterized by meteorological phenomena of rare occurrence. But slight variations in the pressure of the atmosphere, and the absence of either abrupt or great oscillations in the barometric column, have hitherto indicated the tropical features of this climate. The first decided exception to this rule is now found in an unprecedented fall in the mercury, from 7 A. M. of the 17th to 9 P. M. of the 18th, of .744 of an inch in 22 hours; *i. e.*, from 30.340 inches, at the former date, to 29.596, at the latter; corrected for temperature. To give an idea of the extremely exceptional character of this phenomenon, we would add that from our carefully noted horary observations, the mean difference of the successive months, above or below the annual average, is found to be not more than one-eleventh of an inch, and that between the highest and lowest monthly mean there is found only a fraction over one-fourth of an inch. The extreme annual ranges are also small. The highest reading ever made was on the 19th of December, 1856 (30.619), and the lowest on the 26th of January, 1865 (29.497). This extreme range, however, of 1.122 inches was not sudden, but occurred during an interval of eight years. As might be conjectured, such perturbations in the atmospheric pressure were not unattended with disturbances in the electrical equilibrium. During this downward tendency of the mercury, on the 17th, between 5 and 5:30 P. M., a thunder storm, as violent as it was uncommon, passed over this locality. During this half hour 0.110 inches of rain and hail fell. Previously during the same rain storm 0.275 inches had fallen. This brings up the total rainfall here to 7.113 inches. As a matter worthy of being chronicled, we herewith append from the *Daily Record* of the 18th of April a popular and circumstantial account of the most remarkable thunder storm ever witnessed by us during 21 years residence in California:

### Freaks of Lightning.

"A curious phenomenon occurred about half-past five o'clock last evening. At that time a heavy black cloud which overhung the city was suddenly rent, and from it burst forth a vivid flash of lightning—the sharpest flash we have ever seen in California—which was immediately followed by a tremendeous peal of thunder, which in its turn was succeeded by a blinding shower of rain, lasting some eight minutes. The flash of lightning was guilty of some few freaks. As a matter of course the telegraph wires were affected by the electricity, which however failed to reverse the instruments but contented itself with merely passing through the offices with the "snapping" always consequent upon such visits. In the office at the depot the electricity entered upon all the twelve wires, making a report as loud as that of a gun. A gentleman engaged in the Central Pacific Company's repair shop, near the Yolo bridge, and who was standing in the doorway at the time, informs us that he distinctly saw the lightning running along the iron track in front of the building, and that it was snapping and sparkling at a terrible rate. At the round house it had a more tangible effect, as the lightning struck one of the cupolas, or ventilators, on the roof, passing through it, tearing off several of the slats and knocking out two of the stanchions which supported it inside. The lightning struck finally in the slough behind the round house. Near the building was standing the engineer of the locomotive Vesuvius, who was about to take out his engine. He was knocked down upon his knees by the electricity, but felt no effects from the shock afterwards. At the repair shop near the bridge two men were prostrated, and it was quite a time before one of them recovered from the effects of the shock, which was made apparent by a soreness of his arms and legs. The man who has charge of the telegraph battery room at the depot was also knocked down, but was not seriously affected. At the residence of A. J. Otterson, on Jibboom street, Mrs. Otterson stood looking out of the rear kitchen window when the lightning struck two trees, one only about ten inches from the window and the other some fourteen feet away, seaming and scarring them somewhat. She felt no effects from it. On the contrary, Otterson and his children, who were at work in the yard, were very visibly affected by the shock, all of them being lifted from the ground by it. This flash was followed by two of less vividness and two more great peals of thunder, after which all remained quiet, and soon after dark not a cloud was to be seen."

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### RAINFALL IN SAN JOAQUIN.

EDITORS PRESS:—In your issue of April 8th you inserted a table of rains in this locality from October, 1868, to the first of this month. We have been favored with rain twice since that communication was sent you. From April 4th to the 7th we received 0.33 of an inch. Yesterday (April 17th) we received 1.31 inches, making, in all, for April, so far, 1.64 inches. In this last rain we had just twice as much as in the whole six months previous. Indeed, it is the largest amount of rain that has fallen in this locality within 24 hours, since February, 1869. Yesterday's storm was a most extraordinary one for this part of California. An inch and a quarter of rain fell in four hours—from 10 A. M. to 2 P. M. This was accompanied by loud peals of thunder, such as we have had but once before in the last three years. At noon hail commenced falling in great quantities, and soon the ground was as white as if covered by snow. In one place where it rolled from the roof of a shed, it remained for hours after the rain in a pile 20 feet long, a yard and a half wide, and an inch and a half deep in the middle. It was not unusually large, but about the size of garden peas. We have heard of no injury it did to grain. The entire amount of rain up to date in this locality for the present season is now 6.75 inches.

April 18, 1871. J. W. A. WRIGHT.

BY OUR LADY EDITORS.

## Grandmother Dale's Stories.

### The Rainy Day.

BY NELL VAN.

[Written for the PRESS.]

We had been at grandmother's cottage about a week, when one day uncle Fred said we were to have a picnic on the Fourth of July, and we must all help Christie make the cake and sandwiches, so that grandmother should not be taxed. Of course both Alice and I agreed to do every thing we could, and the boys promised to pick plenty of strawberries and cherries to carry along. Oh, the merry days of childhood, when every pleasure is so keenly enjoyed. How briskly we went about gathering together the materials for mixing cake, stoning raisins and beating eggs. Then bringing out the pewter mugs and bright tin plates to have in readiness for our woodland feast.

Great were the preparations for the celebration of this glorious anniversary of our country's freedom, and we were to be joined by several of the neighbor's families, while our place of destination was the grove about six miles distant. It had been arranged that Alice and I should ride horse-back, as there was no room for us in the large farm wagon. So grandmother's old-fashioned red side saddle was brought from the lumber closet and relieved of its wrappings, while another was borrowed from a neighbor. We were in ecstasies, Alice and I; for what girls of fifteen do not enjoy a horseback ride in the country, to say nothing of the picnic, with plenty of frolicsome companions?

The long-looked-for day arrived at last, and with it came heavy clouds and rain! "Oh, dear!" said Cousin George," what a shame we cannot have a pleasant day for Fourth of July." Soon Alice came in with sadness in her voice, and putting an arm around my waist said, "come, Minnie, and tell us what we shall do with ourselves. It is so provoking about the weather." Even uncle Fred looked annoyed, and his wife bantered him, because he was always preaching to the children about bearing up nobly under difficulties. "How much easier it is to preach than to practice," she said laughingly, but added, "I do believe I feel more disappointed than any of you, for we shall have to go home to-morrow, and I have never seen your beautiful grove, of which I have heard so much. Little Sarah and Harry were crying outright and grandmother tried to comfort them by saying, "look on the bright side, little ones." "But there is no bright side to a rainy day, grandma," said Harry. "Every cloud has its silver lining, my dear little boy, and you will yet find some good arising from every disappointment. "Grandmother," said I, "how did you learn to be so cheerful and bright, I have heard you say you was so impulsive when a child, yet now you seem perfectly undisturbed when we are all so unhappy on account of the rain."

"Minnie, darling, my life has been full of disappointments. Some natures need just such trials to teach them submission. Dark, stormy days have come upon me when I could least endure them, and my heart has struggled and rebelled till I found resistance was in vain. God's will, not mine, be done, has been my motto for many a year. But cheer up, here comes breakfast, and when it is over I mean to tell you of a rainy day, long ago, which ended so joyfully, that you may learn a lesson from it which I have never forgotten. God grant that without such bitter experiences as mine you may learn the value of trusting in Providence for all your enjoyments." As the rain continued and all hope for our proposed pleasure trip was at an end, several of the neighbors children came in to share with us our disappointment, and reminding grandmother of her promised story, we arranged ourselves in comfortable positions around her, resolving to forget the present in the recollections of the past, which she had such a charming faculty of relating for our amusement.

"It was at Holly Hall, a charming old stone homestead on the banks of the Deleware, where sister and I were spending a month, the summer I was eighteen. She was two years younger, and as full of romance as girls of that age usually are. Uncle William at whose house we were visiting, had no children, and his wife was as young and frolicsome as a girl. He, too, enjoyed lively company as much as the rest of us; and their home was always the resort of the pleasure-loving during the hot summer months when the city people steal away from their homes for a brief sojourn among nature's glories. Riding, boating, swinging, sketching and flirting were among the enjoyments of Holly Hall; and few there are who cannot find something to enjoy in some of these.

There was an arsenal a few miles distant, and we had become acquainted with several of the officers, among whom was Capt. B., whose agreeable sisters kept house for him there. Very frequent were our visits to the arsenal grounds where we played at ten pins in the bowling alley, or rode about on the Donkey belonging to the youngest sister. One day a party of pleasure was planned, and the Capt. and his sisters were to join us. There were at the time ten young people visiting at the Hall. Uncle William and aunt Mabel, with the B.'s and four or five young officers, completed the party of twenty. There was a glorious sheet of water some eight or ten miles away, where it was said there was excellent fishing, and near which was a delightful wood, where we might spread our luncheon. To this spot we resolved to go, as there was also a boat upon the lake, and we were anxious to try our skill at rowing, for some of the young ladies had been heard to boast of their accomplishments in that line. Everything was arranged. Hampers of luncheon with an abundance of everything. Peaches, melons and lemons for lemonade, for we were a temperate party and used no wine.

The morning dawned and with it came rain in torrents. What was to be done! There were no little children to pacify, but tears of regret glistened in more than one pair of eyes. And uncle William declared it was always his luck. Whenever he set his heart on anything he was sure to have some confounded disappointment. Then he paced the floor, stamping his foot impatiently and turning abruptly to me said: "Why don't you say something, Milly, instead of sitting there so mute. Come, let's have a romp. We'll do something to stir up this crowd and keep them from moping in this way." Tapping me upon the shoulder and starting for the door as a thought struck him, he turned and beckoned me to follow, which I did, wondering in my heart what new plan uncle had in his head.

Now Holly Hall had been the home of my grandparents, and uncle William, being the youngest son, had always lived at home with the old folks, having married shortly before he came in possession of the homestead at their death. One of his brothers had in his youth quite a passion for the stage, and was only prevented from choosing it as a profession by grandfather's promising that he might employ his leisure hours in training an amateur theatrical troupe, and for that purpose, had the attic arranged into a large audience chamber, with side dressing rooms. The sisters, of whom mother was one, were very expert with their needles, and had remarkable taste in arranging costumes, so that uncle Thad found himself abundantly supplied with everything whereby to gratify his love for the drama.

He had, however, years before gone to sea in a sudden freak caused by some love disappointment, leaving his theatrical wardrobes in a great chest in the attic, where grandmother would never allow them to be disturbed, hoping that her darling would come back some time to claim them. But nothing had ever been heard of him, and for ten years he had been mourned for as dead. It was to this chest in the attic that my uncle directed his steps, and I, following closely, was both astonished and delighted at the brilliant display of antique robes and tinsel trimmings. "How beautiful!" said I, "let's have some tableaux." "That's it, Milly, tableaux or a fancy dress party to compensate for the rainy weather. You select suitable dresses for the girls, while I get the young fellows up here to choose for themselves, and we will be dressed in grand old style for dinner, ch?"

Delighted with the prospect of such fun, I hastily loaded myself with the lovely bodices and frills with long trailing skirts of silk and velvet and satin petticoats and gorgeous head dresses, carrying them to my room below. Then calling aunt Mabel in, I disclosed to her our plan, and the girls soon gathered about us, entering into the sport with downright enjoyment, while uncle William dispatched Michael with a note to Capt. B. inviting him and his sisters to come over to dine with us at four, regardless of the weather.

The whole forenoon was spent in arranging and altering the dresses to fit, and when the dinner hour arrived, and the guests from the arsenal were announced, they were ushered into the empty drawing room, where they were soon joined by the masqueraders who astonished them by their distinguished appearance. It was almost impossible to recognise each other in our charming disguises, and such a series of grotesque performances as we passed through for the entertainment of our guests, one can scarcely imagine.

The bell for dinner sounded through the hall, and each, selecting a suitable partner, marched in state to the dining room, where we continued to sustain the character assumed for the occasion amid bursts of laughter and applause. The meal over, we returned to the drawing-room, where lights were brought and the departing daylight excluded by dropping the heavy window curtains, when the great knocker on the outer door announced a visitor. The drawing-room door slowly swung on its hinges, displaying to view the tall majestic figure of a military officer. Gliding into the room, he hastened to my sister's side, and slipping her hand in his he bade to be presented to my uncle as Col. Monson. She roguishly obeyed, and with the supposition that the new comer was my sister's friend, uncle William introduced him to the company, and proceeded to entertain him with all the suavity in his power. In the course of conversation the Colonel enquired if he was not the brother of Thad Norton, whom he had accidentally met in his travels.

At this enquiry uncle William grew interested, and made a variety of enquiries respecting his lost brother, with great vehemence of manner, so forgetting his disguise that a hearty laugh from the stranger revealed his identity, and the result was that Col. Munson proved to be no other than uncle Thad himself! Such a glorious hubbub as there followed when it was known that we were masquerading in the theatrical costumes of our recent guest, who had himself come among us disguised beyond recognition, but for his burst of laughter which betrayed him.

Such was the ending of our rainy day, and long was it remembered and rejoiced over."

"But see, children, what stranger is that tying his horse at the gate. He is coming in, seems to me his countenance looks familiar." In another instant he had entered the room, and was fast in the embrace of dear grandmother. It was uncle Oscar, just returned from California. He was our youngest uncle and a great favorite with everybody. Of course we were all delighted because our picnic had been postponed, now that uncle Oscar could be of the party. With many thanks for her story, we acknowledged, with grandmother, that every cloud has a silver lining, and we resolved never again to murmur, remembering that there can be a joyful ending even to a rainy day.

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WOMEN MINERS.—A mining tunnel is now being run on the Comstock lode, in Virginia City, by a company of women—the work in which is also personally superintended by a woman. The Virginia city *Enterprise*, asks why, if women can rock the cradle and wash and scrub, they cannot also run a car and use the pick and shovel as well. Some gentlemen friends of the women referred to, are attempting to persuade them to give up their enterprise or place it in the hands of their male friends; but the ladies don't seem inclined to follow any such advice.

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WOMAN'S TEMPER.—The happiness and influence of women, both as wives and mothers, and indeed in every relation, so much depends on their temper that it ought to be most carefully cultivated. We should not suffer girls to imagine that they can balance ill humor by some good quality or accomplishment; because in fact there are none which can supply the want of good temper in the female sex.

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THE DUSTY ROOM.—A young girl was sweeping a room one day, when she went to the window-shade and hastily drew it down. "It makes the room so dusty, to have the sunshine coming in."

The atoms of dust which shone golden in the sunbeams were unseen in the dimmer light. The untaught girl imagined it was the sunshine which made the dust.

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AT a large dinner, given a short time ago at New York, the names of the guests, designating their places at the table, were painted on rubber balloons which floated over the table, being fastened to long strings, one to the stem of each man's goblet.

## YOUNG FOLKS' COLUMN.

### A Talk With the Boys—Oak Balls.

Boys should study the *leaves* of trees as well as the leaves of books. I will try to help you, and will tell you a story by way of introduction.

A few months ago, a teacher said to a little boy in school, "Victor, let me see, what those things are in your hands?" "Oak balls," said Victor.

"Are they the seeds of the oak?" "No, sir, but they grow on the oak and are called oak balls."

"Do you know what they are good for?" "To make ink," said Victor.

"But what else are they good for? What makes them grow?" "I do not know, sir."

"I will tell you," said the teacher, "and I will show you too, at recess, if you will let me cut open one of the balls;"—"you may have one of them, said Victor."

After a while recess came, and Victor wished to know all about the oak balls. He kept the prettiest one to look at, and play with, and gave the other to the teacher to be cut open.

As the teacher took it he said, "this is the home of a little fly; you see that little round hole, big as a pin's head. One of the flies came out of that hole. I think there are several more yet in the ball.

"We will soon see," said he, as with a strong knife he cut deep into the dry ball. "Yes, here they are, one, two, three, four. If you will let them get warm on your hand they will soon fly away. There goes one."

"Victor, let me see that other ball. It had but one hole in it awhile ago, now it has two. Has one of the flies come out while it was warm in your pocket?"

"No sir," said Victor,—"he is *there* yet; I see his head; he has just cut through, but has not had time to come out."

By this time several other pupils had gathered round, listening and wondering at what they saw.

"But how do the flies get into the balls," asked one? "They are born there," said the teacher. "The mother fly picked a row of tiny holes in the tender bark of a small twig, and placed an egg in each of the holes. This was the crowning act of her life work, and she went away to die.

Those tiny eggs remain safe in the limb till the tree begins to grow in the spring. Then the sap of the tree gathers about the eggs, and a little ball is formed with the eggs near the center. As the balls grows larger the eggs are still kept near the center. In a few days they hatch, and the little worms feed on the juices of the ball.

When they get their growth, they lie quiet for awhile. During this time a great change is going on. That which was a worm is now a fly, with bright wings. When the fly has become strong enough, he begins to eat his way out of the ball, just as you see that one doing who just sticks his head out.

"Is not the oak ball a wonderful thing? The nest, the cradle, the nursery, the home of a tiny fly?"

Now boys I hope you will always walk with your eyes open, and, when you see something new or strange, try to learn all about it.

You will find many wonderful things in the study of insect life. Those of you who live in the country, have many advantages for this study. Just now the oak balls are growing very fast. If you cut one open, carefully, you can see the little grubs lying in the midst of their juicy food. A small magnifying glass will help you to see them. Will you watch them this year, and find out in what month the grub changes to a fly? Find how long the fly remains, before he eats his way out. In some parts of California the fly comes out in the month of October. The largest ball I ever examined had 16 holes. But you say "this is not studying leaves of trees." Well, if you like it I will have another talk with you about tree leaves. For the present, good bye. JEIGH ARRH.

April 16th, 1870.

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LAUGHTERS.—There are different kinds of laughers—dimplers, smilers, grinners, horse-laughers and sneerers. And what a vast difference there is in the childish smile of innocence, the smile of a young mother, the smile of a lover, the smile of the rewarded poor, the smile of a friend, the smile of a politician who has gained the day, the smile of a coquette or a sharp rascal, the smile of an orthodox believer, and the smile of a fool or idiot. Robespierre would only acknowledge one talent of Lafayette—his eternal smile.

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WHERE the child walks to-day the man will walk to-morrow.

# Domestic Economy.

## How to Have Good Mutton.

The following facts, though pertaining more particularly to the butcher's stall, are nevertheless so important to be known in the kitchen, that we have preferred to place them in this department.

The sheep is a delicate feeder, and makes one of the most delicious and digestible of all the butcher's meats. Like most animals, it improves in flavor by age, and attains its perfection, in most breeds, at the age of three years, when it makes *red mutton*—so called, because the gravy, though well done, is *red* and of high flavor. In feeding sheep for the luxurious table, there should be but few together, which allows them greater variety of food and more repose. In large flocks the strong sheep monopolize the best herbs and grasses, and the weaker ones are poor and mean meat; besides, there are always restless sheep where many feed together, and the others of the flock are ill at ease whilst any are on foot. Sheep well-grazed are better than the stall-fed, and have that "gamy" and juicy flesh so liked by epicures. The best table sheep in the British Isles are the small Welsh breed, which have the wide range of those mountains.

But the best sheep in the world are often spoiled by bad butchering, and I propose to show how this should be done. Many persons become disgusted with, and never eat mutton, because of what they term the "wool-taste." Now, a sheep well-dressed, may be wrapped in the skin and wool, as well as in the purest linen, and never have a "wool" flavor. The intestines of the sheep are like those of all the ruminating animals, very long and powerful in capillary absorption; and, if allowed to remain in the body after death, infuse the odor and flavor of their contents into the meat, and thus give that ill taste. Everything, then, depends upon *rapid dressing*.

While yet alive, the sheep should be suspended by the hind legs, well apart, to two pegs, or hooks, to a cross-timber, so that the body may be easily reached on all sides without turning it. The butcher should be prepared, with a sharp knife, ax, meat-saw, thread, and water; also with a block, or low stool, to stand upon, if need be; for the sheep, when suspended, is too long generally to be easily reached in all parts. The throat should then be cut, severing both arteries, and the blood entirely let out. The skin should then be rapidly taken off, at least from the parts to be cut in taking out the intestines, and pinned back, so as freely to allow that operation. This finished, the blood should be washed out by casting on the body clean water freely. Should the intestines at any time be broken, let them be tied up at once, and the soiled parts well cleansed. The body should hang until it is well dry, when it is ready for use. Mutton (and all meats) never ought to be salted, if possible, until it is ready for the cook. Salt absorbs the juices, dries and preserves the meat, but spoils the flavor. Meat should be hung in a cool, dry place, so that all parts may be aired. All "flesh, fish, and fowl" should be eaten as soon as possible after the animal heat is out. Persons in cities, learn to like "high" and stale meats, because they get no other; but it is a depraved taste.—*Agriculturist.*

## Cooking and Eating.

We find the very best types of piety and christian generosity where the wants of the body are well supplied. For this cause God led his ancient people into the land "flowing with milk and honey." "Milk and honey" were means of grace. Where the soil is fat, the harvest abundant, and the people strong, love to God and man flourish, money is freely given to send the gospel to the lost; people delight to give liberally, they devise liberal things, and enjoy it. Material blessings help the spiritual growth. They may be abused, so may any blessings; yet they tend to make Christians more christian-like.

As eating is so useful and christian, the work of preparing food nicely, temptingly, is exalted. A good cook is equal to a good teacher. Skill in preparing food equals skill in science, or literature, or art, and is usually more useful. Many a business man, many a preacher, many a scholar, has failed from lack of health; and poor cooking spoiled the health. Cooking is an honorable calling; there is science in it; there is philanthropy and religion in it; God is served and humanity is blessed by it. Let no one despise the work of the kitchen; it ranks higher than embroidering, music, or ornamentation in the parlor. The cook comes before the author in useful service. She is superior to a professor of the fine arts; she supplies the sinews of war, the juices which make muscle and nerve and brain, and force to think and do manly deeds.

But we should eat like men, and not as gluttons; eat to live and work, and not live to eat; eat what will add most to our strength, as men of thought and action, and avoid the hurtful and degrading.—*Ex.*

## A Fews Hints to Housekeepers.

I have used all the following appliances and can commend them to others:

If the covers of sofas and chairs are dirty they may be cleansed without being removed, by first washing them over with a flannel, then before they are dry, sponge them over with a strong solution of salt and water, in which a small quantity of gall has been mixed. The windows of the room should be opened so as to secure a perfect drying, and the colors and the freshness of the articles will in this way be restored.

Floor cloths may be cleaned with a mixture of magnesia, only milk warm, followed by warm water, in the same manner that carpets are cleansed. They should be rubbed with dry flannel until nearly dried, then wet over with a sponge dipped in milk, and immediately dried and rubbed with a flannel till the polish is restored. This is a process much to be preferred to that of rubbing the cloth with wax, which leaves it sticky and liable to retain dust for a long time. Very hot water should never be used in cleaning floorcloths, as it brings off the paint.

The operation of cleaning mirrors and polished steel articles is an easy matter when rightly understood. The greatest care should be taken in cleaning a mirror, to use only the softest articles, lest the glass be scratched. It should first be dusted with a feather brush, then washed with a sponge dipped in spirits to remove the fly spots; after this it should be dusted with the powder blue in a thin muslin bag, and finely polished with an old handkerchief.

Polished steel articles, rubbed every morning with leather will not become dull or rusty; but if rust has been suffered to gather, it must be immediately removed by covering the steel with finely powdered unslacked lime, and rub it with polishing leather. In these dear times we farmer's wives should do everything within ourselves of this kind, and many others that are expedient, as we all value economy.—*Germantown Telegraph.*

Court Plaster.—It is easy, says the *Scientific Review*, to make this article and so difficult to purchase it genuine, that the process should be known in every household. Soak brushed isinglass in a little warm water for twenty-four hours; then evaporate nearly all the water by a gentle heat, dissolve the residue in a little proof spirits of wine, and strain the whole through a piece of open linen. The strained mass should be a stiff jelly when cool. Now, extend a piece of silk on a wooden frame, and fix it tight with tacks and packthread. Melt the jelly, and apply it to the silk thinly and evenly with a badger hair brush. A second coating must be applied when the first has dried. When both are dry, cover the whole surface with two or three coatings of Balsam of Peru, applied in the same way. Plaster thus made is very pliable, and never breaks.

Home-Made Soda Water.—Beat the whites of three fresh eggs until light, then stir in two tablespoonfuls of corn starch (or fine flour) with half a pint of water. Add 2 lbs. white sugar, and 3 oz. cream tartar and three of tartaric acid dissolved in two quarts of water. Boil the whole five minutes. When cold, bottle, and for soda water fill a half-pint tumbler one-third full of water, adding two tablespoonfuls of the mixture. Finally, stir in ¼ teaspoonful of soda dissolved in water, and the result will be a glass of soda water, very little inferior to that sold in the shops.

To Make Boiled Onions Look White. Take a white or yellow-skinned kind. Skin them thoroughly. Put them to boil. When they have boiled a few minutes, pour off the water, and add clean, cold water, and set them to boil again. Pour this away, and add more cold water, when they may boil till done. They will be white and clear.

## Domestic Receipts.

Orange Biscuit.—Beat the butter until it is cream, and stir it into the white sugar, then mix in the flour and stir in gradually the yolks of the eggs, beaten well; whisk the whites, and mix them with the other ingredients—fill some butter moulds, pour in the mixture, sift some powdered sugar over, and bake them in a slow oven.

Lemon Biscuit.—Dissolve the soda, mix the sugar, flour, milk, suet and lemon all well together, using milk enough to wet the dough, cut them out, put on greased, and bake in an oven.

Hickory Nut Biscuit.—Make same as for savory biscuit; shell and chop the nuts, course or fine, and mix in; roll out thin, bake brown.

Lye Hominy.—To one gallon of shelled corn, add one pint of strong lye, (or one quart strong ashes, if you have no lye,) and sufficient water to boil. Boil until the hull becomes loose, then wash thoroughly; put on and boil a few minutes, then pour off the lye water and add fresh water. Boil now until thoroughly done, and you will have "lye hominy" good enough for any one.

To Get Rid of Fleas.—Sprinkle air-slacked lime, in small quantities often around stables, hen roosts, sheds, places where hogs and dogs sleep, etc. It is a sure, cheap, clean and healthy remedy.

To Get Rid of Ants.—Drop some quicklime on the mouth of their nests, and wash it in with boiling water; or dissolve some camphor in spirits of wine, then mix with water, and pour it into their haunts; or tobacco water. A few leaves of green wormwood, scattered among the haunts of these troublesome insects, is said to be effectual in dislodging them. They are averse to strong scent. Camphor will prevent their infesting a cupboard, or a sponge saturated with creosote.

Shaving Paste.—Spermaceti, almond oil and white wax, of each, half an ounce; melt, and, while warm, beat in four squares of Windsor soap, previously reduced to a paste with rose-water.

To Prepare Lettuce.—Lettuce being a very plentiful fresh vegetable just now may be dressed in several ways, thus giving variety. Prepare a mixture as you would for cold slaw. A cup of rich milk or thin cream, one egg beaten light, a tablespoonful of mustard, a lump of butter half size of an egg, salt to your taste. Set on the fire until the ingredients are thoroughly heated. When cold add by degrees a cup full of strong vinegar. This mixture poured over the lettuce will make a very appetizing addition to a spring dinner.

## Mechanical Hints.

Lapland Glue.—The bows of the Laplanders are composed of two pieces of wood glued together, one of them of birch, which is flexible, and the other of the fir of the marshes, which is stiff, in order that the bow, when bent, may not break; and when unbent, it may not bend. When these two pieces are bent, all the points of contact endeavor to disunite themselves; and to prevent this, the Laplanders employ the following cement: They take the skins of the largest perches (it is very probable that eel skins would answer the self same purpose) and having dried them, moisten them in cold water until they are so soft that they may be freed from the scales, which they throw away. They then put four or five of these skins in a reindeer's bladder, or they wrap it in such a manner that water cannot touch them, thus covered, in a pot of boiling water, with a stone above them to keep them at the bottom of the pot. When they have boiled about an hour, they take them from the bladder or bark, and they are then found to be soft or viscous. In this state, they employ them for gluing the two pieces of their bows, which they strongly compress, and tie up until the glue is well dried. These pieces never afterwards separate.

Rules for Painting.—1. Let the groundwork be carefully prepared and dry. 2. See that the colors are well ground and duly mixed. 3. Do not mix much more, nor any less, paint than you think will be necessary for the present work. 4. Keep the paint well mixed before using. 5. See that the paint is neither too thick to work well, nor too thin to cover properly, and apply it evenly. 6. Do not apply a succeeding coat before the previous one is dry. 7. Do not use a lighter color over a darker. 8. Do not add driers to colors long before using. 9. Use just as little driers as will do the work. 10. Do not over-charge the brush with paint. 11. Begin with the highest part of your work and proceed downward.—*Builder.*

# Life Thoughts.

The less a man thinks about his virtues, the better we like him.

Prefer diligence before idleness, unless you esteem rust above brightness.

Buy the truth and sell it not; also wisdom and instruction and understanding.

Faith which works by fear only leads to a selfish, dishonest repentance, if to any.

No person ever got stung by hornets who kept away from where they were. It is so with bad habits.

Praises are valuable only when they fall from lips that have courage to condemn.

Live to be useful. Live to give light. Live to accomplish the end for which you were made, quietly and steadily shine on, trying to do good.

Getting in debt is like a mouse getting into a trap—very easy going, but extremely difficult getting out.

We are prone to judge others narrowly by their particular acts. We like ourselves to be judged generously, by our spirit.

There is no sin we can be tempted to commit, but we shall find a greater satisfaction in resisting than in committing.

Do daily and hourly your nearest duty. Never mind whether it be known or acknowledged; in the blithsome "sometime," it will have its reward.

Swift says: "It is with narrow-souled people as it is with narrow-necked bottles, the less they have in them, the more noise they make in pouring it out."

Many who bear the loss of a dear child, or of all their property, with the most heroic fortitude, are entirely vanquished by the breaking of a dish, or the blunder of a servant.

## Life too Short, Yet Wasted.

Pliny makes a striking computation in regard to the shortness of life. We never recall it without being powerfully impressed by its truth. "Consider," he says, "the time spent in sleep, and you will find that a man actually lives only half his space. The other half passes in a state resembling death. You do not take into account the years of infancy, which are destitute of reason, nor the many diseases and the many cares of old age, those penalties of longevity. The senses grow dull, the limbs are racked, the sight, the hearing, the power of walking, the teeth also, die before us; and yet all this time is reckoned in the period of a life." But short as life is at the best, those who complain of its brevity let it slide by them without wishing to seize and make the most of its gilded moments. How much time do we waste in indecision, in vain regrets, delusive hopes, and ungrounded fears! What a vast portion of our previous existence is wasted in mere *waiting*—waiting for something that seems necessary for our happiness, and the want of which prevents us from enjoying the present hour.

The True Magnet.—The power of the magnet gains nothing from the gilder's or the graver's art; its attraction lies in itself and is dimished by foreign accretions. So it is with the greatest of all magnets of which Christ spake when He said: And I, if I be lifted up, will draw all men unto me. We may draw men to ourselves by genius, eloquence, eccentricity, but we can draw men to Christ only by attraction of the Cross.

Study and Reading.—It has been wisely said, "Beware of the man of one book," that is of the man who has devoted his whole attention to the critical study of any one book. Such an individual proves a very dangerous antagonist in the intellectual arena, and is apt to make sad havoc among good people who read everything but acquire nothing—a vice rather prevalent among men just now.

A hen with a solitary chicken will often make tenfold the fuss of another with a brood of a dozen or more. The principle is frequently illustrated in life. There are many such hens among the men and women of society. Fuss and feathers not unfrequently tell more than fact and substance.

People's Desires.—Some desire to be considered pre-eminently good, others rationally so, and others again are satisfied if their conduct places them beyond the reach of censure.

Adoration.—Every man cherishes in his heart some object—some shrine at which his adoration is paid, unknown to all save his God.

## The New Mint.

There is, as most of our readers are aware, a new building now in course of erection in this city, which is to be used in place of the present inadequate mint. For this building a good location has been selected, a large sum of money appropriated, and an imposing structure promised, which shall be an ornament to the city. We have spoken of the progress made from time to time, and have indulged in the hope that the edifice would be a monument of architectural skill and excellent workmanship.

For several months we have watched the course of events, and our hopes, we are sorry to say, have been changed into fears. Instead of an ornament, the edifice bids fair to be a disgrace. It is being constructed of an imported stone, a cretaceous sandstone from Victoria. This rock contains a little lignite in places and considerable iron. On exposure to the atmosphere, the iron is oxidized, and before the building had risen many feet above the foundation, the stone was already discolored. We are now enjoying the sight of an apparently ruinous monument being erected. Again, the separate stones are in many instances being laid at right angles to the natural position, and promise to chip off extensively.

We do not know who is to blame in this case. We have been told that the stone has been contracted for, and that the workmen are obliged to do as well as they can with the material they have. We suppose, then, that it is too late to expect a remedy. We strongly object, however, to the use of public moneys for such ugly things as these. If an earthquake should feel obliged to visit us, it would be a little consolation if it would shake down the miserable object and rid us of it. The present unsightly mint does not trouble us so much as does the new ruin.

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Mistaken Identity.—In the article published last week on "The Culture of Asparagus," we mistook the name of the party sending the sample and the statement with regard to the mode of culture employed in its production, giving credit for the same to Mr. Pryal, of Oakland, instead of to Mr. William Boots, who resides some six miles north of San José. We have received a note from Mr. B. calling attention to the mistake, and also furnishing some further and very interesting particulars with regard to his experience in gardening which we shall give next week.

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The Mission Silk Project.—We understand that the co-operative silk project recently started, near Mission San Jose, under the auspices of Mr. Neuman, is making good progress. The company has already set out 8,000 trees which number will be greatly increased another year, and are now feeding worms, which have reached their 17th day. The company expect to have their factory ready for operation in the course of the summer. The machinery will be driven by a 50 to 75-horse power water-wheel. An official statement of the progress which the company has made will be placed before the public in a few days.

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Narrow Gauge.—A surveying party of about twenty persons, under E. N. Robinson, have started out to survey the line for a narrow gauge road down the coast from this city to San Diego, of which project we have previously made mention.

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The Sacramento Beet Sugar Company has obtained a first-class expert from Germany, Herr Ernstein, who prefers the diffusion process to that in use in Alvarado. The company has four hundred acres of beets on the American river bottom not looking very promising yet, on account of north winds. It contemplates getting a seventy-five ton sugarie in time for the present crop. Two acres of water-melons are put out as an experiment in melon sugar making.—*Alta.*

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Coal in Los Angeles County.—About 40 miles east of Los Angeles, coal of good quality is reported as abundant, and is to be worked immediately.

# Eighteenth Annual Fair

OF THE

CALIFORNIA

# State Agricultural Society,

To commence on the 18th and end on the 23d of September, 1871, at SACRAMENTO CITY.

**OVER $20,000 APPROPRIATED FOR PREMIUMS!**

Liberal SPECIAL PREMIUMS for all worthy articles exhibited, not mentioned in the Schedule. Also, in addition to the Premiums named, the Society will give a GOLD MEDAL to the most Meritorious Exhibition in each of the seven departments.

**The Pavilion will be open for the reception** of Articles for Exhibition on Friday and Saturday, September 15th and 16th, 1871.

## LIST OF PREMIUMS,

**Open to all the States and Territories.**

## FIRST DEPARTMENT.

### LIVE STOCK.

#### HORSES.

In this department the same animal cannot be entered more than once, except in sweepstakes, or as a colt with its sire or dam, as a member of a family.

No animal will be allowed to compete for a premium unless free from disease or blemish which can be transmitted to posterity.

CLASS I—THOROUGHBRED HORSES.

In this class none will be permitted to compete but such as furnish a complete pedigree—tracing the entire line of descent to the English parent on the side of both sire and dam. The standard of authority for the pedigree of thoroughbred horses will be the English and American Stud Books.

Best stallion, four years old and over..... $75
Best stallion, three years old..... 50
Best stallion, two years old..... 40
Best stallion, one year old..... 30
Best colt under one year..... 20
Best mare, four years old and over, with colt..... 60
Best mare, four years old and over..... 50
Best mare, three years old..... 40
Best mare, two years old..... 30
Best mare, one year old..... 25
Best mare colt under one year..... 20

**Families.**

Best thoroughbred sire, with not less than ten of his colts, all thoroughbred..... 100
Best thoroughbred dam, with not less than four of her colts, all thoroughbred..... 60
Best stallion, other than thoroughbred, with not less than ten of his colts, open to all..... 75
Best dam, other than thoroughbred, with not less than three of her colts..... 50

CLASS II—HORSES OF ALL WORK.

Best stallion, four years old and over..... 40
Best stallion, three years old..... 30
Best stallion, two years old..... 20
Best stallion, one year old..... 15
Best mare, four years old and over, with colt..... 40
Best mare, four years old and over..... 30
Best mare, three years old..... 20
Best mare, two years old..... 15
Best mare, one year old..... 10

CLASS III—GRADED HORSES.

In this department none will be allowed to compete but such as furnish satisfactory proof of a cross of either sire or dam with thoroughbreds.

Best stallion, four years old and over..... $50
Best stallion, three years old..... 40
Best stallion, two years old..... 30
Best stallion, one year old..... 20
Best colt under one year, without reference to sex.. 20
Best mare, four years old and over..... 40
Best mare, four years old and over, with colt..... 50
Best mare, three years old..... 30
Best mare, two years old..... 20
Best mare, one year old..... 15

CLASS IV—DRAFT HORSES.

Best stallion, four years old and over..... 40
Best stallion, three years old..... 30
Best stallion, two years old..... 20
Best stallion, one year old..... 15
Best mare, four years old and over, with colt.. ..... 40
Best mare, four years over..... 35
Best mare, three years old..... 25
Best mare, two years old..... 20
Best mare, one year old..... 15

CLASS V—ROADSTERS.

All animals competing for a premium in this department must be exhibited in harness.

Best stallion, four years old and over..... $50
Best stallion, three years old..... 40
Best stallion, two years old..... 30
Best gelding, four years old and over..... 40
Best mare, four years old and over..... 40
Best mare, three years old..... 30
Best mare, two years old..... 20

CLASS VI—CARRIAGE HORSES.

Best matched span carriage horses, owned and used as such by one person, silver goblet, worth..... 40

CLASS VII—ROADSTER TEAMS.

Best double team roadsters, owned and used as such by one person, silver goblet, worth..... 40

CLASS VIII—SADDLE HORSES.

Best Saddle Horse..... Fine Bridle

CLASS IX—COLTS.

Free to all except those entered as thoroughbred and graded.

Best yearling horse colt..... $30
Best sucking horse colt..... 20
Best yearling mare colt..... 20
Best sucking mare colt..... 15
Best exhibit of not less than six colts, owned by one person, of any age or sex, can be entered in other classes when allowed by the general rules..... 50

CLASS X—SWEEPSTAKES.

Open to all. In the awards in this department blood will have the preference only when in the examination all other qualifications shall be found equal.

Best stallion of any age, silver pitcher worth..... $150
Best mare of any age, silver pitcher worth..... 100

CLASS XI—JACKS AND MULES.

Best jack..... 50
Best jennet..... 40
Best mule two years old..... 20
Best mule one year old..... 15
Best mule under one year old..... 10

#### CATTLE.

CLASS I—DURHAM CATTLE.

Best bull, four years old and over..... 75
Best bull, three years old and over..... 40
Best bull, two years old and over..... 30
Best bull, one year old and over..... 25
Best bull calf..... 15
Best cow, four years old and over..... 50
Best cow, three years old and over..... 40
Best cow, two years old and over..... 30
Best cow, one year old and over..... 20
Best heifer calf..... 15
Devons, Herefords, Alderneys, Ayrshires and Holderness—same premiums as for Durhams.

CLASS II—GRADED CATTLE.

Best bull, four years old and over..... 40
Best bull, three years old and over..... 30
Best bull, two years old and over..... 20
Best bull, one year old and over..... 15
Best bull calf..... 10
Best cow, four years old and over..... 30
Best cow, three years old and over..... 20
Best cow, two years old and over..... 15
Best cow, one year old, full blooded..... 10
Best herd of cattle of any one breed, not less than ten, owned by one person..... 100

CLASS III—SWEEPSTAKES.

Best bull of any age or stock, silver pitcher worth.. 100
Best cow of any age or stock, silver pitcher worth.. 75

#### SHEEP AND GOATS.

CLASS I—STOCK SHEEP AND MUTTON.

Best ram two years old and over..... 20
Best ram under two years..... 15
Best three ewes two years old and over..... 15
Best three ewes under two years..... 10

CLASS II—FINE WOOL SHEEP.

Best Spanish merino ram two years old and over.... 30
Best Spanish merino ram under two years..... 20
Best three Spanish merino ram lambs..... 20
Best three Spanish Merino ewes two years old and over..... 20
Best three Spanish merino ewes under two years.... 20
Best five Spanish merino ewe lambs..... 20
Best French merino—same premiums as for Spanish.
Best Cotswold and Leicestershire—same premiums.
Cross between any two thoroughbreds, same premiums.

CLASS III—GRADE OR CROSS WITH SPANISH MERINO.

In this class a statement must be filed with the Committee, of the degree of the cross and the breed of the sheep crossed with.

Best ram two years old and over..... $20
Best ram under two years..... 15
Best three ram lambs..... 20
Best three ewes two years old and over..... 15
Best three ewes under two years..... 15
Best five ewe lambs..... 15
Best grade or cross with French merino—same premiums as for Spanish.
Best cross with Cotswold and Leicestershire—same premiums as for Spanish.

CLASS IV—SWEEPSTAKES ON SHEEP.

Best buck of any age or breed, silver goblet..... $30
Best ewe of any age or breed, silver goblet..... 25
Best pen of not less than five ewes of any age or breed, silver goblet..... 30

CLASS V—CASHMERE AND ANGORA GOATS.

Best thoroughbred buck..... $30
Best thoroughbred she goat..... 20
Best thoroughbred three kids..... 20
Best graded lot of three..... 15

#### Swine.

CLASS I—LARGE BREEDS, WHICH, WHEN FAT, WILL WEIGH AT MATURE AGE OVER 300 POUNDS.

Best boar two years old and over..... $30
Best boar under two years old..... 20
Best boar six months old and less than one year.... 10
Best breeding sow two years and over..... 25
Best breeding sow one year old..... 15
Best sow six months old and under one year..... 10
Best lot of not less than six pigs, not less than five nor more than ten months old..... 20

#### POULTRY.

CLASS I.

Best lot of white or gray Dorkings..... $5
Best lot of black Spanish..... 5
Best lot of black Poland..... 5
Best lot of Jersey Blues..... 5
Best lot of Sumatra game..... 5
Best lot of English game..... 5
Best lot of light Brahmas..... 5
Best lot of any other distinct variety..... 5
Best lot of turkeys..... 5
Best lot of ducks, any good variety..... 5
Best lot of geese..... 5
Best lot of Guinea fowls..... 5

## SECOND DEPARTMENT.

### Machinery, Implements, Etc.

Models in Classes I, II, III and IV cannot compete with full sized machines.

All machinery, as far as practicable, to be exhibited in motion.

All articles named in Classes I, II, III, IV, V, VI and VII of this Department, if of California manufacture, will receive the premium offered and diploma; if not, they will be awarded a diploma only.

CLASS I—MACHINERY, ENGINES, ETC.

Best display of general machinery from one shop... $50
Best light portable prospecting mill for reducing quartz..... 25
Best machine for saving quartz sulphurets..... 25
Best concentrator for copper ores..... 25
Best grinding and amalgamating pan combined..... 25
Best turbin wheel (Cal. manufacture)..... 25
Best quartz crusher (Cal. manufacture)..... 25
Best steam engine (Cal. manufacture)..... 50
Best portable steam engine (Cal. manufacture)..... 25
Best portable sawmill..... 20
Best saw gummer..... 2
Best self-setting sawmill head block..... 5
Best stave machine..... 5
Best shingle machine..... 5
Best lathe machine..... 5
Best hoop machine..... 5
Best molding machine..... 5
Best mortising machine..... 5
Best sash machine..... 5
Best tenoning machine..... 5
Best scroll sawing machine..... 5
Best wood turning lathe..... 5
Best iron turning lathe..... 5
Best iron planing machine..... 10
Best wood planing machine..... 10
Best water wheel..... 10

CLASS II—AGRICULTURAL MACHINES (FIRST DIVISION).

Best display of agricultural machinery by any one house (Cal. manufacture)..... $50
Best threshing machine..... Fr. diploma
Best sweep horse power (Cal. manufacture)..... 10
Best endless chain, horse power (Cal. manufacture) 10
Best threshing machine, operated by endless chain power..... 10
Best circular sawmill, operated by horse power..... 10
Best log crosscut sawmill, horse power..... 10
Best clover huller and cleaner..... 5
Best clover huller..... 5
Best hemp and flax dressing machine..... 10
Best cider mill and press..... 10
Best horse hay rake..... 10
Best hay and straw cutter..... 5
Best hay press..... 20
Best power corn sheller..... 5
Best hand corn sheller..... 5

If possible, the Board will manage to have a grand trial of reaping and threshing machines, to come off during the Fair, and will give special premiums for the same.

CLASS III—AGRICULTURAL MACHINES (SECOND DIVISION).

Best header (Cal. manufacture)..... $50
Best wheat drill (two horse)..... 10
Best wheat drill (one horse)..... 5
Best grain broadcast sowing machine..... 10
Best machine for cutting and shocking corn..... 5
Best clover seed harvester..... 5
Best self-raking and reaping machine..... 10
Best reaping machine..... 10
Best mowing machine..... 10
Best combined reaper and mower..... 20
Best display of reaping and mowing machine knives 5
Best hay pitching machine..... 5
Best corn planter (horse power)..... 5
Best corn planter (hand)..... 2
Best potato planter..... 5
Best potato digger..... 5
Best field roller and crusher..... 10
Best harrow..... 5
Best one-horse corn cultivator..... 5
Best two-horse corn cultivator..... 10
Best horse hoe..... 5
Best double shovel plow..... 5

CLASS IV—AGRICULTURAL MACHINES (THIRD DIVISION).

Best smut machine..... $10
Best farm feed mill..... 10
Best fanning mill..... 5
Best flour packing machine..... 5
Best self-regulating windmill..... 15
Best stock scales for general purposes, to be set up by exhibitor, and be used by the Board during the Fair, free of charge..... 25
Best platform scales..... 5
Best stump extractor..... 10
Best brick machine..... 10
Best drain tile machine..... 10
Best farm gate..... 15
Best beehive (without bees)..... 3
Best refrigerator..... 5
Best agricultural boiler..... 5
Best portable fence..... 20
Best ornamental fence..... 10
Best economical fence for tule land..... 25

CLASS V—TOOLS AND HOUSEHOLD IMPLEMENTS.

Best display of haying and harvesting tools..... $20
Best set of draining tools..... 5
Best farm road scraper..... 2
Best garden seed drill..... 2
Best cheese press..... 10
Best cheese vat, with heater attached..... 10
Best cheese shelf model..... 5
Best churn..... 10
Best butter worker..... 5
Best cabbage cutter..... 2
Best sausage meat cutter and stuffer..... 5
Best washing machine..... Diploma and 5
Best clothes wringer..... Diploma
Best mangle or ironing machine..... 5
Best clothes horse, to occupy the least space..... 5
Best well pump..... 10
Best apparatus for raising water for irrigating purposes..... 20
Best apparatus for raising water for mining purposes 20

CLASS VI—PLOWS.

Best steam plow, to be tested to the satisfaction of the Committee, and its utility fully demonstrated. $200
Best two-gang plow..... 40
Best plow for general purposes..... 10
Best stubble plow..... 10
Best sod plow..... 10
Best steel plow..... 10
Best cast iron plow..... 10
Best subsoil plow..... 10
Best sidehill plow..... 5
Best one-horse plow..... 5
Best mole or blind ditching plow..... 10
Best open ditching plow..... 10
Best dynamometer..... 10

The Board will furnish to exhibitors suitable grounds for practically testing their plows, under the direction of the Awarding Committee.

CLASS VII—VEHICLES.

Best two-horse family carriage..... Diploma and $30
Best one-horse family carriage..... Diploma and 25
Best top buggy..... Diploma and 20
Best trotting wagon..... Diploma and 15
Best farm wagon for general purposes..... 15
Best spring market wagon..... 15
Best cart..... 5
Best street goods wagon..... 5
Best wagon or carriage brake..... 5
Best jackscrew..... 5
Best carriage or cab for children..... 5
Best display of carriage wheels, hubs, etc..... 10

## THIRD DEPARTMENT.

### TEXTILE FABRICS—MILL AND DOMESTIC PRODUCTS.

#### Textile Fabrics and Materials of which they are Made.

Articles to be exhibited by manufacturer, and articles which heretofore have received a premium, to be excluded from competition, except in Class VI.

CLASS I—FABRICS MADE FROM CALIFORNIA SILK.

Best specimen of silk manufactured, not less than five yards..... $20
Best pound reel silk, made in family..... 10
Best pound sewing silk, made in family..... 10
Best specimen of raw silk goods..... 10
Best pair of silk stockings..... 10
Best pair of silk gloves..... 10
Best silk shawl..... 20
Best silk cravat..... 10
Best piece of pocket handkerchiefs..... 10

CLASS II—MILL FABRICS.

Best display of woolen goods by one manufactory... $50
Best display of cotton goods by one manufactory... 50
Best ten yards woolen cloth..... 5
Best ten yards cassimere..... 5
Best ten yards satinet..... 5
Best ten yards jean..... 5
Best ten yards floor oil cloth..... 10
Best ten yards tweed..... 5
Best ten yards cloth of flax cotton..... 5
Best piece cotton sheeting..... 5
Best ten yards of flannel..... 5
Best fifteen yards woolen carpet..... 20
Best fifteen yards tow cloth..... 5
Best ten yards linen..... 20
Best ten yards linen diaper..... 10
Best ten yards kersey..... 5
Best hearth rug..... 5
Best double carpet coverlet..... 5
Best pound linen sewing thread..... 5
Best shawl..... 5
Best mackinac blanket..... 5
Best pair woolen blankets..... 5
Best stocking yarn..... 3
Best oil cloth table cover..... 5
Best display of cordage..... Diploma and 5

CLASS III—NEEDLE, SHELL AND WAXWORK CLOTHING, HATS, CAPS, FURS, ETC.

Best exhibit and greatest number of articles in this class..... Fr. Diploma and $10
Best ottoman cover..... 5
Best table cover..... 5
Best fancy chairwork with needle..... 5

Best fancy chair cushion and back ..... 5
Best woolen sbawl ..... 5
Best crotchet shawl ..... 5
Best worked shawl ..... 5
Best lace cape ..... 3
Best lampstand mat ..... 3
Best ornsmental needlework ..... 5
Best silk embroidery ..... 5
Best embroidered sofa cushion ..... 5
Best embroidered mantilla ..... 5
Best embroidered table spread ..... 5
Best embroidered dressing gown ..... 5
Best embroidered lady's robe ..... 5
Best embroidered lady's dress ..... 5
Best embroidered children's clothes ..... 5
Best embroidered undersleeves ..... 3
Best embroidered lady's collar ..... 3
Best embroidered handkerchief ..... 3
Best cheullle embroidery ..... 5
Best embroidery with beads ..... 5
Best tatting collar ..... 3
Best worked collar ..... 3
Best worked veil ..... 3
Best worked handkerchief ..... 3
Best silk honnet ..... 5
Best velvet bonnet ..... 5
Best knit cloak ..... 3
Best exhibit of men's clothing ..... 10
Best exhibit of boys' clothing ..... 5
Best exhibit of men's hats and caps ..... 5
Best collection of furs ..... 10
Best assortment leather gloves snd mittens ..... 5
Best variety of linen embroidery ..... 10
Best group of artificial flowers ..... 10
Best variety of artificial flowera ..... 5
Best specimen of wax flowers ..... 5
Best group of wax flowers ..... 5
Best specimen of wsx frult ..... 5
Best and largest variety of wax fruit ..... 5
Best specimen of moss or lichen work ..... 5
Best specimen cone work ..... 5
Best specimen leaf work ..... 5
Best specimen flower work ..... 5
Best specimen shell work ..... 5
Best braid of straw or grass ..... 5
Best specimen of braid work ..... 5
Best embroidered picture ..... 10
Best white quilt ..... 5
Best worked quilt ..... 5
Best silk quilt ..... 5
Best patchwork quilt ..... 5
Best children's affghan ..... 5
Best display of millinery ..... 20

CLASS IV—HOUSEHOLD FABRICS.

No article manufactuaed in factories or out of the family will be received in tbis class. Exhibitors must accompany their articles with a certificate of manufacture in tho family within the year.

Best ten yards jean ..... $10
Best pair woolen blankets ..... 10
Best ten yards flannel ..... 10
Best woolen carpet, fifteen yards ..... 10
Best ten yards linen ..... 10
Best ten yards linen diaper ..... 10
Best ten yards kersey ..... 5
Best pair kersey blankets ..... 10
Best rag carpet, fifteen yards ..... 10
Best fifteen yards of tow cloth ..... 5
Best heartb rug ..... 5
Best double carpet coverlet ..... 5
Best pair woolen knit stockings ..... 3
Best pair of cotton knit stockings ..... 3
Best pair by misses under twelve years of age ..... 5
Best pound of linen sewing thread ..... 3
Best pair of woolen fringe mittens ..... 3
Best pair of woolen mittens ..... 3
Best pair by misses under twelve years of age ..... 5
Best palr of woolen stockings by misses under twelve years of age ..... 5
Best lincu bandkerchiefs ..... 5
Best netting ..... 3
Best worsted kuit stockings ..... 3
Best stocking yarn ..... 5
Best woolen shawl ..... 5
Best mili bag ..... 5
Best woolen knit drawers ..... 5
Best woolen knit shirt ..... 5
Best foot mats ..... 3
Best straw hat ..... 5
Best straw bonnet ..... 5
Best grass honnet ..... 5
Best grass hat ..... 5
Best gentleman's shirt ..... 5
Best knit bedspread ..... 5
Best wove bedspread ..... 5
Best ten pounds dressed flax ..... 10
Best five pounds flax cotton ..... 10
Best five pounds flax yarn ..... 5

Articles exhibited by misses under ten years of age, entrance free.

CLASS V—SADDLERS' AND SHOEMAKERS' WARE AND MISCELLANEOUS ARTICLES.

Best traveling trunk ..... $10
Best carpet sack ..... 5
Best set of carriage harness ..... 10
Best set of farm harness ..... 10
Best display of leather ..... 10
Best display of saddles and bridles ..... 10
Best display of hames ..... 3
Best display of saddletrees ..... 3
Best display of brushes ..... 3
Best display of shoe lasts, pegs and lasting machine ..... 5
Best pair of dress boots ..... 5
Best pair of heavy boots ..... 5
Best pair of gent's dress sboes ..... 5
Best pair of Congress gaiters ..... 5
Best pair of ladies' gaiters ..... 3
Best palr of ladies' slippers ..... 3
Best pslr of bootees ..... 3
Best display of bound account books ..... 5
Best display of paper ..... 5
Best display of paper bangings and borders ..... 5
Best silk hat ..... 5
Best soft bat ..... 5
Best made suit of gentlemau's clothing ..... 10
Best display of printing ..... 10
Best display of gloves and mittens ..... 3
Best dlsplay of ladies' furs ..... 10

## FOURTH DEPARTMENT.

### MECHANICAL PRODUCTS.

All products of industry competiug for premiums are to be exhibited by or for the maker or improver or inventor.

CLASS I—WORKED METALS.

Best display of copper work ..... Diploma and $20
Best display of hrass work ..... Diploma and 20
Best dlsplay of axes ..... 5
Best display of locks ..... 5
Best dlsplay of door trimmings ..... 5
Best display of window trimmings ..... 5
Best display of wlndow, hlind or shutter trimmings ..... 5
Best display of saddlers' hardware ..... 5
Best display of borseshoes ..... 5
Best dlsplay of borsesboe nalls ..... 5
Best dlsplay of plumbers' goods and ware ..... Diploma and 10
Best display of gas cbandeliers and burners ..... Diploma and 10
Best display of lamps ..... 10
Best display of general bardware ..... 10
Best display of iron and steel ..... 5
Best display of iron fencing including post ..... 10
Best display of mecbanics' tools ..... 10
Best display of table cutlery ..... 5
Best display of pocket cutlery ..... 5
Best display of silverware ..... 10
Best display of Britannia ware ..... 5
Best display of clocks ..... 10
Best display of kitchen utensils of hrass or copper ..... 10
Best display of kitchen utensils of tin ..... 5
Best circular saws ..... 5
Best mill saws ..... 5
Best hsnd ssws ..... 5
Best dlsplay of flies ..... 5
Best burglar and fireproof safe ..... 20
Best collection of California marhle ..... 25

CLASS II—STOVES, CASTINGS, ETC.

Best cooking stove for wood ..... $ 5
Best cooking stove for coal ..... 5
Best parlor stove ..... 5
Best warming furnace or other furnace ..... 5
Best cooking range ..... 10
Best parlor grate ..... 3
Best pair ornamental iron vases ..... 3
Best specimen of msrbleized iron ..... 3
Best specimen of marbleized stone ..... 5
Best specimen of msrbleized wood ..... 5
Best display of bollow iron ware ..... 5
Best ornamental statuary ..... 5
Best ornamental truit and flower stand ..... 5
Best cburch bell ..... 20
Best farm bell ..... 5
Best chlme of bells ..... 5

CLASS III—MUSICAL INSTRUMENTS, CABINET WARE—CALIFORNIA MANUFACTURE.

Best grand or semi-grand pianoforte ..... $20
Best houdoir piano ..... 20
Best square piano ..... 20
Best parlor plano ..... 10
Best dressing bureau ..... 10
Best sofa ..... 10
Best lounge ..... 5
Best extension table ..... 5
Best office chalr ..... 5
Best set of parlor cbairs ..... 10
Best center table ..... 5
Best pair of side tables ..... 5
Best set of parlor furniture ..... 20
Best display of furniture ..... 20
Best display of mattresses ..... 5
Best seats and desks for schools ..... 5
Best writing desk ..... 5
Best hook case ..... 5
Best wardrode ..... 10
Best sick chair or coucb ..... 5

CLASS IV—WOODEN WARE.

Best display of cedar ware ..... $ 5
Best display of pine ware ..... 5
Best display of oak ware ..... 5
Best display of window shades ..... 5
Best display of window blinds ..... 5
Best display of willow ware ..... 10
Best display of splitwood baskets ..... 5
Best display of pine, oak or walnut doors ..... 10
Best display of flour, pork and tlght barrels ..... 10
Best display of turning-latbe work ..... 5
Best display of osier willow ..... 5
Best wine cask ..... 10
Best display of wooden ware ..... 50

CLASS V—PHILOSOPHICAL, SURGICAL, DENTAL, DRAWING, PAINTING, SURVEYING AND LEVELING INSTRUMENTS AND APPARATUS, ETC., OF FINE WORKMANSHIP, EXHIBITED BY MAKER—AMERICAN MANUFACTURE.

Best surgical instruments ..... Diploma
Best set optical instruments ..... Diploma
Best dentist's instruments ..... Diploma
Best set of mathematical and philosophical instruments ..... Diploma
Best specimens dentistry ..... Diploma
Best tbeodolite ..... Diploma
Best level ..... Diploma
Best surveyor's compass ..... Diploma
Best achromatic telescope ..... Diploma
Best reflecting telescope ..... Diploma
Best optical apparatus ..... Diploma
Best balance ..... Diploma
Best thermometer ..... Diploma
Best barometer ..... Diploma
Best electro-magnetic apparatus ..... Diploma
Best electric telegraph ..... Diploma
Best electric machine ..... Diploma
Best galvanic battery and apparatus ..... Diploma
Best set drawing instruments ..... Diploma
Best chronometer ..... Diploma
Best clock (eigbt day) ..... Diploma
Best specimen silverware, with agricultural designs, suitable for premiums ..... Diploma
Best specimen Argentine or Britannia ware ..... Diploma
Best turned and cast Britannia ..... Diploma

CLASS VI—CHEMICALS.

Best ivory black ..... $ 5
Best Prussian blue ..... 5
Best copal varnisb ..... 5
Best glue ..... 5
Best prussiate of potasb ..... 5
Best linseed oil (5 gallons) ..... 10
Best white lead ..... 5
Best display of soap ..... Silver Medal
Best display of soap (California make ..... $ 0
Best specimen of lard oil ..... 5
Best five gallons of castor oil ..... 10
Best display of potash, saleratus, pearlash and otber alkalies ..... 5
Best display of writing fluid ..... 2
Best display of blacking ..... 3
Best display of lubricating petroleum ..... 5
Best display of illuminating petroleum ..... 5

CLASS VII—GLASS, CROCKERY, STONEWARE, BRICKS AND TILES—AMERICAN MANUFACTURE.

Best specimen Rockingham ware ..... Diploma
Best stoneware ..... Diploma
Best specimen ground glass ..... Diploma
Best specimen stained glass ..... Diploma
Best water pipe of water lime ..... Diploma
Best samplo drain tile ..... $5
Best roofing tiles ..... 5
Best flooring ..... 5
Best looking glass ..... Diploma
Best plate glass ..... Diploma
Best window glass ..... Diploma
Best flint glass ..... Diploma
Best bottle glass ..... Diploma
Best bottles, green glass ..... Diploma
Best tincture and other stoppered bottles and vials ..... Diploma
Best retorts and receivers, tubulated and plain ..... Diploma
Best demijohns ..... Diploma
Best carboys ..... Diploma
Best terra cotta ..... Diploma
Best fire bricks ..... $3
Best pressed brick ..... Diploma
Best pottery, various kinds ..... Silver Medal
Best display of stoneware ..... $10
Best display of glassware ..... 10
Best display of queensware ..... 5
Best dressed stone ..... 5
Best mill stone ..... 5
Best marble of California ..... 10
Best barrel common salt ..... 3
Best sack table salt ..... 3
Best barrel lime ..... 5
Best hydraulic cement ..... 5

CLASS VIII—MINERALS, FOSSILS, BIRDS, FISHES, ETC.

Best set of useful minerals of California, including coals of California, iron ores of California, limestones of California, marbles of California, sandstones of California, marls of California, peats of California, soils of California, salt waters of California, minerals of California, potters' clay of California, fire clay of California, burr stones of California, gypsum of California ..... $20

For the following articles, sucb awards as tbe Board shall deem best, on tbe recommendation of the Committee, will be made:

Best collection of minerals illustrating the geology of California.
Best collection illustrating tbe ornitbology of California.
Best collection of natural fishes, living or dcad.
Best suit of crystallized minerals of California.
Best suit of crystallized minerals from all parts of tbe world.
Best suit of fossils of California.
Best suit of the vegetable kingdom, including tbe woods and most useful plants and native grasses of California.
Best suit of the animal kingdom, including insects injurious to the farmer.

## FIFTH DEPARTMENT.

### AGRICULTURAL PRODUCTS.

#### Farm Products, Food, Condiments, Etc.

CLASS I—SILK.

Best exhibition of the silk business, from the mulberry tree to the silk cocoon, including the feeding of the worms, their eggs, etc ..... $50
For the greatest number of useful forest trees planted in permanent plantation during the year ..... 50

CLASS II—FLOUR AND GRAIN.

All parties desiring to compete for premiums on flour, wbeat or harley, and who will send the required samples to he exhibited to J. W. H. Campbell, San Francisco, or to H. G. Smith, Sacramento, will be paid the market price for the flour or grain, and the same will he properly labeled with the producer's name and be exhibited for bim; and also, will he paid any premiums awarded to the same. The object of this arrangement is to secure a good exhibition and to save trouhle to tbe producer.

Best sack wheat flour (California manufactured and California wheat) ..... Silver Medal
Best two bushels of wheat of the Chile variety ..... $10
Best two bushels of wheat of the Australian variety 10
Best two bushels of the Cluh variety ..... 10
Best two bushels of any other variety ..... 10
The premium wheat to become the property of the State Board of Agriculture.
Best sample of rye, not less than two bushels ..... 10
Best sample of oats, not less than two hushels ..... 5
Best sample of barley, not less than two bushels ..... 5
Best sample of buckwheat, not less than one-half bushel ..... 5
Best sample of flax seed, not less than one-half bushel ..... 5
Best sample of hops, not less than twenty-five pouuds ..... 5
Best sample of timotby, not less than one-half bushel ..... 5
Best sample of clover seed, not less than one-half bushel ..... 5
Best sample of blue grass seed, not less thau one-half bushel ..... 5
Best sample of red top seed, not less than one-half bushel ..... 5
Best sample of orchard grass seed, not less than one-half bushel ..... 5
Best bushel yellow corn ..... 5
Best bushel white corn ..... 5
Best bushel early corn ..... 5
Best exhibit garden seeds of California production, not less thau twenty-five varieties ..... 10

Evidence must he presented showing that the grain, vegetables and products havo been grown by the exhibitor.

CLASS III—CHEESE (DOMESTIC MANUFACTURE).

Best cheese one year old and over ..... $15
Best cheese under one year old ..... 10

CLASS IV—CHEESE (FACTORY MADE).

Best cheese one year old and over ..... $15
Best cheese under one year old ..... 10

CLASS V—SWEEPSTAKES ON CHEESE.

For tbe best and largest display of cheese ..... Diploma and $20

CLASS V—BUTTER, BREAD, ETC.

Best lot ten pounds of butter, in rolls ..... $10
Best tuh of firkin, not less tban twenty-five pounds, at least tbree months old ..... 15
Best four loaves of baker's bread not less thau forty-eight hours old ..... 3
Best pilot bread ..... 2
Best biscuit ..... 2
Best soda biscuit ..... 2
Best crackers, butter ..... 2
Best crackers, sweet ..... 2
Best crackers, Boston ..... 2
Best domestic corn bread ..... 5
Best domestic rye hread ..... 5
Best domestic hrown bread ..... 5
Best domestic wheat bread ..... 5

CLASS VII—HONEY, PRESERVES, PICKLES, ETC.

Best ten pounds boney ..... $5
Best canned tomatoes ..... 3
Best canned blackberries ..... 3
Best canned raspberries ..... 3
Best canned peachcs ..... 3
Best canned pears ..... 3
Best canned apples ..... 3
Best canned quinces ..... 3
Best canned cherries ..... 3
Best canned gooseberries ..... 3
Best canned currants ..... 3
Best canned grapes ..... 3
Largest and best variety of canned fruits ..... Diploma
Largest and best variety of canned jellies ..... Diploma
Largest and best variety of canned preserves ..... Diploma
Best apple jelly ..... $3
Best currant jelly ..... 3
Best peach jelly ..... 3
Best quince jelly ..... 3
Best preserved quinces ..... 3
Best preserved peaches ..... 3
Best preserved pears ..... 3
Best preserved apples ..... 3
Best preserved plums ..... 3
Best tomato catsup ..... 3
Best cucumber catsup ..... 3
Best pickled cucumbers ..... 3
Best pickled pcaches ..... 3
Best pickled tomatoes ..... 3
Best pickled walnuts ..... 3
Best pickled mangoes and melons ..... 3
Best pickled onions ..... 3
Best pickled gerkins ..... 3
Best specimen of concentrated vegetables ..... 3
Best specimen of concentrated milk ..... 3

CLASS VIII—WINES, SUGARS, SYRUP AND BRANDY.

Best wbite still wine, four years old ..... $10
Best white still wine, tbree years old ..... 10
Best white still wine, two years old ..... 10
Best white still wine, one year old ..... 10
Red wines—same premiums as wbite wines.
White sparkling wines - same premiums as white still wines.
Best port wine ..... 10
Best claret wine ..... 10
Best sherry wine ..... 10
Best exhibit of wines from foreign grapes ..... 20
Best exhibit of wines from native grapes ..... 20
Best brandy made from grapes, one year old ..... 10
Best hrandy made from grapes, two years old ..... 15
Best brandy made from grapes, three years old and over ..... 25
Best hrandy made from peaches ..... 15
All wines and brandy must be tbo product of the exhibitors.
Best one bundred pounds of sugar made from sugar beet ..... $20
Best one bundred pounds or sugar made from Chinese cane ..... 20
Bes one bundred pounds of sugar made from melons 20
Best five gallons syrup from either of the above named articles ..... 10

CLASS IX—VEGETABLES, ROOTS, ETC.

All articles in tbis class are to be raised by tbe exhibitor.

Besi half busbel red potatoes ..... $5
Best half bushel wbite potatoes ..... 5
Best half bushel of any other variety ..... 5
Best and greatest variety of Irish potatoes, half peck of each variety ..... 10
Best half bushel sweet potatoes ..... 5
Best twelve parsnips ..... 8
Best twelve carrots ..... 3
Best six long blood beets ..... 3
Best six turnip beets ..... 3
Best six sugar beets ..... 3
Best display of bcets iu variety and quality ..... 5
Best peck of tomatoes ..... 3
Best display of tomatoes, variety and quality ..... 5
Best six drumbead cabbages ..... 3
Best six heads of red Dutch cahbage ..... 3
Best six heads of any other variety ..... 3
Best three beads of cauliflower ..... 3
Best three heads of hrocoli ..... 3
Best siz heads of lettuce ..... 2
Best hslf peck of red onions ..... 3
Best half peck of yellow onions ..... 3
Best half peck of wbite onions ..... 3
Best displsy of onions in variety and quality ..... 5
Best half peck of peppers for pickling ..... 3
Best display of peppers in variety and quality ..... 5
Best twelve roots of salsify ..... 3
Best six stalks of celery ..... 3
Best six marrow squashes ..... 3
Best six Hubbard squashes ..... 3
Best six crookneck squashes ..... 3
Best display of squashes, variety and quality ..... 10
Best and largest pumpkin ..... 5
Best display of pumpkins, variety and quality ..... 5
Best dozen of sweet corn, green ..... 3
Best display of sweet corn in variety and quality, green or dry ..... 5
Best three mountain sweet watermelons ..... 2
Best three watermelons of any other variety ..... 3
Best three green-fleshed muskmelons ..... 3
Best three yellow-fleshed muskmelons ..... 3
Best and greatest display of melons of all varieties, hoth watermelons and muskmelons ..... 10
Best slx cucumbers ..... 2
Best half peck Lima beans, in pod ..... 3
Best half peck white beans, dry ..... 2
Best half peck kidney bush beans, in pod ..... 3
Best half peck pole beans, otber than Lima, in pod. 2
Best half peck field peas, dry ..... 2
Best half peck garden peas, dry ..... 3
Best half peck castor oil heans ..... 5
Best and greatest variety of peas, dry ..... 5
Best half peck gerkin cucumbers ..... 3
Best three purple egg plants ..... 5
Best and greatest variety of vegetables raised by one exhibitor ..... 50

CLASS X—FLOWERS.

Best miniature flower garden ..... $50
Best display growing flowers ..... 25
Best display cut flowers ..... 25

## SIXTH DEPARTMENT.

### FRUITS.

CLASS I—GREEN FRUITS.

Best twenty varieties of apples, properly named, five specimens each ..... $40
Best ten varieties of apples, properly named, five specimens each ..... 20
Best twenty varieties of pears, properly named, five specimens each ..... 40
Best ten varieties of pears, properly named, five specimens each ..... 20
Best ten varieties of peaches, five specimens each ..... 20
Best five varieties of peaches, five specimens each ..... 10
Best ten varieties of plums, five specimens each ..... 20
Best five varieties of plums, five specimens each ..... 10
Best twenty varieties tahle grapes, not less than two bunches each ..... 40
Best ten varieties table grapes, not less than two bunches each ..... 20
Best display of Misslon grapes ..... 20
Best single variety of grapes, uot less thau two bunches ..... 10
Best and greatest variety wine grapes ..... 40
Best display of tropical fruits ..... 20
Greatest number and best specimens oranges ..... 5
Greatest numher and best specimens lemons ..... 5
Best display of seedling fruits ..... 10
Best general display of fruit embracing best and greatest varieties ..... 100

CLASS II—DRIED AND PRESERVED FRUITS, NUTS, ETC.

Greatest number of varieties and best specimens, not less than three pounds each ..... $10
Best dried figs, prepared so they will keep in condition for export, not less than six pounds ..... 10
Best twenty-four pounds raisins ..... 15
Best ten pounds dried prunes ..... 10
Greatest number of varieties and best specimens fresh preserved fruits, not less than one jar each, nor less than six varieties ..... 10
Best half peck English walnuts ..... 5
Best half peck sott-sbelled almonds ..... 5
Best half peck peanuts ..... 3

## SEVENTH DEPARTMENT.

### FINE ARTS.

CLASS I—DRAWINGS, PAINTINGS, ETC.

Best life-size photograph, colored in oil ..... $20
Best specimen of portrait paiuting, in oil, by California artist ..... 50
Best specimen of landscape painting, in oil, by California artist ..... 50
Best specimen in water colors ..... 10
Best specimen uncolored photograph ..... 20
Best specimen of not less than twelve different objects of natural history, in water colors, by California artist ..... Diploma aud 25
Best specimen fruit painting ..... 10
Best specimen of California landscape, in oil, by California artist ..... 20
Best exhibition of paintings ..... Diploma and 50
Best fancy painting in water colors ..... Diploma
Best engraving ..... Diploma
Best wood engraving ..... Diploma
Best lithography ..... Diploma
Best porcelaiu painting and gilding ..... Diploma
Best specimen penmanship ..... $5
Best crayon drawing ..... 5
Best pencil drawing ..... 5
Best pen drawing ..... 5

CLASS II—SCULPTURE, ETC.

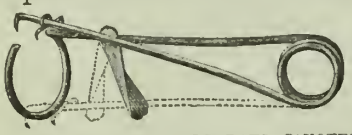
Best sculpture ..... $20
Best collection of marble work ..... 50
Best carving in wood ..... Diploma
Best collection and greatest variety of California birds, prepared ..... Diploma and $15
Best collection aud greatest variety of quadrupeds, prepared ..... Diploma and 15

CLASS III—DESIGNS.

Best design for farm house ..... Diploma
Best design for farm barn ..... Diploma
Best design for carriage house and stable ..... Diploma
Best design for dairy house ..... Diploma
Best design for poultry house ..... Diploma
Best design for farm gate ..... Diploma
Best granary ..... Diploma
Best bridge (model of) ..... Diploma
Best domestic apparatus (or model of) ..... Diploma

Poultry Yard N. W. cor. 16th and Castro Sts., OAKLAND.

## Phelps' Patent Animal Trap,



FOR GOPHERS, SQUIRRELS, RATS, CAYOTES, and other "Varmints."

This Trap, as may be seen, is of simple construction, not likely to get out of order, and very durable.

**It is Very Efficient**

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D. V. PHELPS,
San Leandro, Alameda County, Cal.

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Reports of all important Metropolitan and Provincial Exhibitions, Societies, Lectures, etc., likely to be interesting to the Horticulturist or Agriculturist.

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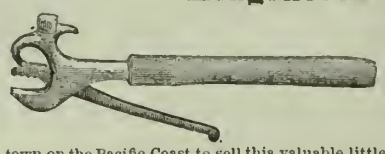
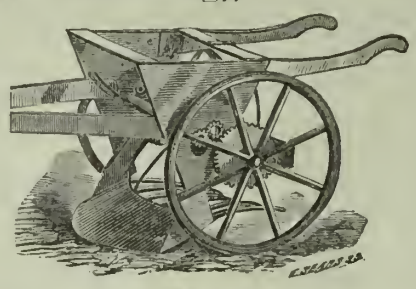


This device is just what its name indicates. As a KITCHEN TOOL it is indispensible. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

### Westfall's Improved Potato Digger.



We ask special attention to this practical and useful invention. Nearly every farmer has felt the want of a machine to dig potatoes. This new invention fully supplies that want. The machine being made entirely of iron and steel, will last longer than the farmer who buys it. It is operated by a man and one or two horses, and digs one row at a time. The shovel part of the digger enters under the potatoes and raises them on to the fingers in the rear, where the dirt falls through and the potatoes roll back on to the surface of the ground. The machine is prevented from clogging by a reel which revolves above the fingers and carries through the potato vines, weeds, etc. A complete model or full sized machine can be seen in our office. Full particulars in regard to Machines or Rights furnished on application.

### P. Davis' Wire and Picket Fence.

Although about two hundred different styles of fences have been invented and patented in the United States within the past ten years, yet this Fence, for GENERAL FARM USE, stands at the head of the list. This is a Virginia invention, and the actual cost of the Fence complete in that State is less than fifty cents per rod. Three men can put up six hundred yards per day. You men who are idle, why hang about the city talking hard times when you can make from five to eight dollars per day building this Fence? We will make a present of ONE FARM RIGHT in each county on the Pacific Coast to farmers who will erect one hundred rods of the fence in good style within thirty days after the privilege is granted. We wish to employ several working men to travel in this State and Oregon. Price of territory, and circular with full description of fence sent on application.

### New Gas Light.

This Light takes the place of the Candle, the Kerosene Lamp and Coal Gas. Each Lamp is a perfect Gas Factory, making its own gas as fast as it is required, It is a safe, cheap and beautiful light. Circulars and full particulars sent on application.

A few good traveling agents wanted to sell this and other valuable patents.

### Hunter's Improved Grain Separator.

The best machine to *Clean Grain* in the world. Prices reduced. Send for descriptive circular and price list. County Rights for sale.

### O'Hara's Patent Giant Corn Sheller.

Although this little invention weighs only twelve ounces, and can be carried in the pocket, yet it is really a "Little Giant" for shelling corn. It is a late invention, and has recently taken the First Premiums at the State Fairs of Mississippi, Louisiana and Texas. We are prepared to furnish them in quantities to suit. Will give exclusive agencies to local agents who will advertise and push the introduction of the Sheller. Retail price, $2. A liberal discount to agents. A sample will be sent by mail, prepaid, for $2.75.

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The cheapest and best in the market. Rights for sale and beds at cost. Send for descriptive circular.

### Tarbox's Combination Stencil Alphabet.

By the use of this ingenious device, ANY NAME OR NUMBER can be marked well and perfectly, thus saving the necessity of having a number of different plates. The exclusive right to sell said invention in California, and also a small stock of Plates, for sale at a low price. Send for Circular, or call and examine the Plates.

### Nut Roaster.

This machine will roast one quart or half a bushel of nuts at once. All that is required is to wind it up and fill with nuts. It roasts evenly and perfectly and will keep nuts warm a whole day and not burn them. The Patent Right for sale to any town or city in the States of California and Oregon, and Washington Territory. A sample machine furnished to each purchaser. ap1-tf-r

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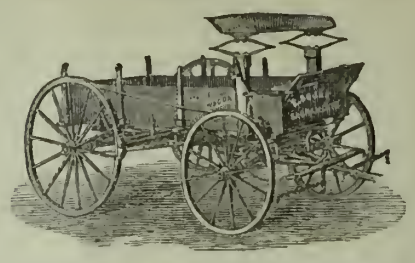

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Light Brahmas,
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## Eggs for Hatching.

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Also Eggs from carefully selected stock as follows:

Light Brahmas at.....$6.00 per setting.
Houdans (Bearded).....10.00 per setting.
Black African Bantams..... 5.00 per setting.

Packed with care and delivered at Express Company's office in San Francisco. All orders must be accompanied by the Cash. Address C. M. NICHOLS,
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## WALTHAM WATCHES.

In soliciting anew the public patronage of WATCHES of domestic production, the AMERICAN WATCH COMPANY respectfully represent:

That no fact in the history of manufactures is more completely demonstrated than that the best system of making Watches is the one first established by them at Waltham. That system always had the warrant of reason and common sense, and now the test of time in the trial of the Watches themselves cannot be denied to have been ample and satisfactory. It is admitted on every hand—the evidence of daily observation and common repute—that the Watches not only keep correct time, but that as machines they ENDURE. It should seem that nothing more is needed, but that their sizes, shapes and appearance should suit the tastes of the people. As to all these conditions the American Watch Co. are now fully prepared to answer the exactions of the market. They confidently assert there is no longer any need for such reasons to import watches of any description whatever. Every size in ordinary demand, every shape and every variety of finish and decoration, may now be had. And as to price, the recent reductions leave no room for doubt that the Waltham system of Watch-making is

### The Most Economical as well as the Most Reliable,

And that the Waltham Watch is the Cheapest as well as the Best.

Many new varieties of movements have been added during the last year, all of which display the Latest Improvements in design and finish, and evince the rapid progress the Company is making toward perfection in the art. Among these the new small size Watch, for Boys and young gentlemen, is to be specially noted. A very low price has been made for this Watch because it is a boy's watch, and with the object of bringing it within the means of boys of all classes. Price being considered,

### No such Watch, in Quality and Beauty,

Has ever, in any country, been produced.

The "CRESCENT-STREET" FULL PLATE WATCH, added during the last year, is now made either with or without stem-winding and setting attachment. This Watch, in either form,

### The Company Challenges all Manufacturers of all Countries

To beat or equal for its price. It is made with all the latest improvements in every part—improvements which IMPROVE—and which not only make it better for its purposes as a timekeeper, but will make it the great favorite with Watchmakers. This, the highest grade of full plate Watches made in this country, in size and appearance, in finish, and general excellence, is especially intended for and recommended to business men, and in particular to Railway and Expressmen, to constant travelers—in fact, to all live men who must be told by their Watches the correct time of day whenever they want it. All such men should have the

### "American Watch Co., Crescent Street."

Counting on such destination for this variety of their manufacture, the company devote the greatest care to its construction, employ upon it only their best men and best machinery, and issue it with their reputation at stake upon its success.

For sale by all leading jewelers. No Watches retailed by the Company. For all other facts address

**ROBBINS & APPLETON,**

General Agents for American Watch Company, 182 Broadway, New York.
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**BUY THE BEST!**

MANUFACTURED BY ADRIANCE, PLATT & CO

STYLES, SIZES & PRICES TO SUIT ALL FARMERS.
Descriptive Circulars Forwarded by Mail.

**MARCUS C. HAWLEY & CO., Agents,**
108 & 110 Front Street, San Francisco, Cal.

GREAT REDUCTION IN PRICES OF

## MACHINES AND EXTRAS

FOR 1871.

The Buckeye is the

**BEST MOWER NOW IN USE.**

As a Reaper,

We guarantee it superior to any SELF-RAKING REAPER yet invented.

Sole Agents for the Celebrated

**Sweepstakes Thresher.**

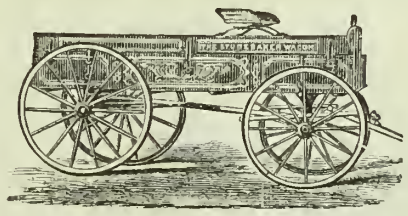
Also, Sole Agents for

GENUINE HAINES' HEADER,
HOLLINGSWORTH WHEEL-HORSE RAKES,
BURDICK'S NATIONAL FEED-CUTTER.

We have also WOOD'S MOWER, KIRBY MOWER and REAPERS. Also, Extras for the above, with a full Stock of Agricultural Implements and Hardware.

**MARCUS C. HAWLEY & CO.,**
108 and 110 Front street, and Nos. 10 and 12 Pine street,
ap22-3m SAN FRANCISCO.

## THE STUDEBAKER



**WAGON.**

THE BEST FARM WAGON;
THE BEST RANCH WAGON;
THE BEST TRUCK WAGON;
THE BEST TEAM WAGON;
THE BEST HEADER WAGON

**he Best Thimble Skein and Iron Axle WAGONS,**

Sold for $100 to $175.

**AMES & WOOLVERTON,**

General Agents for the Pacific Coast.
5v1-3mr 217 & 219 K St., SACRAMENTO, CAL.

## SECTIONS, BARS, ETC.

A complete assortment of REAPER AND MOWER SECTIONS, BARS, Etc., constantly on hand and made to order.

FILES of every description made and re-cut

—BY THE—

**PACIFIC FILE WORKS,**
53 Beale Street, near Mission,
SAN FRANCISCO.

ma18tf N. B. ADAMS, Supt.

STEINWAY & SONS'

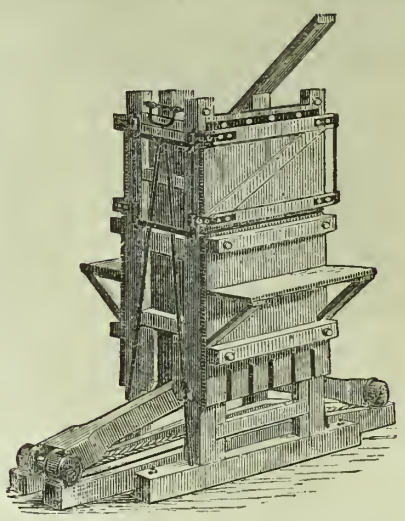
**Patent Agraffe Pianos,**

GRAND, SQUARE AND UPRIGHT.

Pianos to Let.

A. HEYMAN,
I street, between Sixth and Seventh,
ma18-tf Opposite old Capitol, SACRAMENTO.

## THE EAGLE HAY PRESS.



The above is a correct representation of this remarkable

## Eagle Hay Press,

THE INVENTION OF J. A. McGILLIVRAL, OF ILLINOIS, TO WHOM LETTERS PATENT WERE ISSUED JANUARY 10TH, 1865, AND JULY 24TH, 1866.

Several years were devoted by the patentee to the perfection of this powerful press, and its unprecedented sale in the East induces the proprietors to introduce it into California and the Pacific States.

All who have seen or used these Presses pronounce them superior to anything used heretofore. The power is applied by means of two levers, and it will be seen the power increases in ratio to the resistance; as the levers approach a horizontal position the power can scarcely be estimated. It is not only a powerful Press, but has the advantage of being Cheap, and also Simple, therefore not liable to get out of order.

Three men with one horse can bale from Ten to Fifteen Tons per Day, each bale weighing 250 to 300 lbs. It obviates all necessity by beating the hay before pressing. On account of its great power it is well adapted for pressing Hydes, Rags, Wool or Cotton. When a bale is pressed and fastened, the follower runs down of its own weight, and the bales can be taken out on either side.

These Presses are now manufactured in San Francisco by the

**Kimball Car and Carriage**
MANUFACTURING COMPANY,

Who are the Proprietors on the Pacific Coast, and will endeavor to have a supply constantly on hand.

Every Press made by them is WARRANTED to give perfect satisfaction.

PRICE, $250.

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**STEREOSCOPES,**
VIEWS,
ALBUMS,
CHROMOS,
FRAMES.

**E. & H. T. ANTHONY & CO.,**
591 BROADWAY, N. Y.,

Invite the attention of the Trade to their extensive assortment of the above goods, of their Own Publication, Manufacture and Importation.

Also,
PHOTO LANTERN SLIDES
and
GRAPHOSCOPES.
NEW VIEWS OF YOSEMITE.

E. & H. T. ANTHONY & CO.,
591 BROADWAY, NEW YORK,
Opposite Metropolitan Hotel,
IMPORTERS AND MANUFACTURERS OF
**Photographic Materials.**
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## Crandall Patent Spring Bed,

Received Premium for best Spring Bed at the State Fair and was on exhibition at all of the District Fairs n this State.

**IT EXCELS**
IN
**Lightness, Cleanliness, Elasticity and Durability,**

**Any other Spring Bed Ever Invented.**

Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

Manufactory—123 Front street, near corner of M, Sacramento; and at 1124 Market street, San Francisco. These beds can also be obtained of our agents in nearly every town in the State.

COOLEY & GREEN, Proprietors.

## MILLER & CO.,

**Wool Commission Merchants,**

10 DAVIS STREET, SAN FRANCISCO.

Doing Business exclusively on Commission.

All Lots carefully examined before naming price to Purchasers.

Consignments insured and handled in wool roooms under our own supervision.

**THE BEST WOOL SACKS AND TWINE**
Furnished Consignors.

N. B.—Mark M. & Co. with your initial letters on each package. fe25-tf

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., April 27th.

FLOUR—Has been somewhat more active since our last report. There has been quite a demand for jobbing, a fair enquiry for export, and some sales on speculative account.

Transactions embrace 2,000 bbls. Cal. extra; 3,000 Oregon extra and 2,500 sacks Cal. superfine.

We quote superfine, $6.50@6.75; extra, $7.50 @7.75. Oregon extra $7.25@$7.75; and $6.00 @6.50 for superfine.

WHEAT—The market still remains quiet—no demand whatever for export. The uncertainty with regard to the crops still continues, and there has been a decline of 2d. in Liverpool, notwithstanding the aggregate stock of American wheat and flour in that market was, on the 1st of the present month, less than half what it was one year ago.

Sales reported aggregate 16,000 sacks, fair to choice milling, at from $2.55@2.80.

The Liverpool market is still telegraphed at 12s. 4d. New York rates unchanged.

BARLEY—Has been in steady demand during the week, at somewhat reduced rates. Sales include 10,000 sks. fair to choice at from $1.80 @1.90.

OATS—Remain at about last week's figures and may still be quoted at $1.87@2.00 for good to choice, though some fancy lots are held at $2.25.

CORN—Is still quotable at $2.50 per cental.

CORNMEAL—Is quotable at $2.50@3.25.

BUCKWHEAT—Still quotable at $3@$3.25.

RYE—Quotable at $2.50 per choice.

FEED—We quote: STRAW, $8@9; BRAN, $35; MIDDLINGS, 40@42.50; OIL CAKE MEAL $33.

HAY—Has still further advanced. We quote ordinary to choice at $17.00@$22.00 ₱ ton.

HONEY—But little in market and quotations nominal.

POTATOES—Have still further advanced in consequence of speculative movements and may be quoted at from $1.80@2,12½.

HOPS—Demand light—prices nominal at 8 @12½c. for California crop of 1870.

HIDES—We quote Dry, slaughterer's stock, 16@18 c; Salted, 8@8½c. Sales during the week 2,135 Cal. dry.

WOOL—The receipts still continue quite free, and the market active. Sales for the week exceed 500,000 ℔s. We quote burry 22@25c; clean 25@29½c—the latter figure for extra.

TALLOW—The extremes may still be quoted from 7½@8c. Sales of 30,000 ℔s. are reported for the week.

SEEDS—California Mustard, none in the market; Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 16@17c; Oregon, 15@16½; Chicago 17c; California Hams, 14@15; Oregon do, 16@17c; California Sugar-cured Hams, 18@19c; Oregon do, 18@ 22c; Eastern do, 22@24½c; California Smoked Beef, 13@14c.

BEANS—Jobbers are asking the following rates: Bayo, 2¼@2½c; Butter, 2¼@2½c for small and 2¼c for large; small White, 2¼; Red, 2¼c; Pea, 2c; Pink, 1¾@2c ₱ ℔.

NUTS—California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 6@ 7c; Hickory and Walnuts, 12½c; Pecan, 23@ 25c ₱ ℔, Cocoanuts $12 per hundred.

FRESH MEAT — We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11c ₱ ℔.
Do 2d do 8@ 9c ₱ ℔.
Do 3d do 7@ 8c ₱ ℔.

VEAL—Extremes, 8@ 12½c.

MUTTON—Declined to 5½@6c ₱ ℔.

LAMB—May be quoted at from 8@10c ₱ ℔.

PORK—Undressed is quotable at 5½@7½c. dressed, 10@11.

POULTRY, ETC.—Spring Chickens $5@7; Hens $6½@7.00; Roosters $6.50@7.00; Ducks, tame, $7@7½ ₱ doz; geese, tame, $1.70@$2.00 ₱ pair; live turkeys, 16@18c ₱ ℔.

WILD GAME—Hare, $1.50@$2.50; Rabbits, $1.25@1.50; Ducks $1.50@2.00; Geese $1.50@ 2.00 per dozen.

DAIRY PRODUCTS—California Butter, fresh, in rolls, has advanced to 25@32½c; California firkin butter, 27½@30c.

CHEESE—In fair supply, at slight advance California new, 12@15c., Eastern, 16@17c. for new; old Cal. nominal.

EGGS—California fresh, 27@28c; Oregon, 21@22c.

LARD—California Lard, 11-℔ tins, 15@16c; Oregon, 15@15½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Oregon Apples, per box, $2.50@$4.00; Tahiti oranges $30 per 1,000; Los Angeles oranges, $30@$40 per M.; Malaga Lemons, per box, $15@16; Cal. Lemons, $3@4 per 100; Strawberries, 10@15c; Rhubarb, 4@5c; Asparagus, 4@8c.

CASE GOODS—In 2 ℔ cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

## GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS — Are still in fair demand. Stocks are said to be liberal, and prices rule low for all kinds of goods in this department of trade.

BUILDING AND FENCING MATERIALS—The local trade has not exhibited any great degree of activity during the period under review. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds, 25c; Figs, Smyrna, 15@20c; Prunes, German, 12c ₱ ℔; Raisins, layer, $2.50@4.25 per box; Currants, Zante, 10½@11½c.; 50c.

TABLE OF MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Sugar, crsh'd, ℔.$ | 14 @$ | 14½ | Hemp Seed, ℔.$ | 7 @ | 9 |
| Hawaiian, do. | 9 @ | 12 | Castor Beans, ℔. | 4 @ | 4½ |
| Coffee, Cos. R, ℔ | 14½ @ | 15 | Castor Oil, gal.. | 1 75 @ | 2 00 |
| Rio, do | 16 @ | | Linseed Oil, gal | 1 05 @ | 1 10 |
| Tea, Japan, ₱ ℔. | 50 @ | 80 | Broom Corn, ₱ ℔ | 3 @ | 5 |
| Green, do | 50 @ | 1 00 | Beeswax, ₱ ℔... | 27 @ | 30 |
| Rice, Haw'n, ₱ ℔ | 8½ @ | 9 | Peanuts, ₱ ℔.... | 5 @ | 7 |
| China, do | 6 @ | 7½ | Corn Meal, cwt.. | 2 50 @ | 4 00 |
| Coal Oil, ₱ gal.. | 50 @ | 60 | Onions, cwt | 1 50 @ | 3 50 |
| Candles, ₱ ℔.... | 14 @ | 18 | | | |

## San Francisco Retail Market Rates.

FRIDAY, April 28, 1871.

MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Butter, Cal fr. ℔ | 35 @ | 40 | Wool Sacks, new | 40 @ | 90 |
| Pickled, Cal. ℔ | @ | | Second-hnd do | 67½ @ | 70 |
| do Oregon, ℔.. | @ | | Wheat-sks, 22x36 | 13½ @ | 14 |
| Honey, ₱ ℔..... | 25 @ | 30 | Potato G'y Bags. | 23 @ | |
| Cheese, ₱ ℔.... | 20 @ | 25 | Second-hnd do | 16 @ | |
| Eggs, per doz... | 30 @ | 35 | Deer Skins, ₱ ℔. | 15 @ | 22 |
| Lard, ₱ ℔..... | 18 @ | 25 | Sheep sks, w'l on | 50 @ | 75 |
| Sugar, cr., 7 ℔...1 | 00 @ | | Sheep sks, plain. | 12½ @ | 25 |
| Brown, do, ₱ ℔ | 10 @ | 13 | Goat skins, each. | 25 @ | 65 |
| Beet, do, 4 ₱s.1 | 00 @ | | Plums, dried, ℔. | 15 @ | 30 |
| Sugar, Map. ℔. | 30 @ | 35 | Peaches, dried,* | 15 @ | 30 |

PRODUCE, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Codfish, dry, ℔..6 | 00 @ | 12½ | Barley, cwt.....1 | 85 @ | 1 90 |
| Flour, ex, ₱ bbl..7 | 50 @ | 8 00 | Beans, cwt .....2 | 00 @ | 3 00 |
| Superfine, do. 5 | 50 @ | 6 00 | Potatoes, cwt...1 | 50 @ | 2 00 |
| Corn Meal, 100 ℔s.3 | 50 @ | 4 50 | Hay, ₱ ton.....15 | 00 @ | 18 00 |
| Wheat, ₱ 100 ℔s.2 | 75 @ | 3 00 | Live Oak Wood.10 | 00 @ | 12 00 |
| Oats, ₱ 100 ℔s...2 | 00 @ | 2 10 | | | |

FRUITS, VEGETABLES, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Pine Apples, †...5 | 00 @ | 9 00 | Egg Plant ..... | @ | |
| Bananas, ₱ ℔... | 3 00 @ | 5 00 | Garlics ..... | 5 @ | 8 |
| Cal. Walnuts, ℔. | @ | 20 | Green Peas, ₱ ℔ | 8 @ | 6 |
| Cranberries, ₱ g | 75 @ | 1 00 | Green Corn, doz. | @ | |
| Cranberries, O.* | @ | 1 00 | Sugar Peas, ₱ ℔ | @ | |
| Apples, No. 1, ℔. | 4 @ | 5 | Lettuce, ₱ doz.. | 12 @ | 25 |
| Pears, table, ₱ ℔ | @ | 12½ | Mushrooms, ₱ ℔ | 25 @ | 50 |
| Oranges, ₱ doz.. | 50 @ | 75 | Horseradish, ₱ ℔ | @ | 20 |
| Lemons, ₱ doz.. | 75 @ | 1 00 | Okra, dried, ₱ ℔ | @ | 50 |
| Figs, dried, ₱ ℔. | 15 @ | 20 | Okra, green, ₱ ℔ | @ | |
| Asparagus, wh.* | 12 @ | 15 | Pumpkins, ₱ ℔. | 3 @ | 4 |
| | | | Parsnips, † bnchs | @ | 25 |
| Artichokes, doz. | 50 @ | 75 | Parsley..... | @ | 25 |
| Brussel's sprts, * | 12 @ | 15 | Pickles, ₱ gal... | 50 @ | 75 |
| Beets, ₱ doz. ... | 20 @ | 25 | Rhubarb, ₱ ℔.. | 8 @ | 15½ |
| Potatoes, ₱ ℔ .. | 2 @ | 3 | Radishes, † buns | @ | 25 |
| Potatoes, sweet,* | @ | 5 | Green Peppers, * | | |
| Potatoes, new... | 4 @ | | Red, do ..... | @ | 25 |
| Tomatoes, ₱ ℔.. | | | Summer Squash | | |
| Broccoli, ₱ doz..1 | 50 @ | 2 00 | Marrowfat, do. | 4 @ | 6 |
| Cauliflower, † .. 2 | 50 @ | 1 25 | Hubbard, do.. | @ | 5 |
| Cabbage, ₱ doz..3 | 00 @ | 1 50 | String Beans, ℔. | @ | |
| Carots, ₱ doz... | 10 @ | 25 | Dry Lima, shl... | @ | 8 |
| Celery, ₱ doz.... | 75 @ | 1 00 | Spinage, ₱ bskt. | 25 @ | 50 |
| Cress, ₱ doz bun | 20 @ | 25 | Salsify, ₱ buncb | 25 @ | 12 |
| Dried Herbs, b'h | 25 @ | 50 | Turnips, ₱ doz.. | @ | 25 |
| | | | Asparagras..... | 10 @ | 15 |

POULTRY, GAME, MEATS, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Chickens, apiece | 75 @ | 1 00 | Tongues, pig, ea | @ | 15 |
| Turkeys, ₱ ℔... | 20 @ | 25 | Bacon, Cal., ₱ ℔ | 18 @ | 20 |
| Ducks, wild, ₱ p | | | Oregon, do | 18 @ | 20 |
| Tame, do.....1 | 50 @ | 2 00 | Hams, Cal, ₱ ℔. | 18 @ | 20 |
| Teal, ₱ doz.... | | | Hams, Cross' s c | @ | 25 |
| Geese, wild, each | 37½ @ | 50 | Choice Duffield | @ | 25 |
| Tame, ₱ pair..3 | 50 @ | 4 00 | Whittaker's .. | @ | 25 |
| From Chicago. | @ | | Johnson's Or.. | @ | 25 |
| Hens, each..... | 75 @ | 1 00 | Salmon, ₱ ℔.... | 6 @ | 8 |
| Snipe, ₱ doz ...1 | 25 @ | 1 50 | Smoked, new,* | 10 @ | 12 |
| English, do....2 | 50 @ | 3 00 | Pickled, ₱ ℔.. | 6 @ | 8 |
| Venison, ₱ ℔ .. | @ | | Rock Cod, ₱ ℔.. | 10 @ | 12 |
| Quails, ₱ doz ... | | | Kingfish, ₱ ℔ .. | 25 @ | |
| Pigeons, dom. do3 | 00 @ | 3 50 | Perch, s water. ℔ | 10 @ | 12½ |
| Wild, do.....1 | 50 @ | 2 00 | Lake Big. Trout* | 20 @ | 25 |
| Hares, each ... | 40 @ | 50 | Smelts, ₱ ℔..... | 6 @ | 8 |
| Rabbits, tame.. | 50 @ | 1 00 | Herring, fresh.. | | |
| Wild, do, ₱ dz.1 | 75 @ | 2 00 | Sm'kd, 100 ℔s. | @ | 1 00 |
| Squirrel, ₱ pair. | 25 @ | 38 | Tomcod, ₱ ℔.... | @ | 25 |
| Beef, tend, ₱ ℔.. | 20 @ | 25 | Terrapin, ₱ doz.5 | 00 @ | 6 00 |
| Sirloin and rib | 18 @ | 20 | Mackerel, p'k, ea | @ | 20 |
| Corned, ₱ ℔.. | 10 @ | 12 | Fresh, do ..... | | |
| Smoked, ₱ ℔ . | 15 @ | 18 | Sea Bass, ₱ ℔... | @ | |
| Pork, rib, etc., ℔ | 12½ @ | 15 | Halibut. ... .... | 62 @ | 75 |
| Chops, do, ₱ ℔ | 12 @ | 15 | Sturgeon, ₱ ℔.. | 4 @ | 5 |
| Veal, ₱ ℔. .. ... | 15 @ | 20 | Oysters, ₱ 100...1 | 00 @ | 1 25 |
| Cutlet, do..... | @ | 20 | Chesp. ₱ doz.. | @ | 1 00 |
| Mutton chops,* | 12½ @ | 15 | Turbot ..... | @ | 40 |
| Leg, ₱ ℔..... | 12½ @ | | Crabs ₱ doz.... | @ | 1 00 |
| Lamb, ₱ ℔..... | @ | 12½ | Soft Shell..... | 37 @ | 50 |
| Tongues, beef, ea | @ | 75 | Shrimps..... | 10 @ | 12 |

* Per lb. † Per dozen. ¶ Per gallon.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, April 28, 1871.

IRON.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 ℔s; Bar, 1@1¼c ₱ ℔; Sheet, polished, 3c ₱ ℔; common, 1½@1¾c ₱ ℔; Plate, 1½c ₱ ℔; Pipe, 1½c ₱ ℔; Galvanized, 2½c ₱ ℔

| | | |
|---|---|---|
| Scotch and English Pig Iron, ₱ ton | $32 50 @ | $33 50 |
| White Pig, ₱ ton | 38 00 @ | 40 00 |
| Refined Bar, bad assortment, ₱ ℔ | — 03 @ | — — |
| Refined Bar, good assortment, ₱ ℔ | — 04 @ | — — |
| Boiler, No. 1 to 4 | — 04¾ @ | — — |
| Plate, No. 5 to 9 | — — @ | — 04½ |
| Sheet, No. 10 to 13 | — 04½ @ | — 05 |
| Sheet, No. 14 to 20 | — 05 @ | — 05½ |
| Sheet, No. 24 to 27 | — 05 @ | — 06½ |

COPPER.—Duty: Sheathing, 3½c ₱ ℔; Pig and Bar, 2½c ₱ ℔.

| | | |
|---|---|---|
| Sheathing, ₱ ℔ | — — @ | — 26 |
| Sheathing, Yellow | — 20 @ | — 21 |
| Sheathing, Old Yellow | — 10 @ | — 11 |
| Composition Nails | — 21 | — 22 |
| Composition Bolts | — 21 | — 22 |

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

| | | |
|---|---|---|
| Plates, Charcoal, IX ₱ box | 12 00 | — — |
| Plates, I C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 10 00 | 10 50 |
| Banca Tin, Slabs, ₱ ℔ | — — | — 42 |
| STEEL.—English Cast Steel, ₱ ℔ | — — | — 15 |
| QUICKSILVER.—₱ ℔ | — — | — 85 |
| LEAD.—Pig, ₱ ℔ | — 06 | — 07 |
| Sheet | — 09 | — |
| Pipe | — 10 | — 11 |
| Bar | — 08 | — 09 |
| ZINC.—Sheets, ₱ ℔ | — 10½ | — 11 |
| BORAX.— | — 25 | — 35 |

FOUR MONTHS' SUBSCRIPTION FOR $1.—Subscribers to the PRESS who remit direct to this office $5 coin, in advance, hereafter, will be credited four months over a year for the extra dollar received above our regular rates. This will render it both convenient and profitable to enclose a $5 piece in a registered letter, in which case we will be responsible for its safety.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, April 27.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

| | |
|---|---|
| City Tanned Leather, ₱ ℔ | 26@30 |
| Santa Cruz Leather, ₱ ℔ | 26@30 |
| Country Leather, ₱ ℔ | 25@28 |

French Calf and Kip Skins still continue firm, with a slight advance in Jodot Calf and the best brands of Kips. Domestic Skins rule the same.

| | |
|---|---|
| Jodot, 14 to 19 Kil., per doz | $96 00@ |
| Cornellian, 16 Kil., per doz | 72 00@ |
| Ogeraw Calf, ₱ doz | 54 00@ |
| Mercier Calf, 16 Kil., per doz | 65 00@ |
| Best French Calf Skins, ₱ doz | 75 00@100 00 |
| Common French Calf Skins, ₱ doz | 35 00@ 75 00 |
| French Kips, ₱ ℔ | 1 00@ 1 30 |
| California Kip, ₱ doz | 60 00@ 75 00 |
| Eastern Wheel Stuffed Calf, ₱ ℔ | 80@ 1 25 |
| Eastern Bench Stuffed Calf, ₱ ℔ | 1 10@ 1 25 |
| Eastern Calf for Backs, ₱ ℔ | 1 15@ 1 20 |
| Sheep Roans for Topping, all colors, ₱ doz | 8 50@ 13 00 |
| Sheep Roans for Linings, ₱ doz | 5 50@ 10 50 |
| California Russett Sheep Linings | 1 75@ 5 50 |
| Best Jodot Calf Boot Legs, ₱ pair | 5 25 |
| Good French Calf Boot Legs, ₱ pair | 4 50@ 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 |
| Harness Leather, ₱ ℔ | 30@ 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ 72 00 |
| Skirting Leather, ₱ ℔ | 34@ 37½ |
| Welt Leather, ₱ doz | 30 00@ 50 00 |
| Buff Leather, ₱ foot | 22@ 25 |

## Our Printed Mail List.

Subscribers will notice that their names are printed on colored paper and pasted upon each copy of the PRESS. This is done by machinery, to expedite the issue of our paper, the regular edition of which has become too large to be convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriber has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4j10, to the 4th of July, 1870. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction.

## Our Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.

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W. H. MURRAY—Eastern States.
M. B. STARR—Pacific Coast.
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L. P. MCCARTY—California.
E. P. HICKS—California.
A. C. KNOX, City Soliciting and Collecting Agent.

EVERY MECHANIC should read and familarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, $1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especial handy for reference.

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M. K. LAUDEN, President, San Francisco, Cal.

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**DEWEY & Co.,**

Publishers, Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, MAY 6, 1871. [Number 18.

## Our Illustration.

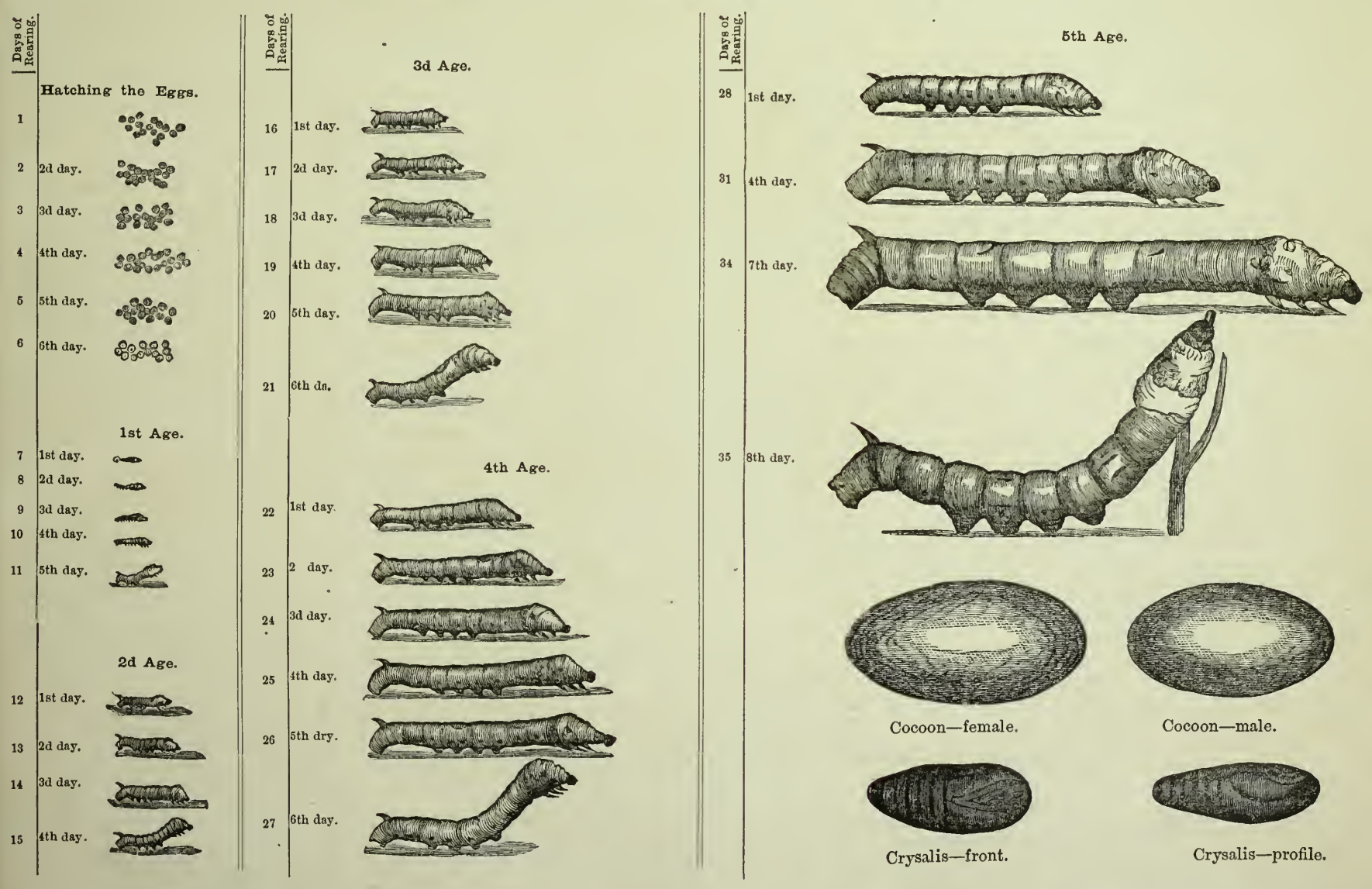
In our issues of April 22d and 29th, we endeavored to give such information in regard to silkworms and their management, as should enable amateurs readily to experiment in this pleasant culture, and thus aid to develop an industry which promises to become one of vast importance to California.

The progressive daily development of the egg is also shown from the time it is first brought into a warm atmosphere for hatching, until the worm makes its appearance. The time thus occupied is about six days, more or less accelerated or retarded, according to the temperature employed. It will be found interesting, and important also, to watch with a small magnifying glass, the gradual change in the color and general appearance due to the development of the tiny worm within the semi-transparent shell or skin of the egg.

As stated in our last issue, the period occupied by the several changes from the time of hatching to that of opening the cocoon, varies from 28 to 32 days, according to the temperature employed.

The illustration which we herewith present, has been copied from *Appleton's Journal* for November, 1870, which is arranged for a medium period of 29 days. The instruction given in previous issues is ample, even for a person who has never witnessed the process, especially when studied in connection with the illustration here added. It would be well if every family, into which the PRESS finds its way, would procure a few eggs, and follow out, practically, the instructions we have given. It would afford a pleasant and instructive pastime, and could not fail to aid in increasing the general interest already being felt in every part of the country in the establishment of this important business on the Pacific coast.

ILLUSTRATED TABLE—SHOWING THE SILK WORM FROM THE EGG TO THE MOTH—LIFE SIZE.




To-day we supplement that information with the accompanyiug accurate and life-size representations of the silkworm, from the laying of the egg until it emerges from the caterpillar life, through the chrysalis to the moth that lays the egg—omitting only the 2d and 3d, and the 5th and 6th days of the 5th or last age—the regular growth during this stage being made sufficiently clear by the appearance of the worm during the 1st, 4th, 7th and 8th days of that age, which are given.

The illustration is so arranged, with marginal references, as to indicate the successive periods through which it passes, and at the termination of each of which it changes its skin, up to the close of the final age, when it begins to look about for some twig or other material to which it may affix its cocoon.

Male Moth. Female Moth.

## The Medical Convention.

We are glad to see so much interest evinced in the meeting of the physicians in our city. Invitations from individuals and from associations, to eat, drink and be merry, to walk and ride, to visit and be visited, have been extended hospitably and freely. We think that our eastern friends will carry back pleasant memories of our coast. The convention is really a most important one. The American Association has existed now for many years and has attained the highest position and drawn into its ranks the best of medical talent. We are glad to see the physicians of the coast enjoying a high position among their brethren; it redounds to our general credit.

Our city is now filled with medical men. At the hotels, on the streets, in the places of business, one sees our medical visitors, and is moderately safe in addressing any stranger with the title of doctor. Between two and three hundred are reported in attendance at the Convention. Of course a large number comes from this State, but the eastern visitors are in strong preponderance. We hope they will not confine their visits to the city and vicinity but will go to the other places of note and interest.

## MECHANICAL PROGRESS.

IMPROVED ENDLESS SCREW. — Mr. Wm. Goodwin, of New Jersey, has devised a form of the wheel and screw which, unlike the usual form, changes a low velocity into a high one with very little friction. In the usual form, the loss of power is so great, that the screw is generally used to move the wheel, and not the wheel to move the screw; and the arrangement is employed where it is desired to combine great stability in one direction with perfect ease of motion in the other,—as, for example, the steering apparatus of ships. The *Technologist* for April gives the inventor's description as follows:—"The threads and teeth of the wheel and screw, as ordinarly constructed, have a bearing, both while entering into gear, or mash, and while disengaging; while in the new gear, the threads and teeth do not come to a bearing until the teeth of the wheel have entered into mash, to the bottom of the grove of the screw. Hence, when the bearing commences, the teeth commence to disengage or draw out of gear, drawing the screw toward the wheel, and thus it is obvious that the friction, caused by the bearing while entering into gear, has been dispensed with by so constructing the teeth that they are fully in mash before they commence to act or cause friction; also, when the teeth bear, as in the old ordinary gear, while entering into mash, the screw is strongly pushed from the wheel, thereby increasing the lateral friction in the journal-bearings which hold the screw in position. The lateral friction is also dispensed with by giving to the teeth and threads of the wheel and screw a peculiar pitch and bevel, which enables them to mash into gear without coming into contact until they commence to draw out of gear, the bevel of the thread of the screw being such that the friction, drawing toward the wheel, is equalled by the pressure of the teeth on the bevel of the screw, thus giving the entire pressure lengthwise of the screw-shaft so as to drive it against the step or pivot. Thus it is obvious that the gearing mashes into gear without friction, and draws out of gear with the least possible friction and without lateral pressure, using all the power for revolving the screw, which meets with but slight resistance from the friction of the screw-shaft, the bearings of which are on the end, in the manner of horizontal steps."

BRUNTON'S TUNNELING MACHINE.—*The Engineer* for March 24th, describes this machine. Without diagrams to illustrate a description, we will not attempt one. It cuts a cylindrical tunnel, by means of revolving steel discs advanced as the work progresses by a large screw shaft in the center. To give an idea of the work it does, we quote a short paragraph from the journal aforesaid:—"In driving through the harder rocks, such as grit, mountain limestone, &c., in which the machine would only make a progress of 1ft. or 18in. per hour, the amount of *debris* produced would be such that two men placed one on each side of the machine could easily shovel the stuff as fast as it falls on to the delivery band. But in softer ground, where the progress would be from 2ft. to 6ft. in the hour, men could not shovel fast enough."

WHITWORTH COMPRESSED METAL.—This is now used instead of Firth steel, for the manufacture of the Whitworth gun. The following note upon it is from an article in the *Journal of the Franklin Institute*, by Prof. Thurston, entitled "Iron Manufactures in Great Britain:"—"The compression of the metal, which is a 'low steel,' or 'homogeneous metal,' is effected while it is still molten in the mould, by an ingenious method of applying the tremendous force of a hydraulic press. This pressure, which has been carried up to 8 tons per square inch, and which will be increased to 20 tons per square inch, should it be found possible to sustain such a strain, by using moulds encased in the compressed metal, closes the pores, which ordinarily are found so seriously to injure the strength of steel castings, and the metal is given a homogeneity that is usually only obtained by forging under a heavy hammer. It is claimed that a metal can be thus obtained that can be relied upon for a tensile strength of 100,000 pounds per square inch, and a capability of stretching 25 per cent. before breaking."

PROGRESS IN BOILER ENGINEERING.—*Engineering* (London) has the following:—"The increased duty recently obtained from a pound of fuel is almost entirely due to improvements in the engine, and not in the boiler; to heat spending, and not to heat making. In marine engineering the class of boiler introduced with the compound engine is, from its construction, inferior in evaporative duty to the boilers fit for the lower pressure, and there is no more hopeful field of invention than that of "heat making." Marine boiler engineering, except as to improved material and workmanship, has been almost stationary for the last 20 years, the only advance being in the increased depth of furnace and length of flame chambers; and in the cylindrical boilers now making by the hundred, this first-named advance has been changed into a state of things worse than existed 10 years ago, as far as the furnace itself is concerned. In stationary boiler engineering, the influence of the various boiler inspection associations and the increased intelligence of the steam user, have greatly improved the manufacture of boilers, and thus facilitated the use of steam of a higher pressure. This has indirectly tended to economy; but the evaporative duty remains almost stationary, and averages at least 30 per cent. less than ought to be obtained."

MALT WITHOUT GERMINATION.—A new method is announced, by which a wort can be produced from barley, without germination. The process is as follows; The barley (fifty parts by measure) is put into a vessel, and steeped in thirty parts of sulphuric acid diluted to one per cent.; the vessel is then covered lightly, and placed in a water bath, kept at a steady temperature of 105° Fah. The vessel must be left in the water bath for seventy-two hours, and the contents frequently stirred to insure contact of the acid with all the barley. At the end of the process of steeping, the barley becomes soft and easily crushable, the silica in the bran being destroyed by the acid. It should be dried, and then has the appearance and smell of malt, and, we are assured, makes an excellent wort. The saving of time and trouble are altogether in favor of this process, which the inventor, Dr. Fleck, of Dresden University, has lately discovered, and on which he is now laboring with a view of rendering it practicable on a large scale.—*Sci. Am.*

THE SHERMAN PROCESS A FAILURE.—The London *Mining Journal* for April 1st, in a notice of the late session of the Iron and Steel Institute, remarks:—"The most careful and impartial trials have indisputably proved that Mr. Sherman's physicking produces no appreciable effect whatever on the iron, and that the process is thoroughly worthless. Neither sulphur nor phosphorus are removed by it, and the value of iodine, as an improver, may be altogther doubted, seeing that Mr. C. W. Siemens has not only tested the flux, but tried considerably increases doses also, the result being in every case identical—no appreciable difference."

ROLLING MILL AT LAGRANGE, PA.—The Lagrange *American* says the contract has been signed by P. C. Brinck, of Philadelphia, President of the United States Iron Company, by which that company agree with the city authorities of Lagrange, to erect and maintain in that city, a rolling mill of 25,000 tons capacity, annually, to cost not less than $600,000, to employ not less than a million dollars capital, and to be in running order within two years from the date of contract. To obtain this, the city of Lagrange furnishes the ground and donates $200,000 to the company.

SCOTT'S ROTARY ENGINES.—These consist of a pair of cylinders for each engine, in which a spindle revolves, such spindle carrying a piston made in the shape of a screw fan, being at such an angle that the second blade catches a fresh supply of steam before the first delivers to the exhaust. The reversing gear is made in the same way as for the slide or side valve of an ordinary fixed cylinder, the reverse action being secured by moving the handle to which the valve rods are secured so as to change the direction of the inlet or inject and the exhaust.—*Colliery Guardian, March. 17th.*

THE LIFE OF RAILS.—The last annual report of the Lehigh Valley Railroad Co., says that the first set of iron rails laid upon the scales at Packerton, lasted 1 year and 23 days, and passed 2,263,675 tons. Steel rails laid May 28th, 1869, have passed 5,509,381 tons and show no perceptible wear. The company has contracted for 1,000 tons of steel rails, to be laid this year.

## SCIENTIFIC PROGRESS.

REV. H. HIGHTON ANSWERED. — Prof. Morton notices, in the *Journal of the Franklin Institute*, the papers in the *Chemical News* by Rev. Mr. Highton upon the maximum of power in the galvanic battery. After remarking that the aforesaid gentleman maintains in fact the possibility of perpetual motion, or the development of power without a corresponding expenditure of force, Prof. M. says: "The theory of the daring author is briefly this: A battery current, passed through a given electro-magnet, will lift a given weight. If, now, we double the cross section of the wire of the said electro-magnet, and also its length, the resistance of the circuit remaining the same as before, the current developed by the battery and the consumption of zinc will remain as before, and yet the lifting power of the magnet will be doubled. Or, in place of increasing the size and length of wire, several similar electro-magnets may be so introduced in the circuit as to produce the same effect. Such a process continued indefinitely would, of course, enable us to develop any amount of magnetic force from a given battery. So far, well; but we have not yet come to the development of power, which implies motion. For this, it is evident that the electro-magnet must be charged and discharged, and here comes the compensating condition. To charge a *double length* of wire will take just *twice the time*, and therefore cause a *double expenditure* of zinc in the battery. Our author, in fact, notices this, but remarks that 'the electric current is so rapid that this difference of time is inappreciable within any practical limits.' Without doubt, to advocates of perpetual motion, but not to those who can see that two millionths of a second are as much twice one millionth as two centuries are twice one; or to the zinc, which, having to work twice as long at each effort, will be doubly exhausted when a given number of actions has been completed."

THE NEW ARCTIC EXPEDITION.—Capt. Hall expects to leave New York by the 15th of May, in the *Polaris*, a powerful Government tug-boat, "sharp as a knife, top-sail schooner rig," of 400 tons burden. Mr. John Morrison, an old whaler and shipping agent, is intrusted with the duty of selecting the twelve men who are to go before the mast, every one of whom will be able to navigate if required. The steward is the same who accompanied Capt. Hall in his five years' exploring expedition. Capt. Burdington of Connecticut will be sailing master. The New York *Times* of April 17th, says:—"A scientific corps will accompany the expedition, including the eminent chemist, Dr. Bessells, of Heidelburg, who arrived here a few days since from Germany, and who formed one of the scientific corps on board the North German expedition to the polar regions."

METACINNABARITE.—*Silliman's Journal* for May gives the result of an examination made by G. E. Moore of a specimen of black mercury-ore collected in Lake county, California, by Prof. Whitney. "It occurs as a coating on the sides of cracks and crevices in a peculiar quartzose gangue, and is accompanied by crystallized and massive iron and copper pyrites, and very minute cochineal-red crystals of cinnabar." "Moore concludes that it is completely identical with the black amorphous mercuric sulphide of the laboratory, and proposes for it the name Metacinnabarite."

NATURAL SELECTION AS APPLIED TO MAN. Following is a paragraph from a review of Darwin's new book by P. H. Pye-Smith in *Nature* for April 6th: "In the fourth chapter Mr. Darwin discusses the manner in which man was developed. It is shown that the broad facts on which the theory of Natural Selection rests apply to him. He is prolific enough to share in the struggle for existence. In him, as in all organic forms, there is a constant tendency to growth, which being checked and modified by external influences, proceeds in the direction of least resistance, and so produces the variations which are often ascribed to an assumed inherent tendency. Among the various forms produced, those will survive which are best fitted for the surrounding conditions, and they will transmit their character to their descendants, still subject to the same liability to vary. Next the author argues that the mental endowments of man, including language, his social habits, his upright position, and perfect hands, are of direct advantage to him in the struggle with other animals and with his fellows. It has always appeared that the difficult point in the development of man by Natural Selection is at the period when he was more defenceless than an anthropoid ape and less intelligent than the lowest savage; but Mr. Darwin thinks that the transition may have been safely made in some large tropical island where there was abundance of forest and of fruit."

THE BEST FORM OF BUNSEN'S BATTERY.—S. P. Sharples details in *Silliman's Journal* for April, a series of experiments, the result of which was to fix upon the following as the best battery for ordinary use. It costs but little more than the Bunsen battery charged with nitric acid alone, is entirely free from fumes, and is perfectly constant for twelve hours. The electromotive force is the same as that of the Bunsen cell. The directions for preparing the liquids are as follows: "To prepare the exciting liquid, sulphuric acid of 1.84 sp. gr. is mixed with nine times its volume of water and allowed to stand until the precipitated lead has all settled. The clear acid is then decanted and is fit for use. This plan of preparing the acid has been in use in this laboratory for some years and gives very good results, local action being almost entirely prevented by the removal of the lead. To prepare the absorbing fluid, ordinary nitric acid is saturated with potassic bichromate; this should be done in a warm room, as it takes up much more when warm than when cold. The solution thus prepared is mixed with one-third of its volume of sulphuric acid and enough water added to re-dissolve the chromic acid precipitated. Two objects are gained by adding the sulphuric acid. The mixture is less expensive than if pure nitric acid is used and the internal resistance is decreased. If the internal and external cells are properly proportioned, this battery will run until the exciting fluid is exhausted, without giving off any fumes of nitrous acid."

VERTICAL CIRCULATION OF THE OCEAN WATER.—The report of Messrs. Carpenter and Jeffreys on "Deep Sea Researches" is concluded in *Nature* for April 6th. We give the final paragraph:—"In conclusion it may be added that the doctrine of a general vertical oceanic circulation is in remarkable accordance with the fact now placed beyond doubt by the concurrent evidence of a great number of observations, that whilst the density of oceanic water, which is lowest in the Polar area, progressively increases as we approach the tropics, it again shows a decided reduction in the intertropical area. It has been thought than an explanation of this fact is to be found in the large amount of rainfall and of inflow of fresh water from great rivers in the intertropical region; but it is to be remembered that the surface evaporation also is there the most excessive, so that some more satisfactory account of the fact seems requisite. Such an explanation is afforded by the doctrine here advocated; the polar water which flows towards the equator along the bottom of the ocean basins, being there pumped up and brought to the surface. And it is not a little confirmatory of the views advanced in this report that in a recent elaborate discussion of the facts relating to the comparative density of oceanic water on different parts of the earth's surface, the doctrine of a general vertical circulation is advocated as affording the only feasible rationale of them."

ALLOYS CHEMICAL MIXTURES.—It has been proposed in England to call alloys chemical mixtures. That they cannot be called mechanical mixtures, the fact that only the forces at the command of the chemist can separate them into their constituents proves. By no merely mechanical means could alcohol be separated from water or the zinc from brass; heat would, in both cases, play the principal part—and this force belongs to the domain of chemistry. As some metals will mix in any proportions, but still partially retain the character of chemical compounds, no objection can be made to the new definition. The term seems a fit one to rank between chemical compounds and mechanical mixures.—*Eng. & Min. Journal.*

# CORRESPONDENCE.

## "Alkali."

EDITORS PRESS:—I wish some of your scientific correspondents would give us farmers the meaning of the word "alkali," as used in California and elsewhere on the Pacific coast. "Alkali" blinds our eyes, stuffs our noses, and chokes up our throats, as the railroad cars whirl us over the alkaline deserts that border on our State. It impregnates much of the water we drink, giving it the quality of going down "slick," and it appears as a white saline incrustation on some of the land we till. But although so universally visible, all the explanation one gets, on inquiry as to what "alkali" is, is that "it's alkali."

My smattering of chemistry teaches me that an alkali is something that combines with an acid to form a "salt;" potash, soda and ammonia being familiar examples.

By the way, this last is an article of priceless value to the farmer's manure heap, and unless tenderly cared for is apt to resolve itself into "airy nothingness;" it is distinguished as "the *volatile* alkali," that one understands; but any of your readers who can inform me what the "alkali" is that is so common throughout the country, what crops it benefits, and what it injures, will confer a benefit on farmers and the people generally.

We are told that beets grown on "alkali" soil are of less value for sugar-making; although the land in question produces a larger crop of such vegetables than of anything else.

When I speak to my Spanish neighbor as to sowing some other seed, he shakes his head and tells me the soil contains too much *salitre*, and cropping with beets is the way to get rid of the *salitre*. Surely, this is an instance where science should tell us what to grow. E. B.

The three oxides, potassa, soda and ammonia, (also lithia) are commonly called alkalies, or caustic alkalies; potassa was formerly called vegetable alkali; soda, mineral alkali; and ammonia, volatile alkali. Litha is rare, and possesses properties similar to those of potassa. These are grouped together in a class, the alkalies, from their many characteristics in common,—from their solubility in water, their taste, their strong, caustic action on animal and vegetable substances, their union with oils and fats to form soap, their neutralizing and forming salts with acids, their changing reddened litmus to blue, etc., etc. The word alkali is from the Arabic word for the ashes of a plant used in the manufacture of glass and rich in soda.

The alkalies have a great affinity for carbonic acid which they absorb eagerly from the air, becoming converted into alkaline carbonates. The carbonates of potassa, of soda and of ammonia, are very soluble in water and have an alkaline taste and basic reaction.

A very common rock in our interior country is granite, especially soda granite or granite containing, as one of its principal constituents, soda feldspar, a well-known mineral. Soda granite decomposes easily and the soda is converted into carbonate of soda, which is taken up by the waters. Such waters give rise to alkaline springs and alkaline lakes, which having, as in so many cases, no outlet, their waters become very concentrated by evaporation. Other carbonates are affected similarly to some extent. There was a geological time when such action was going on to a much greater extent than now, when alkaline springs and lakes were more abundant in our country.

These few brief remarks will perhaps suffice to show our correspondent how it is that we have so much "alkali soil" in our land, this "alkali" being, to a very great extent, carbonate of soda, mixed with other substances. In the RURAL PRESS of January 21st, and in the SCIENTIFIC PRESS of February 11th, the reader will find an article showing how alkali soils may be reclaimed.

## The Cochineal of California—Its Production.

EDITORS PRESS:—In the *Country Gentleman* of March 30th, there is an article by a Californian upon the adaptability of our soil and climate to the growth of the *Cactus Opuntia*. for cochineal purposes. The writer has a correct idea about the wonderful resources of this State in regard to the small valuable products; and it is to be hoped some of our culturists will turn their attention to the cultivation of such products. There is no doubt that the healthful sections of Southern California afford the very best opportunity for the successful growth of cactus, olive, and other valuable productions of this class.

The manufacture of choice and expensive oils should also be considered. Other branches of industry should also be opened as an inducement to the manufacturing migration—that class which understands how to use our opulent resources. Our capitalists should take a more active interest in such matters. It is a subject of gratitude that Eastern papers are publishing reliable statements relative to our natural advantages, and the opportunities which California so bountifully offers to the enterprising sons of labor.

The correspondent of the *Gentleman* truthfully says: "The *Cactus Opuntia* grows without irrigation—a great item to the California cultivator, and the principal expenditure is for labor, when the bugs are collected, every six months, while without any preparation they are ready for market." The *Cactus* grows spontaneously in Los Angeles and other southern counties, and requires but little attention. It is really a native of the climate of that portion of the State.

As a sample of the revenue which this branch of industry might bring to the Californian, we quote further from this correspondent, as follows: "A tree of full hight, well trimmed, would give a yield of twenty pounds, more or less, annually. A good quality commands $2.50 per pound."

People East and in Europe are constantly making inquiries relative to different branches of labor, etc., in California; and there can be no doubt that when the resources of our State are correctly understood by the emigrating masses, we shall offer homes and business to experts in these choice manufactures. It is not kind to California to publish glowing accounts of over estimated products and rapidly accumulating fortune. This has been a grievous error on the part of too many of our writers; but for the plain practical hints, such as we find from the pen of the correspondent of the *Gentleman*, all California is indebted. We have resources of wealth which have seldom been spoken of in public print; we have avenues of labor, as yet unknown to the people; and there are industries to be established which will require skill, labor and experience, as well as capital. We look for help in the final development of all this from the incoming immigration of all countries. We certainly feel a confidence in the SCIENTIFIC and the RURAL PRESS of California being able to do much to aid this result. E.

## Protecting Trees from Grasshoppers.

EDITORS PRESS:—I wish to call the attention of your readers to a means of protecting trees from the ravages of jumping grasshoppers—those which fly it will, of course, not answer for—but in many parts of this State, Nevada, Colorado and Utah, they collect together in bands as the feed dries up, when they are from a half to over an inch long, and destroy every green thing that comes in their way, as they did last year in Yolo County, and the year before down here.

On their appearance here, my brother having a nice garden of 1½ acres, had it about all destroyed in two or three hours, on the first day of May, whilst he was on a visit to the village near by. On his return to his house he found two pear trees unharmed still, and went to work to devise some way to save them. After a variety of experiments, he at last put a piece of flat tin around the tree, cutting a hole in the center just large enough for the body of the tree, and a slit cut out from that so as to get it on; it was soon placed so as to present a flat surface extending out from the tree about four inches in every direction; still they would continue, now and then one, to succeed in crawling out on the under surface of the tin to the edge and getting over, until the idea of putting grease upon the tin came into his mind; after *that* was done, no grasshopper could get to the tree, and to test the invention further he went to a neighbor's, who had a fine peach orchard, a part of which was not yet destroyed. When the greased tins were put around those trees, I saw them piled up under the same, destroying each other; but they could not get over the obstruction. I saw some jumping almost straight up under some of the lowest limbs; but they could reach none over two feet high. We have prepared to protect our garden, should they come again, by having a tight fence with a two-inch wide strip of greased tin at the top.

ISAAC B. RUMFORD.

Orange Grove, Tulare Co., April, 1871.

## Dogs vs. Sheep.

If there is any greater nuisance in a farming community than dogs, such as are generally kept, I am unable to name it. In the county where I live there are many farmers who would keep a few sheep for there own use, and good sheep too, if it were not for the worthless, prowling dogs of the county, killing them as fast as brought here. The State would be thousands of dollars richer every year if our farmers could keep sheep without having to send them miles away to a sheep-raiser that keeps a watcher with the flock all the time, and pays him a big price, when, but for the nuisance complained of, they might keep them at home.

A man who keeps a worthless dog to prowl through a neighborhood is neither a good christian nor a good neighbor; for he does not do as he would be done by. A well trained terrier is the only kind of a dog that is useful to farmers in general. The wire-haired terrier, an ugly looking dog, but a great enemy to rats and mice, is the best I know of, and one that won't worry the neighbor's sheep.

There is a small tax on dogs in this county; but there appears to be as many good for nothing curs hereabout as before the tax was levied. It may be the tax collector's fault in not being strict enough.

Solon Robinson says:—"All diseases of dogs may be cured at once by cutting off their heads, and in doing this, there is no need of sending for the most celebrated veterinary surgeon, nor even of being sure that the dog is sick. This method of phelbotomy will be found entirely effective and greatly promote sheep husbandry."

RUSTICUS.

We fully agree with our correspondent in his estimation of the uselessness of dogs. The department of Agriculture at Washington, in its report for 1868, contains some very pertinent remarks on this matter, and estimates the direct loss to the country from the killing of sheep by dogs at $2,000,000 annually. When to this large sum we add the great amount of damage they do, and the cost of feeding them, the total reaches to an enormous figure.

## The Public Lands.

The question of land grants is being agitated in a very lively manner. The matter of grants to railroad corporations is made prominent, and is even becoming a political question. That it should enter into politics, we are sorry to see, for, important as it is, when once made a partizan affair, it will be treated as one's interests dictate, and not with the spirit of fairness which it ought to have.

Senator Stewart, of Nevada, has sent us a copy of his speech on the subject, delivered before the U. S. Senate on the 3d ult. It is certainly a most able argument, and advocates the distribution of land in small quantities. It likewise advocates the railroad grant system with ability. With this we also agree—to a certain extent. But to give the railroads unlimited amounts, is contrary to our ideas. Give them enough to aid them and to secure the construction of roads, but be judicious and careful in such gifts. We append a few extracts from the senator's speech, as follows:

I believe I have alluded in a general way to all legislation under which any considerable portion of the public domain has been alienated. Thus it will be seen that the sales of the public lands have been to pre-emptioners, purchasers at auction, and purchasers at private entry; and that the donations of public lands have been to States for purposes of education, to States and corporations in aid of internal improvements, and to individuals for military service, for homesteads, and to discharge supposed obligations to Indians.

### Land Sales and Grants.

A recapitulation shows the following disposition of the public domain thus far appropriated for all purposes by the General Government. In this estimate no allowance has been made for mineral lands or desert county.

| | Acres. |
|---|---|
| Sales for cash to actual settlers | 80,294,000 |
| Sales for cash to all other persons | 80,294,000 |
| Total cash sales | 160,588,000 |
| Donations to individuals: | |
| For military services, and not assigned | 3,000,000 |
| For military services, and assigned to others | 70,000,000 |
| To individuals, being half-breed scrip, and assigned to others unlawfully | 715,652 |
| To homestead settlers | 15,900,730 |
| To States: | |
| Swamp and overflowed lands | 60,000,000 |
| Agricultural college grants | 9,510,000 |
| Sixteenth and thirty-sixth sections for schools | 69,066,802 |
| To aid internal improvements, but in some cases diverted to school purposes | 13,669,671 |
| To railroads: | |
| In States | 50,000,000 |
| Transcontinental and branches | 39,000,000 |
| Total donations | 330,8[illegible]2,855 |
| Aggregate sales and donations | 491,450,855 |

Thus it will be seen that of the 491,450,855 acres of lands appropriated by the Government, actual settlers have received by purchase under the pre-emption laws, and by gift under the homestead act, 96,194,730 acres, or less than one acre in five of the whole amount.

If we omit the railroad grants above stated, namely, 89,000,000 acres, we find that the remainder of the land disposed of, namely, 306,256,125 acres, have gone into the hands of States and individuals, the latter having no other interest than to obtain the largest price, and the former prone, as we all know, to almost immediately surrender their grants to the speculators and adventurers who have been able to control the local legislation.

### Monopolists vs. Railroads.

The senator speaks of how the people who should be benefitted, have been injured for the benefit of monopolists, and alludes to fraudulent entries and sales. He shows the beneficial results of the railroad grant system. The public land must first be reached by steam communication before they will be settled up; the only way of furnishing the communication is by building railroads which must aided. Settlers prefer half the quantity of land when near railroads, which, being obliged to sell their lands for money to build the roads and pay interest on their bonds; being compelled to take the land as it comes, the good with the bad, without selecting it; being necessitated to have settlers along their lines to furnish business; are thus, in fact, great colonization societies.

The amount of public lands unsold and unappropriated on June 30, 1870, exclusive of Alaska, was 1,018,202,609 acres, from which should be deducted the grant to the Texas Pacific road, made at the last session, 21,000,000 acres. Balance of public domain now unappropriated, 967,202,609 acres. It would not be safe to estimate the portion of this land fit for cultivation at more than one-third of the whole. This would leave of public lands suitable for homes yet unsold and unappropriated 332,400,869 acres, the best portions of which are reserved for Indians. The other two-thirds are either grazing or mining lands or desert.

ACCLIMATIZING SOCIETY.—The Ornithological and Piscatorial Acclimatizing Society, at its meeting last week, decided to incorporate under the name of the Acclimatizing Society with a capital stock of $50,000 divided into 5,000 shares. The Trustees are Dr. W. A. Newell, M. M. Estee, S. B. Clark, John K. Orr, D. J. Mills, J. B. Green, E. H. Xeill, C. Stivers, P. D. Hortou, A. Badlam, J. Williamson and J. C. Green. Mr. Estee said the incorporation of the Society would harmonize with the law, and give it a standing which it should have to fill its mission. It was the view of the Society also to get a law passed by the next Legislature giving the Society control of the public streams and ponds in the State, where it would not be in conflict with the rights of private citizens. By incorporating, gentlemen in the rural districts could be got to take stock,—men of leisure and means, who can assist the Society and be assisted in propagating fish and game on the coast.

OUTRAGES IN THE SOUTHERN STATES.—Senator Cole sends us the report of the Senate Committee appointed to investgate the alleged outrages in the Southern States.

# HOME AND FARM.

## Right Words from the Right Source.

We find the following seasonable advice from the San Jose *Mercury* and commend it to the careful perusal of every reader of the RURAL:

An intelligent farmer of this county remarked to the writer, a few days ago, while discussing the all-prevailing topic of another dry season:—"If one could live on climate alone California, would be the finest country in the world." He, like most of our farmers is, or has been, a large grain-grower, depending upon that industry al most exclusively; and like most of our farmers also, especially those of the valley, has, of late years, had his ups and downs, struggling with an exhausted soil and dry seasons. We concede that there are difficulties in the way of restoring worn-out lands, in this country, not experienced in the east. For instance, there the use of clover is the great restorative; but here all grasses are annuals, hence clover will not attain a sufficient growth to be made available within the time when it must be plowed under, if at all. Beside, the turning under of rank grasses, straw, or coarse fertilizers of any kind, does not have the same effect here as in the east. There the soil remains moist throughout the year, and the work of decomposition is rapid. The frost and snow, also, have a very salutary effect upon the soil. Here our long dry summers preclude the possibility of decomposition of coarse fertilizers. Hence we must resort to some other methods to restore our worn-out soils. The gentleman above alluded to stated—although we think he must be mistaken—that, fourteen years ago, he plowed under some straw, upon a certain piece of land, which he turned up again the past season and found not yet decomposed.

However, take one year with another, for the twenty years of constant cropping of the farming lands of this valley—a continued taking from without the adding of anything thereto, and our farmers can find really but little cause for complaint. They have certainly grown as much wheat and of as good a quality, and the yield has been as great per acre, as they could reasonably ask. True, they have had some light crops but no entire failures, at least none that were general throughout the county. And we believe there has been no year when, in some localities, the yield was not remarkably large. But "the time is coming, and now is," when we must change our methods of farming. Unless a way is opened to our valley farmers especially, whereby they can circumvent these too frequently recurring dry seasons, and restore their exhausting lands—some plan of agricultural salvation devised—five years will not elapse before at least four-fifths of them will either be engulfed in, or standing upon the brink of financial ruin.

More rain falls in the hills, and the grain crop is more certain, than upon the plains; hence it is to the mountains that we must look mainly for our grain supply. We must quit relying upon it as a staple product. For that which we do grow we must till our land more thoroughly. There is a difficulty experienced in this country in the matter of the rotation of crops unknown in the East, that is, the mixed character of the product. All the grain left in harvest springs up in the next crop. Wheat after barley or oats will be about as much of one as the other. But this difficulty can all be met by summer-fallowing. A crop every alternate year is as much of a strain upon any soil as it should ever be subjected to. We lay down, then, this proposition, that by thorough tillage, summer-fallowing, and rotation (and that is the only true system) a total failure would be a thing unknown in this valley.

But we must study out new uses for our soil—uses not so wholly dependent upon an inch more or less of rain. Experience has already demonstrated that after the first year, the grape is never effected by drouth. The same is true of many varieties of our larger fruits. There is a large and increasing eastern demand for our fruits—for our choicest grapes, especially. Here is a hint that somebody will doubtless act upon to his advantage. The mulberry thrives here through all seasons. It may not be in our day; but the time is coming when, we believe, silk culture will become one of the leading industries of the State. There is money in the culture of the almond, pecan, and English walnut. There is a great profit in forest culture. None of these industries are materally affected by drouth. Of course, all trees need irrigation the first season, (say two buckets of water to each tree once a month,) which can readily be supplied by artificial means.

Again; every farmer should manage to have, every year, a few head of beef cattle to dispose of, a dozen or more hogs, some calves, lambs. butter, poultry, eggs, etc. To every farm of a hundred acres, there should be at least fifty sheep and six to twelve cows. Nothing is so well calculated to keep the soil in a fertile condition as stock. And more than all, our farmers should learn to practice a little more economy. When they come to town of a Saturday, it isn't at all necessary, neither is it in anywise conducive to health or happiness that they should treat every acquaintance they may chance to meet, nor that they should poison themselves with our abominable cigars and worse whisky. How many there are that habitually, and think nothing of spending from one to five dollars at our saloons every time they come to town. The coming farmer of this valley will have ideas of his duty to himself and a higher appreciation of the value of money. He will also have a clearer appreciation of the importance of a diversified system of agricultural industry. We shall have more to say on this and kindred subjects hereafter.

## A Crop That Never Fails.

It has been remarked that the grape crop of California has never been known to have been a failure. Wet seasons or dry seasons and every season it has done so well as scarcely to cause complaint. This fact is an important one, and it cannot be to forcibly pressed upon public attention. As henceforth we shall have a fair paying, if not indeed a very profitable and lucrative market for all the grapes we can raise or for their ability to withstand both wet and dry seasons and to yield well, whichever may come, is of much importance. It is true that means are required to bring a vineyard into bearing, but what farmer among us that could not if so determined, plant five or ten acres in grape vines each Spring, until his vinyard has grown as large as he desires it to be? The third year after planting it will yield something, and thenceforth the early-planted portion of the vineyard will produce profit enough to extend it gradually at the rate of five, ten or twenty acres a year almost illimitably.

The county of Sacramento, from the river to the foot-hills, appears to be peculiarly well adapted to the growth of the vine and maturing the fruit. Her grapes are becoming famed for wine and brandies, and the vintners' establishments now in operation among us and the distilleries in embryo give assurance that those who do not desire the labor of turning their own grapes into wine will find ready sale for them at these manufactories.

But the leading profit in grape-raising will be in the cultivation of those varieties most desirable for table use. They will bring the higher price, and if they can be safely carried East by rail—and of this we have now but little doubt—the market for them cannot be glutted. By and by California can send two or three trains or cars daily laden with grapes for the use of the forty millions of mouths beyond the Rocky Mountains, and if sold at reasonable rates they will all be devoured.—*Sac. Bee.*

## The Percheron Horse.

EDITORS RURAL PRESS:—I see by a recent reference to the importation of a Percheron or Norman horse, by Mr. W. C. Myer, of Oregon, that you are laboring under the impression that the animal mentioned was the first importation of that blood on the Pacific coast. In that you are very much mistaken, as in the year 1865 I brought to this State a three year old Norman colt. This colt was brought from Iroquis county, Ill., and is now eight years old. This horse, "Young Rawley," has stood four seasons in Petaluma, where he is now making the season.

He took the first premium at the State Fair for the years 1868 and 1869. And at the Bay District Fair, San Francisco, in 1870; also a two year old colt of his, Young Rawley, Jr., took the first premium at the Bay District Fair. All the above premiums were awarded as the best horse for draft purposes. Young Rawley is a coal black; stands 17 hands high and weighs 1,650 lbs. He is of fine appearance, a clean head, a graceful neck, strong, sloping shoulders, a short back, broad and long rump, tail attached high, a broad, full chest, a long and heavy muscled arm, but short between joints; a broad, flat bone and free from long hair, with the exception of a heavy fetlock; a splendid hoof, high step and hollow as a thoroughbred.

Young Rawley is proving to be just the horse for California use; he combines speed with weight and kind disposition, and is producing some of the best colts in Sonoma county.

Pedigree—Young Rawley was sired by Rollin, he by Robert Suescard; Dam, Lady Jane, was sired by the imported French horse, Louis Napoleon.

Rollin was imported by Erastus Martin and Benj. Gorton of Champagne county, Ohio, landed in New York, Feb. 9th, 1857, by the ship Lion; was a dapple brown, stood 16 hands high and weighed 1,600 pounds.

A. WILSEY.

# GARDENING.

## Gardening near San Jose.—Practical Experience.

EDITORS RURAL PRESS;—I propose to give your readers some of my experience in gardening in California, an occupation which I have now followed for the past eighteen years, at a point about six miles north of San José. I came to San José in 1852, sick and flat broke, and commenced farming the next year. I toiled along over two years, sometimes with plenty of money and sometimes with scarcely any; but always at the end of every year, gaining something, either in money or knowledge. I will give the history of a single twenty-acre piece of land, and will not pass over its boundary until I come down to 1871.

In 1864, which was the year of the great drouth here, so soon as I found my grain all failing I turned to something else—I went to work sinking an artesian well, and was unfortunate to a certain extent; even the workmen that I had hired tried to dissuade me, for, said they, perseverance has killed many a man. Some of them even refused to work for their usual wages, as they said it was useless to try any longer, adding that it would be a kindness to me to stop. I even got the third set of men and tools before I accomplished my purpose. But the result was I got a good well of flowing water, which continues to flow to the present time.

I commenced to water my twenty acres about the first day of May, and watered as fast as I could, and as soon as dry enough I followed up with a good three-horse team and plow, and plowed *just as deep as I could*, which was nearly or quite ten inches. I kept the plow running until my 20 acres was well plowed, three times, with good harrowing between plowing, and about the 10th of June I commenced to plant potatoes, and finished on the 3d of July. On the first days of November I commenced to gather the potatoes, and did gather and sack, of good potatoes, 20,700 pounds from a measured acre, which would make over 400 bushels per acre! I then planted 6 acres of the 20 in orchard; the remaining 14 acres being cultivated in grain and vegetables the two following years—1865 and 1866. In 1867 I planted 8 acres of the 14 in strawberries, which came into the market in 1868, and brought me net, after paying freight and commissions, $3,000 coin. The spring of 1868 I planted the remaining 6 acres to strawberries, making 14 acres of strawberries and 6 acres orchard.

In 1869 I sold from this 14 acres, forty-four tons of berries, bringing $6,000, and in 1870 sold a little over forty-one tons of berries for $5,800,—making a total for the last three years of $21,800. I have added this to my berry field thirty acres of young plants, which will come into bearing next year.

I will now turn to asparagus. I am cutting from 211 square yards—less than two and one-fourth acres—an amount which has given me an average of $100 per week since the first of March; and have sold no grass up to date for less than 6 cents per pound, as Messrs. Drake & Emerson's books will show. I now have planted, of the giant variety, about ten acres, seven of which comes into market next year.

In reference to the cultivation of asparagus, I notice in the Eastern journals that it is frequently recommended to plant in rows one foot apart, or as we would say, in drills. Now I will agree to convince any practical man of the error of so doing, if he will only come and see me, and allow me to show him the difference; for I have grass planted in close rows, in wide rows and in beds. The grass of which I sent you a sample was planted 4x2 ft., and all the grass that I shall hereafter put in will be planted 5 feet between rows and 3 feet between plants, at least as wide as that.

I intend to plant the coming winter from 16 to 18 acres of the Conover variety. My seedlings are now coming nicely. My mode of planting asparagus, mulberry and all seeds of that nature is, to first mix well with clean sand, keep moist and in a warm place until we discover the germ beginning to pip the shell. Then have our ground well pulverized and moist, plant our seeds in rows about four feet apart, plant in broad drills, say ten inches wide, taking care not to get the seeds to thick. By so doing nearly every seed will come. When too thick the roots will so interlock with each other that there will be quite a percentage of loss in taking up. I cover, if convenient, with sand—asparagus two inches deep, mulberries not more than one inch deep.

In planting asparagus great care should be taken to secure good locations, as in soil too dry it is time and money thrown away; also in soils too wet and heavy the result will be the same. In soils unsuited to grass it becomes small, tough and bitter, in fact not fit to eat. To succeed, the soil must be deep, rich and mellow, or there is no good in the product.

Yours truly, WILLIAM BOOTS.

## Hints to Farmers.

EDITORS PRESS:—Every person who settles upon a piece of tillable land can soon furnish his farm lot with all the durable fence posts he may wish for, by commencing to drill in locust seed, and raising up a forest of trees. The yellow locust is considered the best for timber; it is rapid in its growth, coming to a sufficient size for use in five years. This kind of timber for wagon hubs cannot be surpassed by any other wood; and for posts to be set in the ground it is equal to any other timber. It is as durable as cedar. Besides, it makes a fine ornamental shade tree, free from insects; and when in full bloom its large, attractive flowers yield an aroma very fragrant, and pleasing to the sense of smell. There is no better wood for fuel, no timber more profitable to cultivate than the locust tree.

The seed is easily obtained, and when ready to plant, should first receive a dash of scalding hot water, and then remain in tepid warm water one or two days previous to planting. It is best to plant in the fall, but either spring time or winter will answer.

### How to Kill Squirrels.

To one bottle of strychnine, well stirred into three gallons of corn meal and one quart of wheat flour—to form an adhesion—add sugar or syrup to sweeten, and water enough to form a thick paste; all of which should be thoroughly mixed. Search out their burrows, and then with a small paddle, or teaspoon, take out of the bulk enough at once to drop into each hole—down deep, out of the reach of poultry and domestic animals. You can pass around one hour after and bag your game as you wish. Gophers may be destroyed, as well, by the same process.

### How to Catch Wild Geese.

Bait them, at first, with wheat, barley or corn; after they have received this smiling introduction, soak a lot of the grain over night in good spirituous liquors, with a little water and sugar added. Spread this broadcast over the ground where great inducements have been held out heretofore. Soon after the feast you can pass along and gather up the intemperate birds, and put them in the lock up for trial. When drunk, they will roll up their eyes, and look about as foolish as what is called the "human species," when in the same dilemma. Pigeons, quails and other birds can be caught in the same manner, and when they get fairly over their spree you may dress and eat them with impunity.

### Why not Sign Your Name?

While my hand is in, I will call the attention of correspondents to the subject of signing their names to what they send to the PRESS. When I "see stars," or some false signature, to anonymous letters, it appears to me very much like "fizzling out." I have been a casual correspondent for the public eye since 1834, and do not intend to write any matter to which I am ashamed to affix my name. The true name often adds weight and interest to the contributions. SOLOMON W. JEWITT.

Kern County, April 10, 1871.

# Agricultural Notes.

## CALIFORNIA.

It may now be considered a settled fact that a season of very short crops is npon us. In the early part of the season the cold, frosty nights so kept back the grain, that the then favorable condition of the soil failed to produce the usual extent of growth; and when the later, dessicating north winds swept over the State, the limited moisture then in the ground was so far taken up from the surface soil that the more improved weather which followed, also failed to produce the growth usually resulting from such a favorable atmospheric condition. In veiw of these facts the tone of many of the interior papers is despondent, and both wheat and barley have gone up to an altogether unwarranted figure.

We have taken some considerable pains to glean and collate from our exchanges, observations and private letters, such facts as seem to give a fair estimate of the situation. As a result we find that there is no doubt of a full crop being realized in the northern counties, especially in Tehama and Siskiyou. In Butte county, and in all the foothill country to the south from that point, we may look for very fair results. The prospects of Lake county were never better. Humboldt, Mendocino, Sonoma, Marin and Santa Cruz counties may be counted on for very near the aggregate of last season. Alameda, Santa Clara and San Mateo are expected to yield half their usual average. Monterey, which has usually drawn its supply from this city, will this year take care of itself.

The reports from the interior counties—embracing Colusa, Yolo, Sutter, Napa, Solano, Contra Costa and San Joaquin, are quite discouraging; yet they can be reckoned upon for at least one-third of a crop.

With regard to Sacramento, our associate from Sacramento City writes us that on Tuesday last he took a trip on the Sacramento valley railroad to within three miles of Latrobe, and was very agreeably surprised at the appearance of the crops of grain and hay. After he left Brighton, he did not see a field that will not produce a half crop and a large proportion of them bid fine to make a full average. The nearer the foot-hills the better the grain looks.

Tulare, which has never before given much attention to wheat has this year planted a largely increased breadth, and the crop never looked better. The mountain counties of Tuolumne, Calaveras, Amador, El Dorado, Placer, Nevada, and the central portions of Yuba and Butte, to say nothing of the more northern counties, not before named, will all give a full average, if not an increased yield.

Though the season will undoubtedly be disastrous to many, and will bear especially heavy on those in the great interior valleys who, being deeply in debt, were depending on this year's crop to help them out, there is no doubt, from the above showing—to say nothing of the Oregon surplus, which will be larger than ever, this year,—but that we shall have not only an abundant supply for home consumption and next year's seed, but a small surplus also for export.

There is no cause, for the general alarm so suddenly manifested and the present high price of wheat and barley. The price of wheat in this city some weeks ago placed that cereal quite in advance of any possible export movement. It may be well to husband our resources, and decline any further foreign movements until the result of the present crop is fully assured; but there is no reason in a still further advanco here, in the face of a well known and permanent decline in the European market, upon which, the value of our incoming crop must depend.

An orange tree, on the premises of M. F. Coronel, Los Angeles, not yet four years old from the seed, is in full bloom.

Eggs.—More eggs have been shipped from Los Angeles, this spring, than during the whole of any previous year.

Fences.—The papers of Tulare and Kern counties continue to agitate fence reform, and we believe that the present general law is without a single advocate in the press of the State.

Taking to the Brush.—Several of the owners of the largest herds of cattle and horses in Tulare valley are preparing to send them to the sage brush.

The Fruit Prospect.—The San José *Mercury* says the prospect is most encouraging for an immense crop of fruit in that section. "Apricots are now as large as nutmegs, and the trees are loaded as we never before saw them. From present indications there will be an immense yield of cherries, peaches, plums, prunes, nectarines, and in fact all kinds of fruit produced in that valley. Strawberries are just coming fully into market."

The Sacramento *Bee* says that the orchards and vineyards in that section of the State are in excellent condition, give promise of a fine vintage. The grape vines, if properly cultivated, will do well enough without more rain; and the orchards may be kept in good order by an extra plowing. These can be cultivated and the moisture kept up, while the grain fields have to bake in the sun, and the short, tender roots of the cereals perish for want of nourishment. And this fact admonishes us that we need a greater variety in our crops.

## OREGON.

What is to be Done.—There is much land in Oregon which had been designed for wheat, this season, but which it seems cannot be plowed and sown in season to insure a crop of any of the serials. The Willamette *Farmer*, in view of this fact asks and answers the question—what is to be done to make this land profitable this season? If neither wheat, nor oats, nor barley be sown on this land, on account of its being too wet, is there no way to make it pay well? Much of it can be made profitable, if we will put the necessary labor upon it. It is rank nonsense to suppose that this land, which will be dry in season, will not produce good crops of beans and peas. There never were better field beans than were brought to the State Fair last fall. Our late springs, and warm summers, and dry falls, are just the seasons to grow and mature field beans. Unlike some countries, the beans will all ripen, and can all be secured in perfect market able order. We say to our farmers, make arrangements for obtaining seed, at once. Don't let the season of planting go by without putting in a crop. A dozen or half-dozen acres will "put money in thy purse." The system carried out to a good extent will save many thousand dollars to our State, yearly, and to that extent benefit our farmers.

And then the pea is another valuable crop—valuable to the farmer, because he can use it in the most profitable manner in fattening hogs. Have your seed ready—prepare your grounds well—plant after the 10th of June, so as to avoid the pea beetle—plant deep, say six inches, so that the plants can reach moisture and retain it for their roots and stalks.

Then there is the crop of buckwheat, of some service in fattening hogs, and a good deal for the table.

The Prospect.—Notwithstanding the fact that the great amount of rainfall in Oregon will seriously interfere with putting in the wheat in some districts, there is no doubt but that the aggregate of the wheat crop throughout the State will be larger than at any former period. Direct shipping will also become more largely the rule than it has been the present season. The railroads will also greatly facilitate the movement of the crop from the localities where they are being built. Direct shipment is the best way for Oregon to realize the full advantages of her wheat crop, inasmuch as she will thereby save the commissions and profits of middlemen. Grain can be shipped from there to foreign ports at almost as low rates as from San Francisco.

A large harvest throughout the State this year, says the *Oregonian*, will contribute immensely to the wealth, prosperity and activities of the State. There is an almost certain prospect that wheat will bear a good price, and now is the time for farmers to take advantage of it and sow grain.

Price of Wheat at Portland, Oregon. The price of good white wheat, sacked, for shipping, was $1.40@$1.45 per bushel in Portland on the 29th ult. The stock seems to have been mostly bought up, and only small and occasional lots are now obtainable.

By telegraph, on Thursday of last week, it was stated by parties who have accurate information that not enough wheat could be obtained in the Willamette valley to make a cargo after loading vessels then under charter.

Agriculture in Eastern Oregon.—That portion of the State between the Cascade and Bitter Root mountains, according to the *Mountaineer* published in that region, is made up of rich agricultural valleys separated by high rolling prairies luxuriant with rich bunch grass peculiar to that region. The valleys are well adapted to the cereals, vegetables and fruits usually raised in any of the Mississippi States. Wherever the experiment has been tried, apples, peaches and pears do well. This great basin affords a range for cattle, horses and sheep, nowhere excelled. It is only about one winter in five or six that stock has to be fed, and then only for five or six weeks. In fact, stock has not been fed at all since the winter of 1862.

A large portion of this vast country is peculiarly adapted to dairy purposes—the grass remaining green from April to November. Ninety-nine hundredths of this basin is as yet unappropriated, and it contains pasturage sufficient for millions of stock. The future of Oregon is certainly most promising.

We may here remark that there is as much arable territory in the valley of the Willamette, as there is in the entire area of Connecticut—mountains, lakes and all, and that valley alone of Western Oregon, is capable of sustaining as large a population as is now found in the entire State of California.

Agricultural College.—The Corvallis *Gazette*, of a late date, says that an outfit for Agricultural operations has been purchased by the President of Corvallis College, and the first practical lessons in the Agricultural Department of that institution were given the last week. The students are divided into classes and have regular hours for work.

A Good Practice.—The Willamette *Farmer* knows an agriculturist in Yarmhill county, Oregon, who made it a practice to plant twenty-five peach trees on the birth of every child in his family. He kept bravely at work, and there was no let up until he could count 300 trees, when he had a noble peach orchard—enough for himself and all his acquaintance, far and near. This practice would be a good one, if, instead of peach trees only, a general assortment of fruit and nut trees could be substituted. It is not every family, however, which could count as many trees as the one instanced.

## MONTANA.

The Missoula *Pioneer* of April 6th, says that the active preparations now being made by the agricultural population of Missoula indicate that twice as much grain will be raised in this county during the coming season than has ever before been harvested here. Every farmer in the Bitter Root and surrounding valleys is now busily engaged putting in his crops, and the number of laborers working on our ranches is more than double that of any previous year. We are glad to learn that more attention will be paid in future to dairy products and the raising of poultry, etc.—pursuits which will amply repay the care expended upon them. The ready market afforded by Cedar, Quartz and contiguous mining camps has previously absorbed all our products in this line, and, in fact, they have been extremely scarce, even with this ready sale, for some months past. The encouraging accounts which reach us from the mineral districts of the county have much to do with the stimulus now manifest in the minor products of the farm.

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Cherries and Gooseberries, etc., the first of the season, have made their appearance in the market during the past week. Of cherries, three lots have been received, selling at $1.25, 75c and 50c, closing yesterday at 75c. Of gooseberries, the first lot sold at 18c. The receipts of strawberries during the week have been steadily on the increase, aggregating 180,000 lbs., or an average of 30,000 lbs. for each day, the price meanwhile dropping from 10@15c to 6@7c. On Monday, the receipts were 40,000 lbs, and on Tuesday, 50,000 lbs. The trains of Wednesday morning brought 27,500 lbs. strawberries, which found a ready market at 6@7c for cholce in baskets.

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Cotton Planting. — Messrs. Strong, Peck & Co., says the San Joaquin Valley *Argus*, commenced planting cotton on the Buckley Brothers' ranch near Hopeton on the 26th ult. They are in receipt of several tons of seed by rail from Alabama and Mississippi of the most approved varieties, and will thoroughly test the question of cotton raising in this State.

## Grapes, Raisins and Nuts in San Diego.

Eds. Press:—In reading a late number of your most valuable paper, we noticed an article, stating that some person in the Eastern States, was desirous to know where the best location is, in California, for raising grapes for the purpose of making raisins.

For a number of years, I have been a dealer in fruit in San Francisco; have sold and tested grapes from all parts of the State, and find those raised in San Diego county far superior to any I have ever seen, from other parts of the State. Our grapes are a large berry, thin skin, few seeds, and very sweet, and the vines begin to bear nearly as soon as they are well rooted, and the climate being excellent for curing—there being no rain for a good part of the year—there will be no danger of damage.

Madam Widow Ames, an old resident of San Diego, has raised grapes from a vineyard put out a number of years ago, and which bore abundantly last year, notwithstanding it was a very dry season. This is a sufficient proof that the drouth does not effect the vines in this section.

Mr. Metzer, of our county, has also a few vines, which have been out but two years, which produced some very fine raisin grapes. I have no doubt, that all our mesa or hill lands, will produce grapes in perfection, if the vine is properly cultivated.

Our climate being one continued spring the year around, makes this the most desirable place in the world, for a home; and as to the adaptability of this climate, for the fig and nut-trees, it is sufficient to say that the few that have been planted, are doing finely. Our facilities for shipping such fruits to other markets, are better than elsewhere, as we have direct communication with New York, through the P. M. S. S. Co., which stops at our port twice a month on its way to New Fork; also the same to San Francisco.

In the course of a few years, we shall have direct communication by rail to all the States in the Union; also to Mexico. Our large and fine harbor will no doubt, in the course of time, be connected by steamer, with China and Japan, South America, and all the islands of the Pacific; it takes no prophet to foretell those events, for we have a harbor in which the largest vessel may lay in safety, during the most terrific storm. A. M. Caswell.

San Diego, April, 1071.

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New Agricultural Pater.—We have received the initial number of the *Santa Clara Valley Agriculturist*, a new publication which is to be issued monthly, at San José, by Messrs. Brand & Holloway. The number before us is well filled with valuable and instructive matter. We are pleased to observe that it advocates reform in the general agricultural practice of this State, and believes in irrigation and thorough culture. The increased attention which is being given to agricultural literature on this coast is one of the most hopeful signs of the times in regard to the future prosperity of California.

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A Woolen Factory at Los Angeles.—Mr. William H. Rector, the pioneer cotton manufacturer of this coast, is contemplating the establishment of a Woolen Factory in Los Angeles. The *Star* says that the Reservoir Company has tendered him water-power and lands for the mill and workshops.

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Becoming Civilized.—The Indians of Montana are setting up toll-gates on narrow passes of the roads and compelling travelers to pay a small sum for the priviledge of passing through their hunting grounds.

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A New Market for Grapes.—The newly incorporated wine and brandy manufacturing Company, organized to work under the Johnson process for distilling, will probably open up a large market for grapes in Sacramento, for all the surrounding country which can be readily reached by railroad.

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Flax Crop.—The Santa Barbara *Gazette* says the flax crop of that county is unusually promising.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports to Dewey & Co., U. S. and Foreign Patent Agents, and Publishers of the Scientific Press.]

For the Week Ending April 18th.

Amalgamating Pan for Gold and Silver Ores.—Ira S. Parke, Virginia City, Nevada.

Note.—Copies of U. S. and Foreign Patents furnished by Dewey & Co., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific coast inventors transacted with greater security and in much less time than by any other agency.

## Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

Metallic Wheel.—J. H. Harris, S. F. This improvement in metallic wheels consists in making the wheel with sheet or plate iron sides, which extend from the hub to the rim, leaving a hollow space between them, thus forming a metallic box wheel suitable more particularly for use as bearing wheels for gang plows, and presenting the advantage of having no spokes or projecting parts to gather mud or dirt, but scouring and freeing itself continually. For the proper construction of this wheel, a tire and a hub of peculiar make are required, which comprise part of the invention. The advantage of the device will be felt in moving over loose or wet land, but more especially where the ground is a stiff adobe, as in California. The wheel is strong and durable and can be easily and cheaply constructed.

Roller Skate.—D. Kerr and A. E. Hovey, S. F. The skating mania having spread throughout the land, one naturally sees new improvements in the device which renders the exercise possible, and examines them with interest. The present invention relates to 4-wheel roller skates, such as are constructed to turn from side to side in curves by tilting the skate block with the foot or shifting the weight of the skater to either foot. It consists in providing a plate to serve as a bearing for the journal which turns in the foot block, this having a lug or projection on it, and serving to prevent the displacement of the truck in which the wheels revolve and to relieve the strain on the bearings. It also consists in an improved method of seating the rubber block or spring upon the foot block, so that it can be more or less compressed as desired; and also in the standard which bears upon the block, and by means of which the trucks are held in position.

Telegraph Sounder Key.—J. Gamble, S. F. This is a very neat device by which the hand can be taught the proper motion for writing with the signal key, and the ear rendered familiar with the telegraphic sounds or clicks, without the necessity of having a battery. It is convenient, neat and cheap, and is coming largely into favor among those desiring of learning to operate.

The Healthiest Country in the World. De Bow's mortality statistics show that the people of the United States are the healthiest of the globe. The deaths are three hundred and twenty thousand per year, or one and one-third per cent. of the population.—In England the ratio is over two per cent. and in France nearly three per cent. Virginia and North Carolina are the healthiest of the States, and have 638 inhabitants over 100 years of age.

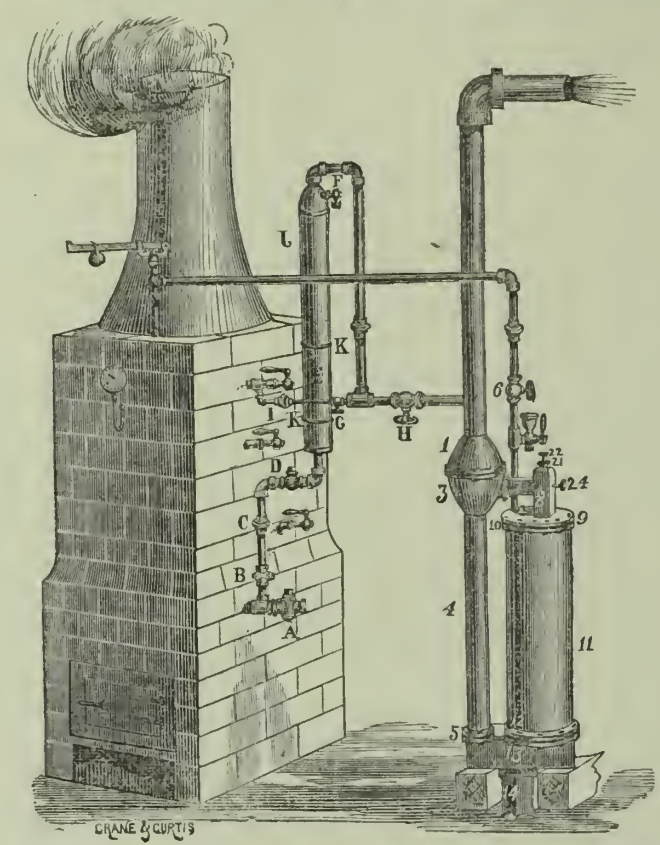
Lewis River.—We learn that recently a dozen or more families have gone into the Lewis river neighborhood for the purpose of procuring farms and to settle. The prospect of the Northern Pacific Railroad being completed through this region within the next two or three years, is having a very stimulating effect in settling up the hitherto unoccupied land along the north bank of the Columbia and along its tributaries.—*Oregonian.*

Sorrow comes soon enough without despondency; it does a man no good to carry around a lightning rod to attract trouble.

## Wilcox's Improved Steam Water Lifter.

The present dry season appears to have drawn very general attention, throughout all the agricultural portions of the State, liable to suffer from drouth, to the necessity of providing some means, which may be always at hand for irrigation when needed, in localities beyond the reach of ditches or other river supply of water, or artesian wells. Windmills are largely resorted to; but their aid, at best, is only very limited; and a cheap and reliable steam-pump has often been considered a great desideratum. The large cost of such an appliance, however, and the necessitated intervention of a steam engine, with all its intricacies, as a medium of applying the power of the steam to the pump, has heretofore been considered an almost insurmountable barrier to the employment of such power.

We are enabled, however, to present herewith an illustration of a steam apparatus which will accomplish the end desired, without engine, piston or plunger, and one which requires no belts, pulleys or other machinery to accomplish the desired work. The apparatus is also so cheap as to be within the reach of almost every one, and so simple that it can be managed by a mere boy. It will not choke up with foul water, and is but little liable to wear or breakage. It uses steam direct from the boiler, so that all that is needed is a boiler of the simplest construction, and a small amount of tubing to connect the same with the device for elevating the water.




WILCOX'S IMPROVED STEAM WATER LIFTER.

The apparatus is known as Wilcox's Improved Steam Water Lifter. The boiler is upright, and encased in masonry, as herewith shown, and its connection with the lifter will readily be understood by examining the illustration.

It is claimed by the proprietors that these pumps, simple and inexpensive as they are, will raise more water with the same amount of steam than any other pump in use. They have already been employed in this State to raise from 1,000 to 3,000 gallons per hour, and can, with equal facility, be constructed to raise 15,000 gallons in the same time. It will be learned from an advertisement in another column, that the apparatus may be seen in operation in this city. By the same reference, the cost of a machine for raising any given quantity of water may also be learned.

The fruit crop in Walla Walla Valley, Washington Territory, promises to be the most abundant ever raised there.

## The Oroville Bridge.

Butte county has just completed a contract with the Pacific Bridge Company, of Oakland, to put a bridge over Feather river at Oroville. It consists of two main spans, one of 178 feet and the other of *two hundred and twenty-eight feet.* This last will probably be the longest span yet built on the coast. It is to be constructed throughout on the Smith Patent Truss Plan, which we illustrated and described in full in a previous number of the Press, and which is rapidly coming into favor. The truss is twenty-one feet high and twenty-two feet wide, with double roadways.

The piers are constructed of cast iron, on Smith's improved plan. Cylinders, 4 feet 6 inches in diameter, are sunk to bed rock and filled with concrete. These are braced, so that the two forming a pier act perfectly together. For rapid currents this plan of pier will undoubtedly become very popular, and it is quite as durable in most places as stone. The whole superstructure is placed over forty feet above low water, and is covered and painted. The contract price is $18,000. We congratulate Oroville and Butte county generally on this much needed and valuable improvement.

We can also congratulate the coast on the introduction of this new manufacture. The bridge contains very many excellent advantages to which we have before alluded, and the managers of the company evince the most praiseworthy spirit in the manner in which they are going to work. We predict that they will meet with the success which they deserve.

## Hidden Life.

Every drop of water teems with life. You cannot quench your thirst, even with the purest water, without swallowing scores of puny lives. The ocean is stirred by the huge leviathan, who maketh it to boil like a pot. And therein, also, in myriad varieties, are the lesser forms of life, running down to the animalculæ, so small that one hundred and fifty millions of them weigh less than a grain!

The atmosphere is full of life, and the dry land swarms with animals of unwritten names and unknown orders. They inhabit the air we breath, the water we drink, the food we eat. They move and have their being in sweets and sours—in the toughest flint, as well as in the mellow pulp of the peach—in blossoms and fruit, in buds and leaves, in roots and branches, in the bodies of animals; in our own human bodies are tiny tenants—populous colonies of little inhabitants, all too minute to be seen or comprehended. * * * * *

In an office, recently, we reached a book from the shelf, and detected a speck of a white insect hurrying off at a double-quick to hide behind a grain of dust—for we had opened on him by surprise. The little fellow was retreating rapidly,—for the shaking of a book-leaf, or even for as much of a leaf to tremble as would hold a single letter, was to him a commotion equal to a hundred earthquakes! But we pursued him, excited as he was, until we chased him on a bar of polished brass, and by a grand stratagem drove him to an intrenchment on the bar.

He was smaller than the dot of an *i* in your pocket Bible. But we pressed him into our service, a prisoner in his house of brass, and snugly covered by a glass slide, until we reviewed him beneath the microscope. His prison was less roomy than the eye of a fine cambric needle; yet, under the microscope, his liberties as well as his body were greatly enlarged. That creature, to the naked eye so small, was now, apparently, fully as large as a bee, and white as snow, with limbs of perfect symmetry and proportion. We were affected by his efforts to be free, he hurried from side to side of his prison-house and tried to force the walls apart. Through his clear transparent flesh could be seen the beatings of his heart, and the purple veins of his blood. His movements were restless and pitiful as those of a newly-caged bird. If we could, by some magnifyer of sound, have heard his voice and understood his language, doubtless it would have been a plaintive cry for liberty.—*Journal of Microscopy.*

## The New Erie Sleeping Coaches.

The conveniences of modern travel—how are they multiplying! Cars heated by hot water, lighted with gas, cushions of velvet, walls covered with oil paintings, carpets of the finest Brussels, curtains of tapestry, beds of curled hair, ceilings in fresco, windows of French plate glass, mirrors of the finest quality, seats of carved walnut, walls of splendidly polished hard woods, cornices fit for the finest library, hooks and handles and bars of the finest silver. Such are the appointments of the new sleeping coaches built for the Erie Railway, and which are now running between Cincinnati and New York. They call them Drawing-Room Palace Sleeping Coaches, and they are worthy of the name. They have the comfort of a bed chamber, the beauties of a parlor, and the capacity of a drawing-room. The seats are really luxurious, covered with a species of velvet called French moquette, of the most beautiful colors, and with medallion patterns in the center of each seat. The wood work is all black walnut, with panels of the same material made from the most beautiful veneers cut from the knots of this wood. The work is oiled and polished so that it is as fine as the best furniture. Five fine globes from above, surrounded by rich appointments, furnish light by night. In the main room, after the beds are all put away and hidden from view, the traveler looks upon the walls decorated with twenty oil paintings. In this coach is a parlor or family room, six by nine feet, capable of accommodating six persons. There is nothing apparently that could be added to this to make it more attractive and comfortable. There is still another stateroom in the rear that will accommodate four persons. A wash room at either end furnishes every possible convenience in this line. The bed clothing is of the best, and the amplest arrangements have been made for clean linen.

The coach is warmed by Baker's patent hot water furnace, which is so constructed that, in the event of an accident, the fire will not be communicated to the surrounding wood. Fifty persons can be accommodated in each car.

The Erie and Atlantic Sleeping Coach Company have planted thirty-eight thousand dollars in this marvel of the car kind. Whether it will blossom into handsome returns would seem to admit of no doubt, when it is remembered that the charges on these are the same that are made in the common coaches.—*Indianapolis Journal, Dec. 7th, 1870.*

The Coco Pino, a new fire-kindler, recently patented by Mr. J. W. Still, through the Scientific Press Patent Agency, has been tested at this office, and found to answer excellently well the claims made for it. Clean and compact, cheap, kindling into a quick flame the most obstinate fuel, it is an article which will be sought for eagerly. It is in one respect worthy of being called one of the reformers of the day, not only for its effect on the fuel, but also for its influence on the maker of fires, who can now find no excuse for hasty language at dilatory flames. We therefore recommend it all the more cheerfully. It is extensively manufactured by Messrs. Pancoast & Co., and can be obtained of all wood, coal and grocery dealers.

To Restore the Elasticity of Cane Chair Bottoms, Couches, Etc.—Turn up the chair bottom, and with hot water and a sponge wash the cane-work, so that it may be thoroughly soaked. Should it be dirty use a little soap. Let it dry in the air, and it will be as tight and firm as when new, provided the cane be not broken.

# POPULAR LECTURES.

## The Latin we Speak.

[Prof. Martin Kellogg before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Fourth Series. Reported expressly for the PRESS.]

LECT. II. April 29.—Much has been said, remarked the lecturer, concerning the importance of the Anglo-Saxon element of our language, and of the necessity of its study. That it is important and ought to be studied, I fully agree; but this does not by any means imply that the classics ought to be neglected. Proper attention should be given to both. It is my province to-night, however, to speak of the connection of Latin with our speech, and to show how largely it enters into our every-day language.

The English language is indeed very composite. First, there is the Celtic element, then that derived from the Norseman, and the Danish. A very large proportion is from the Saxon, and the Norman invasion had a great influence. But long before the Norman conquest, Cæsar had over-run Great Britain, and Latin was engrafted on the stock. We have many French words, but French is only a daughter of the Latin. Latin and Greek are used largely in scientific terms. So it has come to pass that Latin and Greek form an important part of our language.

As I before said, I am to call your attention to-night principally to the Latin element. Now this is not confined, as some of you perhaps may have imagined, to the domain of high philosophy and abstruse thought. It is used largely here. But, as I hope to show you, it occurs also very largely in every-day speech, forms a familiar and indispensible part of our ordinary, work-a-day talk.

The lecturer proceeded to give many common examples of this. His examples were numerous, well-chosen, and often gave opportunity for quiet humor, which was appreciated by the audience, who were at first, however, a little puzzled by the supposed serious character of the lecture. We give a very few of the

### Examples.

United States. United is from *unus*, one, through *unire*, *unitum*, to unite, make one. State is from *status*, standing, from *stare*, to stand. It means rank, condition, then people of a certain rank or condition, and then a body politic.

Sierra Nevada. Sierra comes from *serra*, a saw, from the rssemblance of a chain or ridge of mountains to the teeth of a saw. Nevada is from *nivis*, snow. We get these through the Spanish.

Territory comes from *terra*, land, and means a tract of land. County comes from count, and meant originally the district belonging to a count. A count was a companion of an emperor, and the word comes from *comes*, companion, which is from *con* and *eo*, *ire*, to go with. The verb, to count, comes from a different source, from *computare*, to compute. Comptroller or controller, a person who examines and certifies accounts, is from this same word.

Senate comes from *senex*, an old man; representative from *re-præsentare*, to place before, to present. Congress comes from *congredire*, to come together. Capital is from *caput*, the head; it is the head or chief city.

Science is from *scientia*, from *scire*, *sciens*, to know. SCIENTIFIC is from *scientia*, science, and *facere*, to make; it means therefore to make to know. PRESS is from *pressare*, to squeeze, to press. *Alta* is from *altus*, high; the *Alta* might add as a motto to some of its editorials, *vides ut* ALTA *stet*, you see how the *Alta* stands, [or *ut Alta* stet, how's that for high?] *Bulletin* is from *bulletta*, from *bulla*, an edict of the pope, and thence means a statement of facts, a public notice or announcement, especially of news recently received. *Call* and *Chronicle* come from the Greek, and you know the proverb, "when Greek meets Greek, then comes the tug of war." *Examiner* comes from *exagmen*, from *exigere*, to demand, exact. *News* is from *novus*, new. *Transcript* is from *trans-scribere*, to write over or across.

Pupil is from *pupilla*, a little girl. It is pleasant for most boys to find, from the study of Latin, that they have a little girl in their eye.

The study of Latin will prevent many mistakes in using language. A minister, who was accustomed to the expression "fiend incarnate," in denouncing an individual, wound up his discourse by calling him a "man incarnate." Now incarnate comes from *in* and *carnis*, *caro*, meaning "in the flesh." A fiend incarnate, a devil in the flesh, is an unpleasant personage, but a man incarnate, a man in the flesh, is something very common and by no means necessarily bad.

You will have seen by the few examples, which are chosen from our common talk, that a knowledge of Latin keeps us from absurd mistakes, gives us fine points and distinctions, brings up pictures, even histories, to the mind, and aids us in expression and in force of language in our every-day intercourse with one another.

## The Gas Wells of Erie, New York.

It is something worthy of extra notice, says the *Iron Age*, to find a city lighted, and its dwellings warmed, with natural gas, procured merely at the same expense as boring for water. Erie rejoices in this blessing, and the subject is still sufficiently new to be interesting. The first presence of gas was noticed, four years since, in digging a potash well within the city limits, the flow of gas from which nearly suffocated the workmen. This well was filled up, but the same result occurred in another near by. Experiments were then made by sinking tubes in the mud of a stream and igniting the escaping gas, which burned freely. To a Mr. Brevillier, an intelligent German, is due the first practical action in the matter. This gentleman, associated with a few others in a company, sunk a well for petroleum on his premises; as an oil well it was a failure, but as a gas machine, a splendid success. For three years it wheezed and gas-ed until, the lease of the company expiring, the proprietor laid pipes conveying the gas to his house and soap works, where it has since been used. Not one pound of coal has been consumed since then in the establishment. The various processes of melting, rendering and soap boiling are carried on with gas as the fuel, the building is illuminated, while a beacon on the roof lights that portion of the city. With all this, and the amount used for lighting, warming and cooking in his dwelling, but one-sixth of the gas furnished by the well can be used, the remainder escaping through a safety valve. At the Conrad brewery a gas well was lately opened, by which vats of lager are kept boiling, and malt ovens working with an even temperature, the steam gauge standing at 75 day after day, without a change of a pound per day, and all without care from any one. The uniformity of pressure keeps the stream of flame under the boiler or kiln at an exact strength, supplying the most perfect heat for brewing. But one-fourth of the gas from this well is used. The city, also, has utilized the product with the happiest results. A well was put down by the City Gas Company, near the main reservoir, which has yielded a uniform daily supply of 24,000 cubic feet. This is conducted directly into the reservoir, and 12,000 feet of manufactured gas added, thus furnishing the daily supply of the city.

Hear how a private individual luxuriates in native fuel, free of cost: State Senator Lowry has a model well, from which pipes lead to every grate in the house, to the kitchen range, and to smaller pipes for chandeliers. In fire places are laid the French imitations of wood, pierced with minute openings to permit the escape of gas, thus simulating the cheerful blaze of the wood fire. An inch pipe supplies the unconsumable firewood, while a small bronze wheel regulates the supply by a turn. With fourteen fires burning, sixty gas lights in the house and grounds, the Senator lives in an atmosphere of perpetual summer. He even warms the cellar for the purpose of a laundry drying room. The only unpleasant thing about this wonderful supply is the question of permanence. This is hopeful, however, for the first well sunk for oil is in its seventh year, with an undiminished yield of gas, while in some cases, as at the Erie Car Works, the supply increases with time. The average depth of the Erie wells is 600 feet, and the cost about $1,500; as each well yields from 10,000 to 30,000 feet of gas per day, they generally repay their cost within three months. With the proximity of iron ore and facilities for receiving the ores of Lake Superior, Erie presents a splendid opportunity for the manufacture of iron with this fuel, free of cost. It is strange that with the energy for which the place is noted, this has not been attempted. Iron should be made here for $12 per ton, if not less. Be this as it may, these wells certainly afford a most curious and gratifying evidence of nature's bounty.

# GOOD HEALTH.

## The Philosophy of Drunkenness.

A sudden mental emotion can send too much blood to the brain, or too great mental excitement does the same thing. It is the essential nature of all wines and spirits to send an increased amount of blood to the brain.

The first effect of taking a glass of wine or stronger form of alcohol, is to send the blood there faster than common; hence it quickens the circulation; that gives a red face; it increases the activity of the brain, and it works faster, and so does the tongue. But as the blood goes to the brain faster than common, it returns faster, and no special permanent harm results. But supposing a man keeps on drinking, the blood is sent to the brain so much faster, in such large quantities, that in order to make room for it, the arteries have to enlarge themselves; they increase in size, and in doing so press against the more yielding flaccid veins, which carry the blood from the brain, and thus diminish their size, their bores; the result being, the blood is not only carried to the arteries of the brain faster than is natural or healthful, but is prevented from leaving it as fast as usual; thus a double set of causes of death are set in operation. Hence, a man may drink enough brandy or other spirits in a few hours, or even minutes, to bring on a fatal attack of apoplexy; this is literally being "dead drunk:"—*Hall's Journal of Health.*

## Boiled Corn Beef.

This is a staple food in a majority of families during several months of the year, and in most cases the cooking may be greatly improved. The two chief errors are, *first* in not cooking it long enough, and *second* in losing a large proportion of its real nutriment. We always prefer it prepared as follows: Soak in warm, not hot water, just long enough to take out all excess of salt. Then cover it so that the steam will condense upon the under side of the cover and fall back. This will prevent boiling away and also the loss of much of the nutriment which goes off with the steam. Boil the meat several hours or until it is so thoroughly done that it will not hold together to be lifted with a fork. If there be any bones take them out, since if cooked enough, the meat will cleave from them readily. Pack the meat by itself in a deep dish, mixing well together the lean and fat portions. Next skim the fat and boil the liquor down so that when poured over the meat it will just fill the spaces between the pieces. Then lay over the whole a flat cover which will fit into the dish, put on a dozen or twenty pounds weight and let it stand until cold. Several flat-irons or a large stone will answer for the weight, or if convenient it may be set under a cheese-press. Prepared in this way, the poorest piece of tough corned beef will be made tender and juicy. Boiling down and using the liquid, saves the *most nutritious* portion which is usually thrown away. The gelatine of the condensed gravy, when cold forms a solid mass with the meat, which may then be cut up into slices for serving upon the table. If the fat and lean portions be mixed, when cut up cold, the pieces will present a beautiful marbled appearance. Corned beef prepared in this way will not only be eaten with a superior relish, but will not on account of its toughness, be swallowed half masticated.

## The Uses of Walking.

Walking, for young and active people, is by far the best exercise; riding is good for the elderly, middle aged, and invalids. The abuse of these exercises consists in taking them when the system is exhausted more or less by previous fasting or by mental labors. Some persons injudiciously attempt a long walk before breakfast, under the belief that it is conducive to health. Others will get up early to work three hours at some abstruse mental toil. The effect in both instances is the same; it subtracts from the power of exertion in the after part of the day. A short saunter or some light reading before this meal is the best indulgence of the kind; otherwise the waste occasioned by labor must be supplied by nourishment, and the breakfast will necessarily become a heavy meal, and the whole morning's comfort sacrificed by a weight at the chest, from imperfect digestion of food. These observations apply especially to elderly persons, who are prone to flatter themselves into the persuasion that they can use their mental or bodily powers in age as in youth.

## Endurance and Diet.

Even the experienced trainers of the prize-ring cannot decide what is the best food for training men up to their greatest powers of endurance. They have a prejudice in favor of mutton-chops and underdone beef steaks; but it is by no means sure that this is the best. The Roman soldiers—who conquered the world, and built roads from Lisbon to Constantinople, and who were all trained athletes, marching under a weight of armor and luggage that few men in our day could carry—lived on coarse, brown wheat or barley bread, which they dipped in sour wine.

In our own day, the Spanish peasants are among the strongest and the most agile men in the world. They will work all day in a copper mine, or at the olive press, or the wine press, under a hot sun, and then dance half the night to the music of a guitar. What does he live on? A piece of black bread, an onion, perhaps half a watermelon. You may see him dipping his piece of bread into a horn of olive oil, and then into some vinegar, made hot with pepper and garlic, and then he is happy. Sometimes he gets a draught of harsh, sour wine, but not strong. All the strong wine is sent to England.

The Smyrna porter walks off with a load of eight hundred weight. His only food, day after day, is a little fruit—a handful of dates, a few figs, a bunch of grapes, some olives. He eats no beef, pork, or mutton. His whole food does not cost him a penny a day.

The Coolie, living on his rice, can outwork the negro fed on bacon. The Arab, living on rice and dates, conquered half the world.

The most tremendous muscular force, and the greatest powers of endurance may be nourished upon a very moderate diet.

The Irish peasant is the strongest man on the face of the earth. And his principal food is potatoes and brown oatmeal bread, with buttermilk. He scarcely tastes flesh meat a dozen times a year.

## Beneficial Results of Sunshine.

Seclusion from sunshine is one of the misfortunes of our civilized life. The same cause which makes the potato-vines white and sickly, when grown in the dark cellars, operates to produce the pale, sickly girls that are reared in our parlors. Expose either to the direct rays of the sun, and they begin to show color, health and strength. One of the ablest lawyers in our country—a victim of long and hard brain labor, came to me a year ago, suffering with partial paralysis. The right leg and hip were reduced in size, with constant pain in the loins. He was obliged in coming up stairs, to raise the left foot first on every stair, dragging the right one after it. Pale, feeble, miserable, he told me he had been failing several years, and closed with, "My work is done. At 60, I find myself worn out." I directed him to lie down under a large window, and allow the sun to fall upon every part of his body; at first, ten minutes a day, increasing the time until he could expose himself to the direct rays of the sun a full hour. His habits were not essentially altered in any other particular. In six months he came running up stairs like a vigorous man of 40, and declared with sparkling eyes, "I have twenty years more work in me." I have assisted many dyspeptic, neuralgic, rheumatic, and hypocondriacal people into health by the SUN-CURE. I have so many facts illustrating the wonderful power of the sun's direct rays in curing certain classes of invalids, that I have seriously thought of publishing a work, to be denominated the "Sun-Cure."—*Dr. Warren.*

HOW TO GO TO SLEEP.—No doubt there are many of our readers who understand this delightful art to perfection; but there are certain conditions of animal economy, even in a state of health, when "tired nature's sweet restorer" refuses to close our lids, and seems pertinaciously to fly from us, though wooed ever so warmly. The most natural and facile method is to place the head in a comfortable position, and then, taking a full inspiration, breathe as much as possible through the nostrils. The attention must now be fixed upon the fact of breathing.—The patient must imagine that he sees the breath passing from his nostrils; and the very moment he brings his mind to concieve this, apart from all other ideas, consciousness and memory depart, and—he sleeps. The method is strange, but simple, and the experiment will prove its truth.

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SAN FRANCISCO:

Saturday, May 6, 1871.

## Our Weekly Crop.

That man is a worm, and dependent to some extent on his fellow worms, is an idea which seems to be indicated here and there throughout our crop this week; but that he is an industrious and a busy worm, a happy and a valuable worm, is also indicated. The growth and development of one class of his brethren, the Silk Worm, is dwelt on at the commencement, and its value fully and well illustrated.

Worm-like to some extent, and to some extent very unworm-like, we crawl through the Library of Mechanical and Scientific Progress, spinning therefrom a rich web of thought. We devour the Alkali and investigate its properties; visit our insect brethren who dwell on the Cochineal, and mount the Trees to Protect them from Grass-hoppers. We go to our four-footed friends, the Dogs and Sheep; and slowly traverse the Public Lands for a good place of abode.

We elevate ourselves to a higher rank on hearing Right Words from the Right Source; we rejoice at finding a Crop that Never Fails; we collect Hints from the Farmer and advice from the Garden. Still improving in condition, we emerge into a state of winged happiness and flit here and there, visiting various localities and sipping the sweet and bitter of the condensed Agricultural Notes of the Coast.

The gems of Recent Inventions sparkle on our wings, and we bathe with impunity in the condensed vapor of a Steam and Water Lifter. We alight on the Oroville Bridge and watch the Microscopic Life below, above and around, visible to our sharp eyes; and we wonder at the Sleeping Cars which flash by us.

We learn that We Speak Latin, which many of us knew not before. We see afar off a natural wonder, the Gas Wells of New York, and we study how to improve our small digestive powers and enjoy our great Good Health.

With wonderful power we cross and recross the continent to see the relative merits of Eastern and Western Wagons, and stop at the post-offices to read our numerous Letters, then fly to to the wonders of the Yosemite Valley. We visit the Cemetery and reflect on the past and future. We see, in advance, a State Fair Plowing Match, and look at Sod Drains. We feel that we are becoming less and less of insects and more and more of men. By the time that we have arrived at the Home Circle, we perceive that the elevating influences of woman's society has perfected our condition as far as is possible, and their interesting conversation and hints on Domestic Economy are found appreciable and applicable to our wants.

We return to the Flower Garden, to see how we used to live, and examine the poetic Descent of Man, to see how we have changed. The poem rather causes doubts, however, as to whether we have changed in the proper manner. But we drop the subject with a Joke, and leave it for a week's consideration.

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TO CORRESPONDENTS.—Mr. J. A. W., of Stanislaus County, has furnished us with two timely and valuable communications on irrigation, the first of which will be given next week. We are also in receipt of some hints, etc., from "D. M. L.," of Santa Cruz.

## California Wagons vs. Eastern Wagons.

One of the most important questions of the day to California, is whether her mechanics can or cannot successfully compete with the mechanics of the Atlantic States in supplying the demand of the Pacific coast for farm wagon carriages and other vehicles in common use and for agricultural machines and implements generally. In considering and discussing this question we propose to do so with candor and fairness to all parties interested, acknowledging in the first place, that as Californians our interests and sympathies are strongly with the California mechanics.

In a former issue of the PRESS, we illustrated the Studebaker farm wagon as a fair representative of the eastern-made wagons, now being imported and extensively sold on this coast. We also gave a short history of the origin and present means and facilities of that company. In a later number we illustrated one of Soule's improved farm wagons, as made and sold by him at Sacramento, as a representative of the California-manufactured wagons, and also gave a short history of his operations in the same business. In candor and in truth, the contrast of the two wagons, in general style, finish and adaptation to the purposes for which they were made is in our opinion decidedly in favor of the California wagon and complimentary to the California mechanics. Before going into a close examination of the proposition stated above, perhaps we might as well state here the points upon which the California wagon-makers base their claim to the superiority of the California-made wagon over the imported, and consequently to the patronage of the people of this coast.

1st. That the timber used in the California-made wagons being almost wholly obtained from the Atlantic sea-board States, and a very large proportion of it of second growth, is much better than that used in the imported wagons, which is obtained from the western forests where the wagons are made, and which is well known to be from large trees of the first growth of timber.

2d. That even if the timber used in the wagons was of equal quality, which they deny, the California wagons, being put up in a dryer climate, and of timber that has for a long time been subjected to the action of that dry climate, must necessarily be, and are, much more serviceable and more valuable than wagons put together in the comparatively damp climate of the Atlantic States. Especially so, if the wagons are to be used in the dry atmosphere, and dry and hot soils of California, Nevada, Utah, Montana, Arizona and New Mexico.

3d. That the experience of the California mechanics on the ground, and having come from, and having brought with them the skill and tact of all parts of the world, has given them a better understanding of the special wants and peculiar necessities of the farmers and others who use wagons on this coast, and has the better prepared them to meet those wants and necessities in all that relates to the strength, proportion, adaptibility and durability of wagons to be used here or in a similar climate.

Of the general correctness of the above claims we have no doubt; but leaving our readers to judge of this question for themselves, we will pass to the ADVANTAGES upon which the Eastern manufacturers mostly rely to sustain them in the competition upon which they have entered for the wagon trade of the Pacific Coast.

1st. Their better facilities, their close proximity to the raw material used, their larger and better organized shops, with all the most approved labor-saving machines, united with plenty of capital or moneyed means with which to operate, all directed by an intelligent head, for the accomplishment of a definite purpose, assisted and guided by extensive general experience. In all these respects, as things now stand, the Eastern manufacturers undoubtedly have a great advantage over us.

### The Opposite Picture.

To illustrate, we will reverse the relative positions.

Suppose that all the large Eastern wagon manufacturing establishments were broken up, their labor-saving machines destroyed, their now united and well-managed capital divided into thousands of parts, and invested in as many thousands of small shops and rude tools, located in the small towns and villages and cross-roads throughout the country; suppose that these shops and this divided capital were under the control and management of as many different mechanics, whose experience and business capacity were as limited and circumscribed as their business and means, and that they were compelled to buy all the material used of the nearest dealers and pay therefor the highest retail prices, and perhaps pledge the wagons to be built from these materials to secure the payment of the same. Were such the circumstances of our Eastern manufacturing competitors, would the wagon-makers of California have any fear of imported wagons? Would they not on the other hand see before them in the almost immediate future the great wagon trade of the Pacific Coast falling into their hands without a dangerous rival to dispute it with them?

### The Extent of the Trade.

Did our mechanics ever think of the extent and value of this trade, embracing as it does all the States and Territories above named, with Oregon, Washington and Alaska on the north, and Lower California and other Mexican and South American States on the south? Did they ever think how much more destructive the climate of these Pacific territories is to wagons and all other agricultural machines which have to be used in the open air, than that of the Atlantic States?

A trade like this is worth making an effort to secure. And shall it be said that our California mechanics are too short sighted to see it; or seeing it, that they are not equal to the labor of securing and supplying it? But let us look once more to the relative positions of ourselves and our Eastern competitors. They occupy the vantage ground, and our position is truthfully portrayed in the picture we just above, in supposition, drew for them. Their capital, skill and energy is united, ours is divided. We cannot if we would, and we would not if we could, reduce them to our uncnviable position. The only chance to get even with them and to become their successful rivals in supplying this great future trade of the Pacific Coast, is to do as they have done. Break up our little one-man shops by the wayside, unite our skill, obtain labor-saving machines, classify and economise our labor, command, and obtain, as we then can, unlimited capital, and first-class business capacity and experience to manage it.

Being in such a position, and in possession of equal facilities in these respects, united with the advantages of the points claimed above by our mechanics, would there be any need of fear as to imported wagons?

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THE NORTHERS.—The Northern Sirocco, which has been unusually destructive to the young growth of crops this year, is an institution which demands careful study, A climatic map of the State would show its tracks, its influenzic effects, and the crops it destroys, would be valuable in many respects. For instance, ramie plants in Woodward's Garden, give conspicuous evidence that the locality is not adapted to that textile. The sugar beets on the American river bottoms, give like evidence against that section for beets. The writer was present, and saw the effects. His first visit was in mid April. The soil is rich and moist, but very sandy. The sand, driven by the fierce norther, sweep over them and cut the beets to the ground. It was the second time and second planting. A week later we saw a southeaster, and exactly the same thing. That locality, therefore, so eminently suited in all other respects, is not reliable for beets. We are told that, though beets at Alvarado also suffered from the northers; it was not to an extent to materially affect the recultivation.

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GARDENING FOR PROFIT.—It is said that by good culture and repeated crops over $350 has been taken from the product of a piece of ground only 40 feet square, cultivated with garlics.

## Kind Words.

INTERESTING AND INSTRUCTIVE.—Mr. S. Jewett sends the following kind words from Kern county:—"I have read the "PACIFIC RURAL PRESS," regularly from its birth, and find its contents made up with original, interesting, instructive and valuable matter, suited to the wants of its readers on the Pacific Coast. If it is continued under the same auspicies, its instructions and influence will add knowledge and wealth of untold value to the resources of this agricultural, mechanical and golden country. It fills a vacuum that was really needed, and it will surely prove a success."

THERE IS NEED FOR IT.—Mr. William Boots, an extensive gardener, near San José, writes as follows:—"I am a subscriber to the RURAL PRESS, and am well pleased with the paper. I am always anxious to see the *next* issue, and am willing to contribute a mite, occassionally, to add to its interest. I hope your anticipations may be more than realized, for the country is greatly in need of just such a journal as the PACIFIC RURAL PRESS."

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STUDEBAKER AGAIN.—Our Correspondent "Jeigh Arrh," still insists that according to the statement of the work done in the Studebaker wagon shops at South Bend, that company must have *very rapid workmen, indeed.* No doubt they have; but our readers will be more interested in learning how we can out-work them in this State. Read the article on the Wagon Business in California in another column of the present issue.

## To the Yosemite Valley.

It is to be hoped that our Eastern friends now in this city will not miss visiting other places than San Francisco. Those who have come for pleasure merely, will of course view the different scenes of natural beauty; but too many of our business visitors, strange to say, think that San Francisco is California, and that a stay here of a few days will give them a general idea of the State. Now no one place can represent our State with its varied climates, seasons, conditions and natural beauties and wonders.

The Yosemite is one of our grand points not to be neglected, and now is one of the very best times to visit it. There are several ways to get there. The shortest, easiest and cheapest route is, however, this: By steamer to Stockton, by rail to Milton, by stage to Tamarack Flat *via* Chinese Camp and Garote, and by saddle train (11 miles) to the Valley. A variation of this, to see the Big Trees, is to branch off from Milton by stage to Big Tree Grove *via* Angel's and Murphy's, then return to Murphy's and proceed to the Valley *via* Sonora and Chinese Camp.

There are several reasons in favor of this route besides those of ease, shortness and cheapness. A steamboat trip will be a pleasant change from a railroad ride for our overland friends, besides giving beautiful views of our Bay, the San Joaquin river, Mts. Tamalpais and Diablo, and the country on the way. The hotels on the road are all comfortable and well appointed. More especially, however, the ride through hot, parched and dusty plains is avoided, the route by stage being all the way through a timbered, cool and beautiful country, with magnificent views and easy grades.

However, whatever way they may prefer, let our friends by all means visit the Yosemite. If they take the route indicated, we can vouch for the gentlemanly treatment, intelligence and knowledge of Mr. L. P. McCarthy, the general agent at this city, who has been for some time connected with this paper, and who has traversed thoroughly the country along all the routes, besides other sections of our Coast. He may be found at the office of the S. F. Package Express Co., 306 Montgomery street.

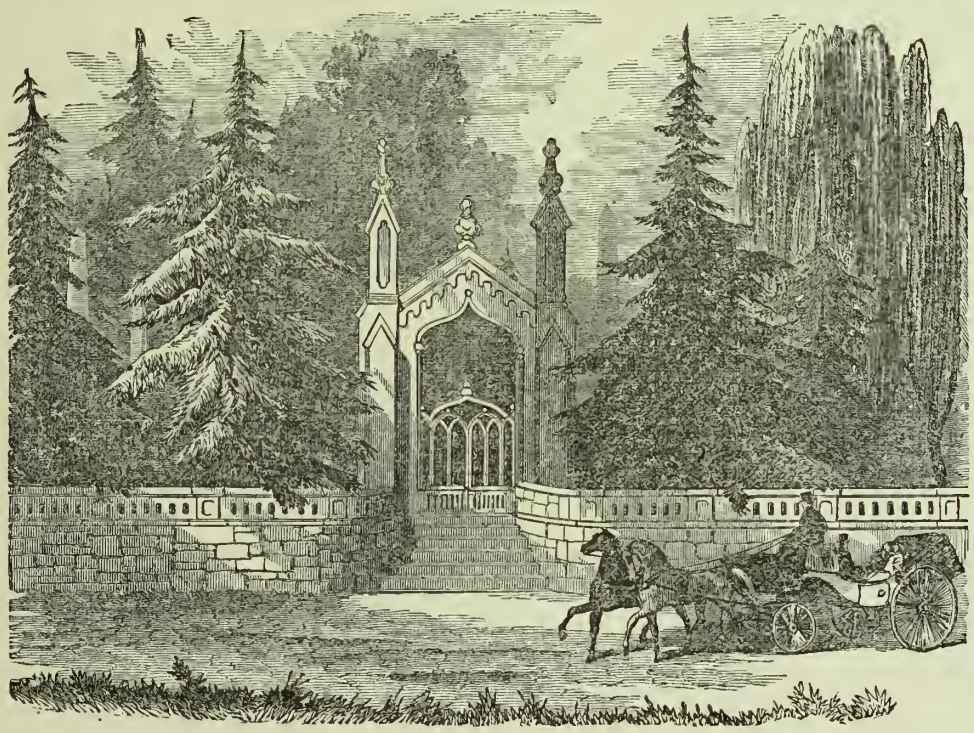
## A Printers' Cemetery.

There is a newspaper proprietor in Philadelphia, who has won a wide-spread reputation for the interest he shows in his employés. Having himself gained a fortune, he has not thereby lost his love of his fellow-men, nor has success hardened his heart against those to whom such success has not yet come. Recognizing the truth of the principle that the employer is under many obligations to the employed, that no blessing in life is unattended with corresponding responsibilities, he gives encouragement to every honest worker and cares especially for those who toil for him. He provides for the comfort and health of his workmen during their life, secures an insurance on their lives for the benefit of their families when they die, and finally has furnished a proper resting place for their bodies, when their toils and struggles on this earth have ceased forever.

This newspaper proprietor is Mr. George W. Childs, owner of the Philadelphia *Public Ledger*.

Several years ago, Mr. Childs presented a large and beautiful lot in the Woodslands Cemetery to the Philadelphia Typographical Society, an association of printers chartered in 1831. The lot contains about two thousand superficial feet and is entered through a marble gateway, of massive size and great beauty, which is shown in the accompanying illustration. It was formally dedicated by the society on October 17th, 1861, with fitting ceremonies.

The gift was peculiarly appropriate as coming from the generous donor and as being given to the members of the brotherhood of the art preservative. Surely, if any one deserves a pleasant resting place for the tired body, it is those who diffuse knowledge and render thought imperishable.



ENTRANCE TO THE PRINTERS' CEMETERY NEAR PHILADELPHIA.

The Rain Fall.—The supply of rain never fails in the foot-hills, nor in the extreme northern portions of the State generally. In evidence of this we may mention the fact that 16 inches have fallen there for the present season at Auburn, 24½ a little higher up at Colfax, and 16.90 inches at Chico, against 6¼ inches Livermore and Stockton and 7.11 inches in Sacramento.

## Wool—Frauds Practiced.

There is considerable stir in the wool market at this time, and wool growers feel much encouraged at the extreme prices now being offered—the highest, we believe, ever paid in this State. It pays to exercise special care in putting up wool. Each fleece should be carefully rolled and tied, and sacked in good order. Even the appearance of the sacks sometimes affects the price of wool, as their neatness or otherwise is thought to afford evidence of the care with which the wool has been grown and put up.

In this connection we may be pardoned for alluding to extensive frauds which are being practiced in certain quarters on innocent victims, by mixing sand with the wool in the process of packing. One buyer in this city shipped, about the first of April, two car loads of wool to Massachusetts, with instructions to have it cleansed and dried, and telegraph the shrinkage. The result was a loss of just sixty-five per cent.; ten per cent. was sand, which was undoubtedly placed in the fleeces by design.

Such criminal practices, if they become common, will greatly injure the character of California wools abroad. Hence every honest wool grower should do all in his power to ferret out and bring to justice, or expose any person who is guilty of such frauds.

## Plowing Match at the State Fair.

The State Board of Agriculture propose to have a Plowing Match at the next State Fair. They say, as will be seen by reference to the Premium List published in our last issue that they will furnish to exhibitors suitable grounds for practically testing their plows under the direction of the awarding committee.

They have offered a premium of $200, being the highest premium of the entire list, by fifty dollars, for the *best steam plow*, to be tested to the satisfaction of the committee, and its utility fully demonstrated. They have also offered a premium of $40 for the best two-gang plow, and $100 more is divided up into premiums for plows for general and special purposes, making the amount of cash premiums offered for plows alone $340.

This is a very liberal list for the encouragement of good plows and good plowing, and such encouragment could not have been extended at a more appropriate time nor for a more appropriate object.

The peculiar character of the present season is demonstrating, in a most striking manner, the advantages of thoroughly pulverizing the soil in the State, down to a great depth, in order to secure a certainty of good crops. An experience of twenty-one years has shown that after the first of May the growth and maturity of the crops in by far the largest portion of this State must depend almost entirely upon the moisture in the ground at that time. Within that period there has been but seven years in which the rainfall after the first of May has equalled one inch. Hence the necessity of loosening up and pulverizing the soil to a great depth in order to form a reservoir in which to catch and retain the water that may fall each rainy season previous to that date.

There is no doubt of the proposition that the deeper and more thoroughly the soil is pulverized the greater will be the amount of water absorbed by it. Nor is there any doubt of the other proposition that the finer the particles of the soil, the more readily and freely will that water rise to the surface to give moisture and vitality to the roots of growing crops. Our dry atmosphere, after the first of May, causes rapid evaporation from the surface, and unless provision is made to supply the place of the moisture so evaporated the crops must suffer. Experience shows that they *do* suffer just in proportion as these provisions are neglected, in all ordinary seasons; but seasons like the present serve more particularly to demonstrate these facts, and to call general attention to them. Hence the appropriateness and importance of the effort on the part of the State Board of Agriculture to bring prominently before the people and especially the agriculturists the subject of plows and plowing.

### Steam Plows.

There have been invented and patented in this State two steam plows. The patent to one is owned by Coffin & Standish, of Martinez—Standish being the inventor—and of the other by Messrs. Locher, of Oroville. The Standish plow was exhibited and operated at the State Fair in 1868, and was then awarded a special premium of $300 and a diploma. We understand it has since been greatly improved, and an improved working plow built in Boston, Mass.; but what is the present condition of the plow we are not informed.

The Locher plow was exhibited by model, at the State Fair of 1869 and was highly spoken of by a committee of competent mechanics. A working plow has also been built under this patent and we believe the inventors are now at work on improvements which it was found necessary to make to it, and which they confidently expect will render the plow all that a steam plow should be.

The Thompson road steamer, improved by the American manufacturer, is also claiming public attention as a power for propelling large gang-plows, built expressly for deep and thorough plowing. We understand that efforts are being made to secure the attendance and competition of all these steam plows at the State Fair. Such a contest properly conducted would be of great importance to the public, and probably of great benefit to the owners of the several plows. It would be a grand exhibition and one worth witnessing by every agriculturist in the State.

### Gang Plows.

There are also a large number of gang plows, of different patents, being built and used in the State, and the contest for superiority is becoming very spirited and important. The trial between *them* will also be of great interest.

### A Suggestion.

In view of the importance likely to be attached to the Plowing Match at the Fair, we would suggest that adequate preparations for a thorough and satisfactory trial should be made, and that a plenty of time should be devoted to the same. A large field, in the best condition the season will allow, should be obtained, the best of judges appointed and their "services" secured. Then the Plowing Match should commence some days before the regular time for opening the Fair, so that all the plows entered for premiums may have a fair and impartial trial in the presence and under the immediate supervision of the judges, removed from the hurry and bustle and confusion of the other exciting exercises. After they have had such a trial, and after the judges have satisfied themselves, all the plows might be brought into the Stock ground or some other convenient place and operated in the presence of all the people, to stand the test of their judgment and approval or non-approval. We think this suggestion worthy the consideration of the Board, and hope they will give it their early attention.

## Sod Drains.

Our attention was lately called to a new mode of constructing drains, devised and practiced by Mr. William Fitzsimmons of Vallejo. His method of constructing drains is as follows:—The drain may be opened to a suitable depth, in the usual way, by machinery or otherwise. This done, some suitable instrument is employed to form a groove in the bottom, about four inches wide and six deep; then the sod, which should be carefully taken from the surface, is employed as a cover to the groove or drain proper, being laid on with the grass side down, and the earth afterwards filled in as usual. These drains, according to the statement of Mr. F., have been found to last well, and with very little danger of filling up or clogging. He thinks such drains will work well in tule land. They can certainly be constructed at very little cost, compared with the ordinary manner of constructing them of wood, stone or tiles. We should be pleased to hear from some one who has used drains so constructed. There is a large amount of land in the State which might be greatly improved by drainage and which, doubtless, would be so improved, if it could be done cheaply as indicated above. Small farmers have much leisure time on their hands, which might and would be employed on such work, were it not for the material usually required for constructing the drains. But if "sod drains" will work, no material is wanted save that already on hand. Labor alone will do the work. Our attention was called to this matter some time ago; but it has been accidentally overlooked until the present time.

About to Arrive.—The San Francisco Silk Factory will receive its machinery from the East in a few days. Twenty tons of it were shipped on the 15th ult.

Will Grapes Keep?—This question has often been asked, and has been answered both affirmatively and negatively by those who have experimented in that way. Yesterday Mr. Charles Barker, of this place, exhibited a sample of grapes which he has kept through the winter in all their freshness of taste and plumpness of size by a very simple process. Mr. Barker packed up a barrel of Catawba grapes in sawdust last fall, and yesterday the barrel of grapes was opened, and the fruit was splendid, as we have stated.—*Grass Valley Union.*

Here is a test that should be remembered. It is reasonable and should be tried by all persons wishing to preserve grapes fresh.

Potatoes in Arizona.—The Arizona *Miner* copies our article entitled "Agriculture in Arizona," and says that the article although a very good one, is in error saying that "Irish potatoes are grown, but not with much success," for they have been grown in this vicinity with great success. Corn, too, has done well, every year but the past two, and, as to fruit trees, we have several thousand which have already yielded fruit."

BY OUR LADY EDITORS.

## Be Just Before You're Generous.

BY NELL VAN.

I'm glad I'm not a girl," said Willy one morning, "I wouldn't be a girl for anything; they are such babies and cry so easy." His sister May had gone to her room to give full vent to her feelings, saying as she went, "I wish boys were not so mean; I'm glad *I'm* not a boy, anyway." It was plain there had been some altercation in the dining-room, and mamma entering just at this time, resolved to ascertain the facts of the case. It was always her fashion to enquire into any difficulty that occurred between the children, and thereby gain an opportunity of teaching them a lesson. Calling Willy to her she asked why he had expressed himself in such a manner, and for what reason his sister had gone from him in tears. Was it because Willy had treated her unkindly? and was it manly to cause a girl to cry, and compare her to a baby?

The facts of the case were these. Willy had borrowed his sister's slate-pencil, which was a nice long one, and by accident, had broken it. Instead of offering to replace it with his own, which was in his desk at school, he insisted that either of the pieces were long enough for her to mark with; and he wanted to give his to James Murdock, who had nothing but a stump of a pencil, and had no money to buy himself a better one; James, he said, could always do his examples, and frequently helped the boys do theirs; so Willy wanted to give him a nice long pencil for helping him the day before.

"And why," said mamma, "do you think your sister can do with the stump of a pencil any better than your friend. Besides is it not your duty to make some reparation to her for your carelessness in breaking the pencil she so kindly lent you? Be just before you are generous, my son; and never be guilty of meanness towards a girl, if you would grow up into a noble manhood."

Willy said nothing, but hung his head evidently ashamed of the part he had acted, and annoyed at the rebuke which he felt in his heart he so justly merited. "Well," said he, after a pause, "I didn't mean to break her pencil, and I told her so, but she began to cry like any baby, and I cannot have any patience with a girl that cries for every little thing. There's Mary Birch, at school, she takes all sorts of rough treatment so good-naturedly, and never thinks of carrying tales to the teacher. We have lots of fun, and we call her "Woman's Rights," because she looks out for No. 1 so bravely, and doubles up her fists at the boys and gives them one of her savage looks if they dare to insult her dignity, as she calls it, or do anything to plague the smaller girls. I like one of those sort who can fight her own way through life without crying at every little thing.

Said mamma, "did your sister cry because you broke her pencil; or, because you refused to replace it by giving her yours, prefering to make your friend a present instead of being just. Suppose you had broken Nanny's pencil, would you have dared to insult her dignity by offering her the broken pieces with the assurance that they were plenty good enough for her, who was only a girl? Now answer me candidly, my son."

"Well, no mamma, I believe I should not dare to, because she has such a way of making every one do as she wants them to, and I should have forgotten about James Murdock and his stump of a pencil, in my desire to keep on good terms with her. Why, she thinks nothing of taking a boy down and lashing him right smartly if he don't do what she thinks to be right. And the fellows had better keep in her good graces if they know when they are well off."

"Willy, I remember a little boy about your size who was once visiting at the house of a neighbor with his mother. When they started to come home, the little girl who belonged there began to cry. The mothers were busy talking when the little boy, about your size, Willy, pulled his mother's dress, saying: "Come mamma, come home now." "What is your hurry, my dear," said his mother, "I want to hear little Sarah cry again; come, let's go." Here is a case Willy, in which a little boy liked to hear a neighbor's child cry like a baby for a trifle; yet the same little boy when but little older, sneered at his sister for crying when she had been unjustly dealt by, and declared he did not like girls because they cry so easy. Tears are the natural defence of all womankind, because they live in their affections rather than in the intellect. Frequent contact with the world, and the necessity of fighting for their rights, often changes the disposition and dries up the fountains of tears, as in the case of your little friend Nanny."

"I happen to know the story of her domestic life, and can account for her strong desire to protect herself and defend others from injustice. Her mother is a gentle, tender-hearted woman who had the misfortune to marry an over-bearing, tyrannical husband. He became addicted to habits of indolence and intemperance, while the mother was busy rearing her children. Neglecting to supply their wants, it became necessary for her to apply to her brother for assistance. The brother promised to see that she and the children were provided for, but would do nothing for the support of an idle dissolute man. Accordingly a purse was made up among kind relatives and friends, and sent to her with the stipulation that with it she must procure a home for herself and children; also a cow and poultry by which she might have some means of support. With a light heart she set about her task, without, however, obtaining a formal separation from the man whom she loved with all his faults. She procured a comfortable house and farm, where there were plenty of fruit trees, a cow, turkeys and chickens which enabled her to get along very comfortably. When her husband found how matters were, he came to her and promised to reform, begging to be received into their home. Fearing her brother's displeasure, the wife denied him admittance, though his tearful pleadings almost broke her heart. She finally promised, if he would find steady employment, and come home, bringing her the fruits of his labor, she would receive him. But what does he do? When in liquor, he comes to the house, forces an entrance, threatens her life and that of the children, destroys the furniture, drives away the cow and sells it, doing the same with the fowls, putting the money in his own pocket, leaving the house a scene of desolation and ruin.

This is the way this unnatural monster has done upon several occasions. Her brother and friends live at a great distance and it is not likely they know the trials to which she is subjected. She cannot get a divorce from him because he is not an habitual drunkard, nor on the ground of desertion, for though he does nothing for the support of the family, he never remains away for a sufficient length of time. She cannot sell that property without his signing the deed, though he never gave a cent towards its purchase. She is told that she is perfectly justified in ordering him to leave the place when he comes there, and the law would uphold her in shooting him if he refused to obey. But she is, as I said, a tender, shrinking woman, who would suffer in silence rather than kill the father of her children.

The girl Fanny is older than her brother, and naturally rebels against such unjust treatment. She has been reared in an atmosphere of persecution, which is developing in her an earnest desire to see equal justice done to all without regard to sex. Such experiences as these, my son, teach important lessons, which every mother should lay to heart. The laws of our land are such that woman is regarded very much as the slave has been. She has been kept in ignorance of these laws, and has suffered in consequence.

The true and noble among us are just opening their eyes to the fact that women can be educated to think and act equal to men. Accordingly we are beginning to educate our girls in colleges and universities. Giving them opportunities for entering the professions or active business life, instead of letting them remain quietly at home for father to support in idleness, or, if forced to earn a living by circumstances, to either teach or sew, both of which are very wearisome and injurious to health. This necessity to exertion brings out in the woman the very qualities you seem to admire in Nanny Birch, which compels others to respect her and make them willing to give her what belongs to her.

In the case of the slate pencil, you wished to rob your sister of what rightfully belonged to her, in the place of the one you broke, that you might be generous to your friend. Still you would have forgotten the act of generosity, in your desire to keep in the good graces of a girl who was determined to have her rights. It is the duty of every mother to try to teach her little ones—who will so soon be making and revising the laws of the nation—true principles of equality. Let them not say "those who will rise up and take their rights shall have them." That would encourage women to lay aside (if it were possible), their natural modesty and timidity to save them from being trampled upon. When the laws of the country are just and equal for both sexes, then there will be no need of that peculiar development known, in derision, as the 'strong-minded female,' which is considered by many as such a monstrosity or deformity in nature, but nevertheless a powerful element to enable men and women to see matters from a general standpoint.

Therefore, my son, in your dealings with either the weak or the brave, it is well to "be just before you are generous."

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THE WOMAN JUROR EXPERIMENT seems to meet with some considerable favor in Wyoming Territory, if we may form an opinion from the following extract from the recent charge of Judge Howe, of that Territory, to a jury on which several women were impannelled:—

I notice that several women have been summoned as jurors at this term, and a few words from the Court in relation to this fact seem to be called for and appropriate. A year ago, for the first time in the history of the world, women were selected, summoned and impanneled in this Court, both as grand and petit jurors, and served as such during the term of Court then held in this city with so much intelligence, discrimination, honesty and propriety of conduct, in all respects, that the Court felt bound to say that they had gone far to vindicate the policy, justify the experiment, and realize the expectations of those who had clothed them with the right. The bar and bench, and the intelligent business men of the whole country, have long felt that something is needed to improve and purify our jury system—something to lift it above prejudice and passion, and imbue it with a higher regard for the law, for justice, oath and conscience. Perhaps the introduction of this new element may accomplish this, and I am willing that a full and fair opportunity shall be afforded to try the experiment, and I hope it will prove successful.

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HOW A BOY WAKES UP.—There he lies in his crib, a nut brown cub of four years. He sleeps the sleep of healthy childhood. In the same position he lay when he dropped into unconsciousness, one arm under his head, one leg kicked out from under the coverlet. He is perfectly motionless. His round cheek pillows itself on the extended arm, and his leg seems to have been arrested in the middle of the last restless kick, as the curtain fell over his blue eyes, and he was fast asleep. You can scarcely perceive his regular respiration. A train of cars thunder by without noise—he might be carried across the street without awakening. It is morning; daylight streams into the windows; the sun shines on the hill-tops. The sounds of stirring life are beginning to be heard about the house. Watch the boy. Still and motionless as a figure of marble. As you look, the gates of sleep are suddenly unlocked. He is awake in a twinkle—awake all over. His blue eyes are wide open and bright—his lips part with a shout—his legs fly out in different directions—his arms are in rapid motion—he flops over with a spring—in ten seconds he has turned a couple of somersaults, and presents before you a living illustration of perpetual motion. There is no deliberate yawning, no slow stretching of indolent limbs, no lazy rubbing of sleepy eyes, no gradually becoming awake about it. With a snap like a pistol shot he is thoroughly awake and kicking—wide awake to the top end of each particular hair. The wonderful thing about it is its suddenness and completeness.

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SOME girls in Cincinnati have associated themselves into a society, having for its object the investigation of the antecedents of wife-hunters. Any girl having an "offer" may apply to the society, and in less than a week she will receive a history of her lover from his youth upwards. Weddings are likely to be scarce hereafter in Cincinnati.

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OVER all ball-room doors should be inscribed, "Look out for the train."

# YOUNG FOLKS' COLUMN.

## Talk with the Boys.—No. 2.

[Written for the PRESS.]

In my last I spoke of studying leaves. Study means earnest thinking upon some subject, with a resolute purpose to understand all about it. If you merely turn over the leaves of your book, looking carelessly at them part of the time, it is not study. You may do your hardest study while you are not looking at your book at all, or even while your eyes are shut. In the same way, merely looking at the leaves of trees and plants, or even admiring them, may be no proof of study. Study is an earnest effort of mind, holding the thoughts to one subject, till you find out something about it.

Did you ever in this way study leaves of trees? What are leaves? Why are they? What good do they do? Would not the tree grow just as well if the leaves were all carefully picked off as fast as they were formed? Why not?

Some of you may be able to answer these questions. You will allow me to help those who can not.

Leaves are the lungs of plants. As your lungs receive air, to purify and enliven the blood which moves through them, so the leaves wave in the air to purify and enliven the sap which flows through them.

There is this difference between the lungs of plants and *our* lungs. The leaves must have light as well as air. You will see this plainly if you look up into the top of a tree which has dense foliage and close branches. You see almost no leaves in the center of the tree top. Yet there is a close mat of green all around at the tops of the limbs. This proves that light as well as air is needful for the leaves.

In the leaves great changes go on. The food of the tree is there digested by the light, as well as purified by the air; and from every leaf goes down toward the root a fine thread of organized matter which adds to the size of the parts below. This is growth.

Thus you see that plants cannot be vigorous and hardy with sickly or defective leaves no more than we can be robust and enduring with diseased lungs and dyspeptic stomachs.

Some leaves are ornamental as well as useful. The various shapes and shades give us much greater pleasure than sameness could do.

But the source of true beauty in a leaf is perfect healthfulness. Like the hectic flush of the consumptive and the pallor of the dyspeptic, so the variegated leaves of plants are frequently evidence of feebleness or approaching decay. To my mind there is much greater pleasure in the deep and clear hues of vigorous spring growth than in all the varied hues of autumn.

Therefore when in summer you see a discolored leaf, or one much more highly colored than the rest, you may be assured "an enemy hath done this."

Those of you who live near the hills may have seen on manzanita bushes a bright something, somewhat like a leaf and somewhat like a seed pod. If you have ever studied such things you have found that they are leaves curled back upon themselves, till they enclose a nest of insects which are sucking the life out of the leaf. Thus you see that leaves have their enemies. We will study some of them in our next issue. JEIGH ARRH.

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## "Pay Your Debts."

Bobby was playing with his toys, when his father came in and sat down by him and said, "Come, Bobby, come! now pay your debts."

The little fellow climbed up on his father's knees, put his arms round his neck, laid his soft cheek against his father's rough beard, and began kissing him with all his might.

"Is that the way little Bobby pays his debts?"

"Yes," said his father. "All he can do is to love his father; and see! he loves me just as hard as he can."

His father clothes him, feeds him, cares for him, watches him by night and by day, works hard that Bobby and his mother may have a pleasant, happy home; and how can Bobby pay father for all his kindness and care?

The little boy pays his debts with *love*. That is a beautiful way. How good it is in God to give children this kind of money to pay their debts with!

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WHAT we hold closest we commonly lose soonest, and that proves least safe which is most dear.

# DOMESTIC ECONOMY.

## Fish as Food.

Fish meat affords better food for students and literary men than for those engaged in active or laborious manual labor. The common white-meated, slow-moving fish, such as cod, haddock, etc., contain about the same quantity of nitrates as beef or mutton, but more of the phosphates. The more active fish, such as trout, shad, etc., contain larger quantities of both nitrates and phosphates than beef or mutton—and this excess is just in proportion to the natural activity of the fish.

Nitrates and phosphates furnish food for the muscle and brain and give activity to the body and mind. Hence such food should be chosen for invalids and convalescents. Such fish, however, should be aten with potatoes, or some farinaclous food to furnish the requisite carbonates, in which they are deficient.

There is a class of fishes, such as salmon, halibut, mackerel, etc., which are sometimes called oily fishes, which contain a large amount of carbonates, in the form of fat, and which are not easily digested; these are not suitable for invalids, but are very useful food for laboring men, or for old people, who need the fat to keep up the animal heat which they are loosing by age.

Salted fish is far less nutritious than that which is eaten fresh; as the brine absorbs most of the albumen or nitrogenous principle, as well as most of the phosphates, both of which, as we have shown, are of great value in fish food, but not the fibrine, which goes to build up the muscles. Salt fish is therefore more suitable for laboring people, than for invalids or sedentary persons.

Fish, when properly prepared, and suitably selected, according to the condition of the system, furnishes an excellent article of food, and is quite readily digested, as will be noticed by reference to another article in this department to-day. Fish, however, should always be eaten as fresh as possible. An exposure to a hot sun, even for a single hour, greatly injures its character. Decomposition commences in fish flesh much sooner than in any other kind of flesh; and after it has commenced it becomes much more disgusting and poisonous than beef or mutton. Our medical correspondent of last week will excuse us for still insisting that decomposed food *is* poisonous to the human system, when taken into the stomach.

## Vinegar.

### What is a Good Article, and How to Use it.

Vinegar is sometimes the only spice, the only condiment of the poor, and for the sake of humanity, the trade as well as the government should do all in their power to procure for us good vinegar, made of wine. There should be no tax or duty on wine vinegar, and no other should be used, especially in a State where the vine flourishes as it does in California.

For the rich too, and the epicure it is an important matter to have good vinegar. Next to good oil, it is the principal constituent of a good salad. It is also indispensable in preparing sweet preserves, which should be more extensively used than they generally are. The *Fruit and Wine Reporter* in speaking of this condiment says: Good vinegar must be of a light yellow color, it must show a high degree of acidity without any empyreumatic flavor. It must have an agreeable odor, easily recognizable as that of acetic ether. The genuine wine vinegar, will not produce the feeling of roughness on the teeth when it is taken on the tongue.

On the liquor scale Baumé it marks 2.50 to 2.70°, and is saturated with carbonate of soda, pure and very dry, at the rate of 6 to 7 per cent. of its specific weight.

Good vinegar is not, as it has been sometimes stated, a mere compound of acetic acid and water. With those two substances are combined the salts contained in the wine of which the vinegar is made. When distilled, it must give 1 to 1½ per cent. of alcohol. In brief, a mere compound of acetic acid and water is no vinegar, any more than a compound of alcohol and water is brandy.

### How to Test Vinegar.

A drop of good wine vinegar, when thrown on a piece of white paper, will, when evaporated, leave there no noticeable trace. But if the vinegar contains sulphuric acid, a dark spot will appear. Nitric acid still will leave no trace.

Blue paper is colored red by vinegar, but when drying, it changes gradually into violet; but if the vinegar contains any kind of mineral acids, the red color remains forever.

To examine a vinegar suspected not to be genuine, take a silver spoon, fill it with the vinegar, add a small bit of carbonate of soda, let it evaporate over a lamp, and if it, being calcinated, disengages an empyreumatic odor, (like tar) you may be assured that it contains extracts distilled from wood However well those extracts may have been rectified, the above method will reliably indicate the presence of the substance, even if the vinegar contains only 5 per cent. of it.

## What Shall We Eat?

Here are some of the common articles of food, showing the amount of nutriment contained and the time required for digestion:

| | Time of digestion. | Am't of Nut'mt. |
|---|---|---|
| Apples raw | 1 h 50 m | 10 pr. ct. |
| Beans boiled | 2 h 30 m | 87 pr. ct. |
| Beef roasted | 3 h 50 m | 26 pr. ct. |
| Bread baked | 3 h 30 m | 80 pr. ct. |
| Butter | 3 h 30 m | 90 pr. ct. |
| Cabbages boiled | 4 h 30 m | 7 pr. ct. |
| Cucumbers raw | ..... | 2 pr. ct. |
| Fish boiled | 2 h 00 m | 20 pr. ct. |
| Milk fresh | 2 h 15 m | 7 pr. ct. |
| Mutton roasted | 3 h 12 m | 30 pr. ct. |
| Pork roasted | 2 h 15 m | 24 pr. ct. |
| Poultry roasted | 3 h 45 m | 27 pr. ct. |
| Potatoes boiled | 2 h 30 m | 12 pr. ct. |
| Rice boiled | 1 h 00 m | 87 pr. ct. |
| Sugar | 3 h 30 m | 96 pr. ct. |
| Turnips boiled | 2 h 30 m | 4 pr. ct. |
| Veal roasted | 4 h 00 m | 25 pr. ct. |
| Venison boiled | 1 h 30 m | 25 pr. ct. |

POTATO FLOUR.—Few persons in the United States are aware of the demand for farina, or potato flour, and of the almost unlimited extent of the market that can be found for this product, which is simply the dry, evaporated pulp of the ordinary potato, the whiter and more free from black specks the better. It is used for sizing and other manufacturing purposes, and with the aid of precipitation and acid is converted into starch. In Europe it meets a large and increasing demand, in its primitive state, as potato flour; and in Lancashire alone 20,000 tons are annually sold, and as many more would be taken if put into the market. When calcined it is used largely for silk dressing and other purposes.

Generally the quotation for potato farina in Liverpool is a little over 4 cents a pound, while wheat flour is about 2 1-6 cents a pound; so that the potato flour is nearly double that of the wheat at the present rate. Consignments to Liverpool are solicted by the brokers there, who promise to take all that can be furnished.

## How To Eat.

An English magazine has brought to light a "manual on social etiquette," which was promulgated many years ago. We give an extract or two:

"Gentlewomen, the first thing you are to observe is, to keep your back straight, and do not lean your elbows on the table. Discover not by any ravenous gesture your angry appetite, nor fix your eyes too greedily on the meat before you as if you would devour more that way than your throat can swallow."

In another page: "Do not eat spoonmeat so hot that the tears stand in your eyes, or that thereby you betray your intolerable greediness. Do not bite your bread, but cut or break it, and keep not your knife always in your hand, for that is as unseemly as a gentlewoman who pretended to have as little a stomach as she had a mouth, and, therefore, would not swallow her peas by spoonfuls, but took them one by one, and cut them in two before she could eat them."

Gentlewomen are further instructed: "Fill not your mouth so full, that your cheeks shall swell like a pair of Scotch bagpipes."

Gentlewomen are also pleasantly put on their guard against the possible perpetration of certain minor misdemeanors: "You will show yourself too saucy by calling for sauce or any dainty things. Avoid smacking in your eating. Forbear putting both hands to your mouth at once; nor gnaw your meat, but cut it handsomely, and eat sparingly." The latter admonition is addressed to what the author styles "the female younger sort," but always gentlewoman born and bred.

## Domestic Receipts.

GERMAN BISCUITS.—Beat the butter to a cream, and mix in the flour and the cream and the well beaten eggs, to form a nice, light dough; mix all well before kneading it; roll it in thin, long, narrow strips, flavor to taste, and bake on a tin in a quick oven.

RIBBON BISCUIT.—Mix butter, sugar, eggs, milk and nutmeg together, cut in ribbon shape, bake in a moderate oven.

PLAIN SUGAR BISCUIT. Dissolve the butter in the milk warm, stir it into the flour to make a firm paste, roll it out thin, and cut it with a tumbler, prick each biscuit and bake in a hot oven.

A LUNCHEON CAKE.—One pound of flour, four ounces of butter, six ounces of moist sugar, quarter of a pound of currants, quarter of a pound of stoned raisins, spices and candied peel to the taste; a teaspoonful of carbonate of soda, mixed in half a pint of cold milk, all to be mixed together into a paste; then put into an oven without being set to rise. It will take an hour and a half to bake.

WASH FOR CLEANSING SILVER AND BRITANNIA WARE.—Take one pound of common hard soap, three table-spoonfuls of spirits of turpentine, and half a tumbler of water. Allow the soap to dissolve; then boil ten minutes, and before it cools add six table-spoonfuls of spirits of hartshorn. Make a suds of this preparation, and wash the silver with it.

TO IRON VELVET RIBBON.—Dampen the under side slightly, and draw it backward and forward over a hot stove-pipe until the velvet is quite dry. A still better plan is to lay a wet piece of cotton cloth on a hot flat-iron placed upside-down, and while the steam is rising from it, to draw the under side of the velvet tightly backwards and forward over the cloth.

TO MAKE LEAVEN.—Stir corn meal in a pint of fresh buttermilk; add an old yeast cake dissolved in water; make it about the consistence of batter bread, and set in a warm place to rise. When well risen, add more meal, make it into cakes, and dry in the shade.

A USEFUL RECEIPT.—Rub four parts, by weight, of yolk of eggs, in a mortar with five parts of glycerine. This compound has the consistency of honey, is unctuous, like fatty substances, but is easily removed by water. Applied to the skin, it forms a varnish, which effectually prevents the action of air. It allays the itching in cutaneous actions. It is unalterable, and can be exposed to the air for an indefinite period.

## Mechanical Hints.

TO UNITE WATER-PIPE.—An excellent material for uniting water-pipes is prepared by combining four parts of good Portland cement and one part of unslacked lime, mixed together in small portions in a stout mortar, adding enough water to permit it to be reduced to a soft paste. Pipes thus united have been in use more than six years without any leak.

A CEMENT TO STOP FLAWS OR CRACKS IN WOOD OF ANY KIND.—Put any quantity of fine sawdust of the same kind of wood into an earthern pan, and pour boiling water on it; stir it well, and let it remain a week or ten days, occasionally stirring it, then boil it for sometime, and it will be of consistence of pulp or paste; put it into a coarse cloth, and squeeze all the moisture from it. Keep for use, and when wanted, mix a sufficient quantity of thin glue to make it into a paste; rub it well into the cracks, or holes in your work with it. When quite hard and dry, clean the work off, and, if carefully done, you will scarcely discern the imperfection.

WHITE POLISH FOR LIGHT WOODS.—White (bleached) shellac, 3 oz.; white gum benzoin, 1 oz.; gum sandarac, ½ oz.; spirits of wine, or naphtha, 1 pint; dissolve.

APPLICATION FOR PREVENTING OXIDATION OF IRON.—The following composition is used for preventing the oxidation of iron, especially the bottoms of iron ships. Seventeen pounds of powdered sulphur, five pounds of the lye of caustic potash of thirty-five Beaumé and one pound of copper filings, are to be heated together until the sulphur and copper have completely dissolved. During the process seven and a half hundred weight of tallow and one and a half hundred weight of turpentine are to be heated together in another vessel, until the tallow has completely disappeared. The two solutions are then to be carefully stirred together when hot, and applied immediately with a brush.

# LIFE THOUGHTS.

HE who has not forgiven an enemy, has never yet tasted one of the most sublime enjoyments of life.

HABIT is a cable. We weave threads of it every day, and at last we cannot break it.

HE has hard work who has nothing to do.

BEAUTIFUL is that benevolence which works silently and in the shade.

THOSE who would go to Heaven when they die must begin Heaven while they live.

IT is folly to expect to break off a habit in a day which may have been gathering strength in you for years.

MASTERS OF VICTORY.—The nerve that never relaxes, the eye which never blanches, the thought which never wanders; these are the masters of victory.

If we were only half as lenient to the living as we are to the memory of the dead, how much happiness might we render them and how much remorse might be spared, when the grave has closed over them.

## Industry.

Man must have occupation, or be miserable. Toil is the price of sleep and appetite, of health and enjoyment. The very necessity which overcomes our natural sloth is a blessing. The whole world does not contain a brier or thorn which divine mercy could have spared. We are happier with the sterility, which we can overcome by industry, than we could have been with spontaneous plenty and unbounded profusion. The body and the mind are improved by the toil that fatigues them. The toil is a thousand times rewarded by the pleasure which it bestows. Its enjoyments are peculiar. No wealth can purchase them, no indolence can taste them. They flow from the exertions which they repay.

WHAT IS A MAN?—No man is a man till he is tried; till he has passed through the ordeal—through deep water and scorching fires. A man surrounded by comforts, friends and relations, food and raiment; whose barns are filled with plenty, and whose presses gush out with new wines; who eats his fill, sits and reads, doles about taking his ease and pleasure, smoking his pipe and chewing his cud; is he a man? Far from it. A man is not a man until he is proved—has passed the ordeal—drank the bitter cup; risen above life's conflicts; mounted the billows of the sea.

IMMORTALITY.—Turn whithersoever we will, we find the belief in immortality. In every nation ever known, in every race that has ever lived, in every age of this changing world we find it. Every language known to man, as now or heretofore spoken among babblers of this earth, is constructed in accordance with it. In all ages men dying have looked on death as simply the soul's putting off its tabernacle. There are exceptions, but they are so few that they hardly attract our attention, and do not destroy the practical accuracy of the statement. The belief in immortality is one of the universal convictions of the race.

LIFE.—It is not perhaps much thought of, but it is certainly a very important lesson, to learn how to enjoy ordinary life, and to be able to relish your being without the transport of some passion, or gratification of some appetite. For want of this capacity, the world is filled with whetters, tipplers, cutters, sippers, and all the numerous train of those who, for want of thinking, are forced to be ever exercising their sense of feeling or tasting.

THE HUMAN SOUL.—Is the light in the soul of a human being an incomprehensible electric spark that cannot be laid hold of, and which flashes up in resolve and act? So long as there is no storm in the sky we send at will the spark over the extended wire, but when the great, primitive forces of nature manifest themselves, the human message is no longer transmitted, and the sparks spontaneously play upon the conducting wires. Chaos sends forth an unintelligible message.

LIBERTY OF CONSCIENCE.—Condemn no man for not thinking as you think. Let every one enjoy the free liberty of thinking for himself. Let every man use his own judgment, since every man must give an account of himself to God. Abhor every approach, in any kind of degree, to the spirit of persecution. If you can not reason or pursuade a man into the truth, never attempt to force him into it. If love will not compel him to come, leave him to God, the judge of all.

## FLORICULTURE.

### The Fuchsia.

The fuchsia derives its name from the German botanist, "Fuchs." The first plant (*Fuchsia triphylla*) was introduced into Europe by Plumier, who took it there from America in the seventeenth century. It is usually found growing on hills throughout the forests of Mexico, Peru and Chili.

Along the coast range of California the fuchsia can be cultivated to perfection; it thrives best in moist and partly shaded localities.

In San Francisco and its vicinity, the Fuchsia seems to be at home, and no plant is cultivated here with greater success, both out of doors as well as under glass. In summer and in winter it continues to develop its bright little "ear-drops" (as some people call them) and it is remarkable that the same degree of cold which we had here last winter, would have killed those plants if exposed to the open air in New York or Boston, but had not the slightest effect on our plants; in fact, in many localities they continued to bloom as freely as in May. Under such circumstances, should not the fuchsia be one of our greatest favorites?

Very often we are asked, can I raise fuchsias from slips in the open ground? Our answer is, we have met parties frequently who have stuck slips of year-old wood of the fuchsia into the ground; they have grown and within a few months have made flourishing plants; and this has been done both in summer and in winter with equal success.

This fact goes far to prove how well our climate is adapted to the cultivation of the fuchsia.

However, no florist or nurseryman would attempt to raise fuchsias in this way. The florist takes the young shoots of the present year's growth, plants them close together in pots or shallow boxes filled with sand, waters them well after planting so as to settle the sand close around the stem, and places the box close under the glass, shading them for a few days, and in a month or six weeks roots are formed, the young plants are then transplanted singly into two or three-inch pots, placed again under glass, and shaded for a few days. As soon as the ball of earth is covered with the young roots, the plants must be shifted into four inch pots; afterwards from four-inch to five-inch, and so on. The grand secret to ensure perfect success is to keep the plants in a constantly growing condition; as long as you keep the plant growing, you will have a profusion of flowers. It is true that fuchsias will flower more freely with us in the open air than in pots under glass, but this is only the case when the soil in the pot is not sufficient to keep the plant in a growing condition. Taking into consideration how easily young plants are raised, we do not see why every one who is fond of fuchsias should not raise every year young plants from the old ones, and in this way keep a certain number of plants always in readiness to replace the old ones, which should be turned into the flower garden or thrown away.

Some fuchsias are well adapted for training, while others make handsomely shaped bushes and trees. We have seen them covering the side of the house twenty feet high, and certainly the effect was charming.

The varieties are too numerous to mention, and all of them are good. Every year adds a large number to the already copious list; these are sold in Europe and in the East at extravagant prices. Latterly the florists have succeeded in producing double flowering fuchsias, and these are in more demand and at much better prices; one of the best and most popular with us is the double white.

At an early day we shall endeavor to give the names and descriptions of the best varieties now in cultivation here.—*Cal. Horticulturist.*

ANNUAL FLOWERS FOR THE GARDEN.—Persons who are tenants cannot properly be chid for avoiding the expense of planting out perennial flowering plants. There are others who do not desire to wait a year to enjoy the luxury of flowers. Both these classes of persons desire to plant the seeds of such flowers as will make a display of their beauties the present season. To aid such in making their selections, we offer the following suggestions:

The *Hybrid Petunias* are of all colors. They commence blossoming when the plants are small; they blossom for a long time. A common-sized plant will cover a plat three feet square, and sometimes show a hundred flowers, with dazzling effect.

The *Drummond Phlox* exhibits flowers of all colors, blossoming when small, and continues in blossom until frost. The flowers are red, white, purple, variegated, striped; always beautiful.

The *Asters* bloom late, but they pay for the delay. They sport a great variety of colors, and are perfectly splendid.

The *Double Chinese Pinks* are hardy, constant bloomers, of all conceivable shades of red and scarlet, striped and spotted with brown and white.

Then you can extend your selections to pansies, verbenas, snap-dragons, and, for climbing flowering annuals, the varieties of the convolvulus will give great satisfaction. All these flowering plants are easy to cultivate, and any lady may be proud of her garden which contains these plants flowering in perfection.

THE MOSS ROSE.—Krummacher illustrates simplicity by the following beautiful fable:

The angel who takes care of the flowers, and sprinkles upon them dew in the still night, slumbered on a spring-day in the shade of a rose-bush. When he awoke he said;

"Most beautiful of my children, I thank thee for thy refreshing odor and cooling shade. Could you now ask my favor, how willingly would I grant it!"

"Adorn me, then, with a new charm," said the spirit of the rosebush in a beseeching tone.

So, the angel adorned the loveliest flowers with a simple moss. Sweetly it stood there, in its modest attire, the most beautiful of its kind.

So the costliest ornaments are often the simplest. There is no gold, nor jewel, nor sparkling pearl equal to the "ornament of a meek and quiet spirit, which is, in the sight of God, of great price."

ZOUALE GERANIUMS.—These are of all colors, rather dwarfish in growth, have large trusses of flowers, and their foliage is beautifully variegated. To secure the colors of the foliage in summer, if bedded out they should not be much exposed to the sun. To propagate them, it is said that good-sized stalks should be chosen in spring, summer, or early fall, and potted in six-inch pots, with very rich soil at the bottom and one inch of sand at the top, and the cutting firmly inserted in it. It should be shaded from the sun three or four days, and then given all the light possible. It will then be likely to grow. "Lord Derby is" said to be "the most glorious of the Scarlet Zouales."

THE FLOWER GARDEN is the most beautiful part of the vegetable creation. Flowers are the ornament of vegetable existence, and have in all ages been cultivated by persons of taste for the pleasure which they yield to the eye and fancy. The natural grace, simplicity, and beautiful coloring of flowers have been penned to show how many associations of feelings, simple and sublime, these beauteous objects are calculated to excite.

TO KEEP FLOWERS FRESH.—A few iron nails placed in a vase with flowers will keep the water sweet and the flowers fresh. This result arises from the fact that as fast as the sulphur is eliminated from the plants, it is taken up by the iron, instead of entering into other combinations, and forming deleterious and offensive gasses.

ROSES.—Roses do best with severe pruning in the spring. Their natural habit is the growth of a large number of sprouts or stalks. These should not be permitted to remain. Prune out all but a few, and reduce their tops very much. They will be more thrifty and give better flowers by this treatment. We are speaking now of the tender monthlies, hybrid perpetuals, and June roses.

Running roses should be pruned by cutting out the old wood and thinning the sprouts. Nothing can be more unsightly than an impervious mass of running roses—causing bad air, and being the harbor of insects.

IN reply to a query about a remedy for white worms in plant pots, a correspondent of the *New England Farmer* says that lime water will kill them, or a little slacked lime sprinkled on the surface of the earth and in the saucer of the pot. Lime water can be made easily by slaking a large piece of lime in a pail of cold water, letting it settle and then bottling for use. Give each pot a table-spoonful twice a week.

[From Blackwood's Magazine for April.]

### The Descent of Man.

*(Darwin Speaks.)*

"Man comes from a Mammal that lived up a tree,
And a great coat of hair on his outside had he,
Very much like the Dreadnaughts we frequently see—
Which nobody can deny.

"He had points to his ears, and a tail to his rump,
To assist him with ease through the branches to jump—
In some cases quite long, and in some a mere stump—
Which nobody can deny.

"This mammal, abstaining from mischievous pranks,
Was tho't worthy in time to be be raised from the ranks,
And with some small ado came to stand on two shanks—
Which nobody can deny.

"Thus planted, his course he so prudently steered,
That his hand soon improved and his intellect cleared;
Then his forehead enlarged and his tail disappeared—
Which nobody can deny.

"Tisn't easy to settle *when* Man became Man;
When the Monkey-type stopped and the Human began;
But some very queer things were involved in the plan—
Which nobody can deny.

"Woman plainly had beards and big whiskers at first;
While the man supplied milk when the baby was nursed;
And some other strong facts I could tell—if I durst—
Which nobody can deny.

"Our aboreal sire had a pedigree too:
The Marsupial system comes here into view;
So we'll trace him, I think, to a Great Kangaroo—
Which nobody can deny.

"The Kangaroo's parent, perhaps, was a bird;
But an Ornithorhyncus would not be absurd:
Then to frogs and strange fishes we back are referred—
Which nobody can deny."

Thus far Darwin has said: But the root of the Tree,
Its nature, its name, and what caused it to be,
Seem a secret to him, just as much as to me—
Which nobody can deny.

Did it always exist as a great institution?
And *what* made it start on its first evolution?
As to this our good friend offers no contribution—
Which nobody can deny.

Yet I think that if Darwin would make a clean breast,
Some Botanical views would be frankly confessed,
And that all Flesh is Grass would stand boldly expressed;
Which nobody can deny.

The Loves of the Plants, so deliciously sung,
Must have softened his heart, when his bosom was young,
And the Temple of Nature has prompted his tongue—
Which nobody can deny.

But now if in future *good breeding* we prize,
To be cherubs and angels we some day may rise;
And, indeed, some sweet angels are now in my eyes—
Which nobody can deny.

If this is our wish, we must act with due care;
And in choosing our spouses no pains should we spare,
But select only those that are wise, good and fair—
Which nobody can deny.

Yet however he came by it, Man has a Soul,
That will not so submit to despotic control, [whole—
As to make Monks and Nuns of three-fourths of the
Which nobody can deny.

The Bad may be pretty, the Good may be plain;
And sad matches are made from the lucre of gain;
So perhaps as we are we shall likely remain—
Which nobody can deny.

After all, then, I ask, what's the object in view?
And what practical good from this creed can ensue?
I can't find in it much that's both useful and new—
Which nobody can deny.

Our old friend Lucretius explained long ago
How the fittest survive and the weak are laid low;
And our friends of the Farm must a thing or two know—
Which nobody can deny.

I would ne'er take offence at what's honestly meant,
Or that truth should be told of our lowly descent;
To be sprung from the dust I am humbly content—
Which nobody can deny.

But this groping and guessing may all be mistaken,
And in sensitive minds may much trouble awaken,
So I'll shut up my book, and go back to my *Bacon**—
Which nobody can deny.

* Certainly the Darwinian theory, though it may be interesting as a theory, is a considerable encroachment on Baconian principles, which require that no theory should be adopted without an adequate induction from facts much more directed and complete than any that the Darwinians have yet discovered—if, indeed, they have discovered any fact at all that infers the possibility of the transformations which they promulgate.

A THOMPSON ROAD STEAMER, from the factory of D. D. Williamson, Patterson, N. J. (office at New York), will be in Stockton about the 10th inst. Another will be at Salt Lake City, about the 8th, having been ordered by the Youngs. The manufacturers are receiving very heavy orders for this engine, for use in all parts of the country.

EARLY tomatoes can most readily be obtained by tying a few plants to stakes and trimming them to one stalk. When four or five clusters are formed, pinch off the top and side shoots.

## HUMOROUS.

CALL ON THE MACHINE.—A deacon in Illinois objected to the organ purchased by his church, and when called upon to close the service with prayer, said: "Call on the machine. If it can sing the glory of God, it can pray, too. Call on the machine!"

LUCID EXPLANATION.—A lecturer undertook to explain to a village audience the word phenomenon. "May be you don't know know what a phenomenon is. Well, I will tell you; you have seen a cow, no doubt. Well, a cow is not a phenomenon. You have seen an apple tree. Well, an apple tree is not a phenomenon. But when you see a cow go up the tree to pick apples, it is a phenomenon."

"Do you like fish-balls, Mr. Wiggins. Mr. Wiggins, hesitating: "I really don't know, Miss Robinson; I never attended one."

A LAD in Hartford, whose fifth birthday occurred last week, asked of his parents if the schools would keep on that day, adding: "They didn't on Washington's birthday."

A BOSTON woman gave loud utterance in a picture gallery the other day to admiration for the artist who painted the "Yo Cemeteries."

"EXCUSE my left hand," said Wiggins, as he shook hands with a friend. "Certainly, certainly. I never take umbrage at nature," was the reply, referring to Ecclesiastes x, 2. The text is: "A wise man's heart is at his right hand, but a fool's heart at his left;" and the consequence is that they have not spoken since.

AN old lady, observing a sign over a tailoring establishment, bearing the inscription "Fountain of Fashion," exclaimed: "Ah, that must be the place where the squirts come from."

WHAT goes most against a farmer's grain? His Reaper.

WHEN is tea like a work of art? When it is a drawing.

How to raise beets.—Take hold of the tops and pull.

WHAT chemical instrument is like a cutting reply? The retort.

"HIS forehead extended to the gable-end of his neck," means he was baldheaded.

RIGHT AND LEFT. — Two Quaker girls were ironing on the same table. One asked the other what side she would take, the right or left. She answered promptly: "It will be right for me to take the left, and then it will be left for thee to take the right."

"PAPA, ought a teacher to flog me for what I did not do?

"Certainly not, my boy," replied the father.

"Well," said the little fellow, "he did to day, when I didn't do my sum."

A VERDICT.—A boy hunted a squirrel to a hollow tree, and as the animal disappeared, struck at it with the butt of his gun, discharging the firearm, and killing the boy. The corner's jury found that the boy came to his death through the anxiety of a squirrel to get into a hollow tree.

AN APT RETORT.—During the recent engagement of Barney Williams, in Philadelphia, a woman with an infant attended one of the performances. The baby kept up an incessant cry. At the end of the play Mr. Williams was called before the curtain. The baby was bawling lustily. Barney looked around for a moment, and then said: "Shure there's a nurse wanted." A roar of laughter followed. When the mirth subsided the woman with the infant arose and replied: "No Irish need apply." There was a tremendous burst of applause, amid which the woman, with her musical baby, triumphantly retired.

NEVER have a wooden leg made of oak because the oak is apt to produce a corn.

TO BE CONSIDERED.—Some thoughtful individual, after duly considering the subject of woman suffrage, raised a serious inquiry, which he propounds in the following fashion: "S'posing that—a—now—Olive Logan, f'r instance, should be made President of this great and glorious country, bequeathed to us by noble sires, and all that, she'd be Prisident Logan, wouldn't she? Well, now, s'posen she was to marry say a man by the name of—of Perkins, f'r instance, would she be President Logan or President Perkins?"

SAID an astronomer to a bright-eyed girl, when talking of rainbows: "Did you ever see a lunar bow miss?" "I have seen *beaux* by moonlight, sir, if that's what you mean," was the sly rejoinder.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., May 4th.

FLOUR—The market has been very quiet since our last report under the pressure of an advance of 50 cents.

The receipts for the week have been only 8,637 qr. sacks.

We quote superfine, $7.00@7.25; extra, $8.00@8.25..

WHEAT—The price, which long since placed the export trade on the shelf, has been still further advanced under the prospect of short crops. Transactions have been light, at a general advance of from 25 to 40c. Some choice lots have been sold as high as $3. We note one sale of 1,400 sks. at that figure.

The receipts for the week have been very small, reaching only 8,811 sacks.

The Liverpool market has declined to 12s. New York rates unchanged.

BARLEY—The market has become unusually excited, chiefly on account of speculative enquiry, and an unfounded fear of short crops. Prices have advanced during the week from $1.80 and $1.90 to $2.25 and $2.35. A sale of 400 sacks was made on Tuesday at the former figure, and one of 200 sacks was reported on Wednesday at $2.35. There is no reason for such prices, and there is no propability that they can be continued.

OATS—Remain at about last week's figures and may still be quoted at $1.90@2.00 for medium, and good to choice, at $2.05@2.15 though some fancy lots are still held at $2.25.

CORN—Is quotable at $2.50@2.55 per cental.

CORNMEAL—Is quotable at $2.50@3.25.

BUCKWHEAT—Still quotable at $3@$3.25.

RYE—Nominal at $2.50 for choice.

FEED—We note a material advance, and quote: STRAW, $9@10; BRAN, $35@37; MIDDLINGS, 42.50@45.00; OIL CAKE MEAL $33.

HAY—Has still further advanced. We quote ordinary to choice at $18.00@$24.00 ₱ ton.

HONEY—But little in market and quotations nominal.

POTATOES—The speculative movements heretofore noted have been less satisfactory to the operators than expected. There are no lots of old crop in markct that will bring over $2; while some descriptions are selling down as low as $1.60. From 200 to 300 sks new crop Mission are now received daily, and sell readily at $2.50@3 ₱ 100 lbs.

HOPS—Demand light—prices nominal at 8@12½c. for California crop of 1870.

HIDES—We quote Dry, slaughterer's stock, 17@18 c; Salted, 8@8½c. Sales during the week 2,135 Cal. dry.

WOOL—Choice grades are still active, at improved prices; but owing to the abundance of the best qualities, burry is neglected. The receipts for the week aggregate about 6,500 balef, —the largest amount yet received in a similar period this season. Burry is selling at 24@28c, and clean fleeces at 29@32½c.

At New York the limited supply and high prices for domestic has directed the attention more toward foreign Wool. California is in good request at steady prices.

TALLOW—The extremes may still be quoted from 7½@8c. Sales of 25,000 lbs. are reported for the week.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c. Three hundred centals Cal. mustard has gone East the past week—the last of the season.

PROVISIONS—Califoruia Bacon 16@17c; Oregon, 16@16½; Chicago 18c; California Hams, 14@16; Oregon do, 16@17c; California Sugar-cured Hams, 18@19c; Oregon do, 18@22c; Eastern do, 22@24½c; California Smoked Beef, 13@14c.

BEANS—There is a speculative enquiry: We quote Bayo, $2.75@3.25; Butter, 2½@2¾c for small; small White, 2¼; Red, 2¼c; Pea, 2.50; Pink, 2.25@2.50 ₱ lb.

NUTS—California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 6@7c; Hickory and Walnuts, 12½c; Pecan, 23@25c ₱ lb, Cocoanuts $10@12 per hundred.

FRESH MEAT — We quote prices from slaughterers to dealers:

BEEF—American, 1st quality, 10@11c ₱ lb.
Do 2d do 8@ 9c ₱ lb.
Do 3d do 7@ 8c ₱ lb.

VEAL—Extremes, 8@ 10c.

MUTTON—Declined to 5½@6c ₱ lb.

LAMB—May be quoted at from 8@9c ₱ lb.

PORK—Undressed is quotable at 5½@7½c. dressed, 10@11.

POULTRY, ETC.—The Market very dull—Hens $6@6½; Roosters $6@6½; Ducks, tame, $5.50@6.00 ₱ doz; geese, tame, $2.00@2.12 ₱ pair; live turkeys, 17@18c ₱ lb.

WILD GAME—Hare, $1.50@$2.50; Rabbits, $1.25@1.50; Ducks $1.50@2.00;

DAIRY PRODUCTS—California Butter, fresh, in rolls, still remains at 25@32½c; California firkin butter, 26½@30c.

CHEESE—In fair supply, at slight advance California new, 10@14c., Eastern, 16@17c. for new.

EGGS—California fresh, 27@28c; Oregon, 21@22c.

LARD—California Lard, 11-lb tins, 15@16c; Oregon, 15@15½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Oregon Apples, per box, $2.50@$4.00; Tahiti oranges $30 per 1,000; Los Angeles oranges, $30@$40 per M.; Malaga Lemons, per box, $15@16; Cal. Lemons, $3@4 per 100; Strawberries, 5@6c; Rhubarb, 4@5c; Asparagus, 4@8c.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

BUILDING AND FENCING MATERIALS—The local trade has not exhibited any great degree of activity during the period under review. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12c ₱ lb; Raisins, layer, $2.50@4.25 per box; Currants, Zante, 10½@11½c.; 50c.

TABLE OF MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Sugar, crsh'd, lb | $ 14 @ | $ 14½ | Hemp Seed, lb., | $ 7 @ | 9 |
| Hawaiian, do. | 9 @ | 12 | Castor Beans, lb. | 4 @ | 4½ |
| Coffee, Cos. R, lb | 14½ @ | 15 | Castor Oil, gal. | 1 75 @ | 2 00 |
| Rio, do | 16 @ | | Linseed Oil, gal. | 1 05 @ | 1 10 |
| Tea, Japan, ₱ lb. | 50 @ | 90 | Broom Corn, ₱ lb | 3 @ | 5 |
| Green, do | 50 @ | 1 00 | Beeswax, ₱ lb | 27 @ | 30 |
| Rice, Haw'n, ₱ lb | 8½@ | 9 | Peanuts, ₱ lb | 5 @ | 7 |
| China, do | 6 @ | 7½ | Corn Meal, cwt. | 2 50 @ | 4 00 |
| Coal Oil, ₱ gal. | 50 @ | 60 | Onions, cwt. | 1 50 @ | 3 50 |
| Candles, ₱ lb | 14 @ | 18 | | | |

## San Francisco Retail Market Rates.

FRIDAY, May 5, 1871.

MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Butter, Cal fr. lb | 35 @ | 40 | Wheat-sks, 22x36 | 13½@ | 14 |
| Pickled, Cal. lb | @ | | Potato G'y Bags. | 23 @ | |
| do Oregon, lb.. | @ | | Second-hnd do | 16 @ | |
| Honey, ₱ lb | 25 @ | 30 | Deer Skins, ₱ lb. | 15 @ | 22 |
| Cheese, ₱ lb | 20 @ | 25 | Sheep sks, wl on | 50 @ | 75 |
| Eggs, per doz | 30 @ | 35 | Sheep sks, plain. | 12½@ | 25 |
| Lard, ₱ lb | 18 @ | 25 | Goat skins, each. | 25 @ | 65 |
| Sugar, cr., 7 lb | 1 00 @ | | Plums, dried, lb. | 15 @ | 30 |
| Brown, do, ₱ lb | 10 @ | 13 | Peaches, dried,* | 15 @ | 30 |
| Beet, do, 7 lbs. | 1 00 @ | | Dry Cal. Hides | 17½@ | 18 |
| Sugar, Map. lb. | 30 @ | 35 | Salted do | 8½@ | 9 |
| Wool Sacks, new | 40 @ | 90 | Dry Mex. Hides. | 15 @ | |
| Second-hnd do | 67½@ | 70 | Salted do | 9 @ | |

PRODUCE, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Codfish, dry, lb | 6 00 @ | 12½ | Barley, cwt | 2 10 @ | 2 25 |
| Flour, ex, ₱ bbl. | 8 25 @ | 8 50 | Beans, cwt | 3 00 @ | 3 50 |
| Superfine, do. | 5 50 @ | 6 00 | Potatoes, cwt | 1 75 @ | 2 12½ |
| Corn Meal, 100 lb. | 3 50 @ | 4 50 | Hay, ₱ ton | 15 00 @ | 18 00 |
| Wheat, ₱ 100 lbs. | 2 75 @ | 3 00 | Live Oak Wood. | 10 00 @ | 12 00 |
| Oats, ₱ 100 lbs. | 2 00 @ | 2 10 | | | |

FRUITS, VEGETABLES, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Pine Apples, † | 5 00 @ | 9 00 | Garlics | 5 @ | 8 |
| Bananas, ₱ lb | 3 00@ | 5 00 | Green Peas, ₱ lb | 8 @ | 6 |
| Cal. Walnuts, lb. | @ | 20 | Green Corn, doz. | @ | |
| Cranberries, ₱ g | 75 @ | 1 00 | Sugar Peas, ₱ lb | @ | |
| Cranberries, O.¶ | @ | 1 00 | Lettuce, ₱ doz | 12 @ | 25 |
| Apples, No. 1, lb. | 4 @ | 5 | Mushrooms, ₱ lb | 25 @ | 50 |
| Pears, table, ₱ lb | @ | 12½ | Horseradish, ₱ lb | @ | 20 |
| Oranges, ₱ doz | 50 @ | 75 | Okra, dried, ₱ lb | @ | 50 |
| Lemons, ₱ doz | 75 @ | 1 00 | Okra, green, ₱ lb | @ | |
| Figs, dried, ₱ lb. | 15 @ | 20 | Pumpkins, ₱ lb. | 3 @ | 4 |
| Asparagus, wb.* | 12 @ | 15 | Parsnips, † buchs | @ | 25 |
| | | | Parsley | @ | 25 |
| Artichokes, doz. | 50 @ | 75 | Pickles, ₱ gal | 50 @ | 75 |
| Brussel's sprts, * | @ | 15 | Rhuharb, ₱ lb | 8 @ | 15½ |
| Beets, ₱ doz | 20 @ | 25 | Radisbes, † huns | @ | 25 |
| Potatoes, ₱ lb | 2 @ | 3 | Green Peppers, * | | |
| Potatoes, sweet,* | @ | 5 | Red, do | @ | 25 |
| Potatoes, new | 4 @ | | Summer Squash | | |
| Tomatoes, ₱ lb | | | Marrowfat, do. | 4 @ | 6 |
| Broccoli, ₱ doz | 1 50 @ | 2 00 | Hubhard, do | @ | 5 |
| Cauliflower, † | 2 50 @ | 1 25 | String Beans, lb. | 12½@ | 20 |
| Cahhage, ₱ doz | 3 00 @ | 1 50 | Summer Squash | 3 @ | |
| Carots, ₱ doz | 10 @ | 25 | Dry Lima, shl | @ | 8 |
| Celery, ₱ doz | 75 @ | 1 00 | Spinage, ₱ bskt. | 25 @ | 50 |
| Cress, ₱ doz bun | 20 @ | 25 | Salsify, ₱ bunch | 25 @ | 12 |
| Dried Herbs, b'h | 25 @ | 50 | Turnips, ₱ doz | @ | 25 |
| Egg Plant | @ | | Asparagras | 10 @ | 15 |

POULTRY, GAME, MEATS, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Chickens, apiece | 75 @ | 1 00 | Tongues, pig, ea | @ | 15 |
| Turkeys, ₱ lb | 20 @ | 25 | Bacon, Cal., ₱ lb | 18 @ | 20 |
| Ducks, wild, ₱ p | | | Oregon, do | 18 @ | 20 |
| Tame, do | 1 50 @ | | Hams, Cal, ₱ lb. | 18 @ | 20 |
| Teal, ₱ doz | | | Hams, Cross' s c | @ | 25 |
| Geese, wild, each | 37½@ | 50 | Choice D'field | @ | 25 |
| Tame, ₱ pair | 2 50 @ | 3 00 | Whittaker's | @ | 25 |
| From Chicago. | @ | | Johnson's Or. | @ | 25 |
| Hens, each | 75 @ | 1 00 | Salmon, ₱ lb | 6 @ | 8 |
| Snipe, ₱ doz | 1 25 @ | 1 50 | Smoked, new,* | 10 @ | 12 |
| English, do | 2 50 @ | 3 00 | Pickled, ₱ lb | 6 @ | 8 |
| Venison, ₱ lb | @ | | Rock Cod, ₱ lb | 10 @ | 12 |
| Quails, ₱ doz | | | Kingfish, ₱ lb | 25 @ | |
| Pigeons, dom. do | 3 00 @ | 3 50 | Perch, s water, lb | 10 @ | 12½ |
| Wild, do | 1 50 @ | 2 00 | Lake Big. Trout* | 20 @ | 25 |
| Hares, each | 40 @ | 50 | Smelts, ₱ lb | 6 @ | 8 |
| Rabhits, tame | 50 @ | 1 00 | Herring, fresb | | |
| Wild, do, ₱ dz. | 1 75 @ | 2 00 | Sm'kd, 100 lbs. | @ | 1 00 |
| Sqnirrel, ₱ pair. | 25 @ | 38 | Tomcod, ₱ lb | @ | 25 |
| Beef, tend, ₱ lb. | 20 @ | 25 | Terrapin, ₱ doz. | 5 00 @ | 6 00 |
| Sirloin and rib | 18 @ | 20 | Mackerel, p'k, ea | | |
| Corned, ₱ lb | 10 @ | 12 | Fresh, do | | |
| Smoked, ₱ lb | 15 @ | 18 | Sea Bass, ₱ lb | @ | |
| Pork, rib, etc., lb | 12½@ | 15 | Halibut | 62 @ | 75 |
| Chops, do, ₱ lb | 12 @ | 15 | Sturgeon, ₱ lb | 4 @ | 5 |
| Veal, ₱ lb | 15 @ | 20 | Oysters, ₱ 100 | 1 00 @ | 1 25 |
| Cutlet, do | @ | 20 | Cbesp. ₱ doz. | @ | 1 00 |
| Mutton chops,* | 12½@ | 15 | Turbo t | @ | 40 |
| Leg, ₱ lb | 12½@ | | Crabs ₱ doz | @ | 1 00 |
| Lamb, ₱ lb | @ | 12½ | Soft Shell | 37 @ | 50 |
| Tongues, beef, ea | @ | 75 | Sbrimps | 10 @ | 12 |

* Per lb. † Per dozen. ¶ Per gallon.

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ALVARADO, March 13, 1871.

MESSRS. DEWEY & CO.—Gentlemen: I am happy to acknowledge the receipt of my letters patent on Mop Holder. I am entirely satisfied with the manner in which you conducted my case. I can assure you that I shall not fail to recommend your method of business to all others having patents to obtain. Yours, etc.,
JNO. BRIZEE.

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## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, May 5, 1871.

| | | | |
|---|---|---|---|
| IRON.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polsbed, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb | | | |
| Scotch and English Pig Iron, ₱ ton | $32 50 | @ | $33 50 |
| White Pig, ₱ ton | — — | @ | 40 00 |
| Refined Bar, bad assortment, ₱ lb | — 03 | @ | — — |
| Refined Bar, good assortment, ₱ lb | — 04 | @ | — — |
| Boiler, No. 1 to 4 | — 04¾ | @ | — — |
| Plate, No. 5 to 9 | — — | @ | — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ | — 05 |
| Sheet, No. 14 to 20 | — 05 | @ | — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ | — 06½ |
| COPPER.—Duty: Sbeathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | | |
| Sheathing, ₱ lb | — — | @ | — 26 |
| Sheathing, Yellow | — 20 | @ | — 21 |
| Sbeathing, Old Yellow | — 10 | @ | — 11 |
| Composition Nails | — 21 | | — 22 |
| Composition Bolts | — 21 | | — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | | |
| Plates, Charcoal, IX ₱ box | 12 00 | | — — |
| Plates, I C Charcoal | 10 00 | | 10 50 |
| Roofing Plates | 10 00 | | 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | | — 42 |
| STEEL.—English Cast Steel, ₱ lb | — — | | — 15 |
| QUICKSILVER.—₱ lb | — — | | — 80 |
| LEAD.—Pig, ₱ lb | — 06 | | — 07 |
| Sheet | — 09 | | — |
| Pipe | — 10 | | — 11 |
| Bar | — 08 | | — 09 |
| ZINC.—Sheets, ₱ lb | — 10½ | | — 11 |
| BORAX.—Refined | — 25 | | — 35 |
| Borax, crude | — 5 | | — — |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, May 4.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

| | |
|---|---|
| City Tanned Leather, ₱ lb | 26@30 |
| Santa Cruz Leather, ₱ lb | 26@30 |
| Country Leather, ₱ lb | 25@28 |

French Calf and Kip Skins still continue firm, with a slight advance in Jodot Calf and the best brands of Kips.

| | |
|---|---|
| Domestic Skins rule the same. | |
| Jodot, 14 to 19 Kil., per doz | $96 00@ |
| Cornellian, 16 Kil., per doz | 72 00@ |
| Ogerau Calf, ₱ doz | 54 00@ |
| Mercier Calf, 16 Kil., per doz | 65 00@ |
| Best French Calf Skins, ₱ doz | 75 00@100 00 |
| Common French Calf Skins, ₱ doz | 35 00@ 75 00 |
| French Kips, ₱ lb | 1 00@ 1 30 |
| California Kip, ₱ doz | 60 00@ 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ 1 25 |
| Eastern Calf for Backs, ₱ lb | 1 15@ 1 25 |
| Sheep Roans for Topping, all colors, ₱ doz | 8 50@ 13 00 |
| Sbeep Roans for Linings, ₱ doz | 5 50@ 10 50 |
| California Russett Sheep Linings | 1 75@ 5 50 |
| Best Jodot Ca f Boot Legs, ₱ pair | 5 25 |
| Good French Calf Boot Legs, ₱ pair | 4 50@ 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 |
| Harness Leather, ₱ lb | 30@ 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ 72 00 |
| Skirting Leather, ₱ lb | 34@ 37½ |
| Welt Leather, ₱ doz | 30 00@ 50 00 |
| Buff Leather, ₱ foot | 22@ 25 |

## Our Printed Mail List.

Subscribers will notice that their names are printed on colored paper and pasted upon each copy of the PRESS. This is done by machinery, to expedite the issue of our paper, the regular edition of which has become too large to be convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriber has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4j10, to the 4th of July, 1870. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction.

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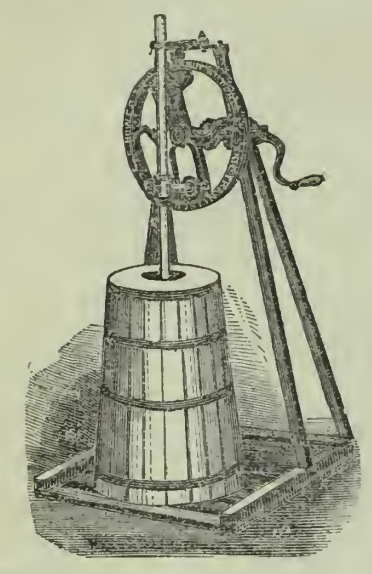

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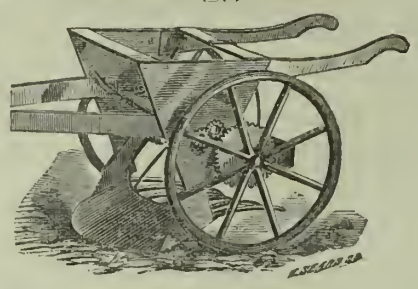

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Although about two hundred different styles of fences have been invented and patented in the United States within the past ten years, yet this Fence, for GENERAL FARM USE, stands at the head of the list. This is a Virginia invention, and the actual cost of the Fence complete in that State is less than fifty cents per rod. Three men can put up six hundred yards per day. You men who are idle, why hang about the city talking hard times when you can make from five to eight dollars per day building this Fence? We will make a present of ONE FARM RIGHT in each county on the Pacific Coast to farmers who will erect one hundred rods of the fence in good style within thirty days after the privilege is granted. We wish to employ several working men to travel in this State and Oregon. Price of territory, and circular with full description of fence sent on application.

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### O'Hara's Patent Giant Corn Sheller.

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### Tarbox's Combination Stencil Alphabet.

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### Nut Roaster.

This machine will roast one quart or half a bushel of nuts at once. All that is required is to wind it up and fill with nuts. It roasts evenly and perfectly and will keep nuts warm a whole day and not burn them. The Patent Right for sale to any town or city in the States of California and Oregon, and Washington Territory. A sample machine furnished to each purchaser. apl-tf-r

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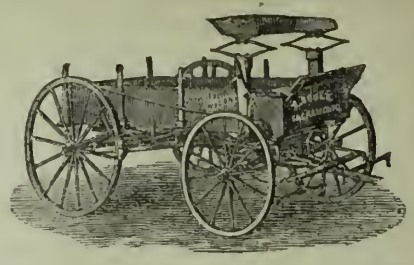

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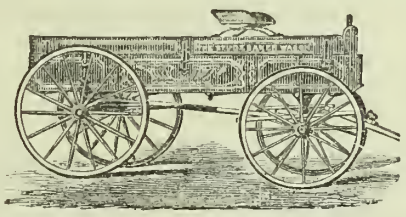

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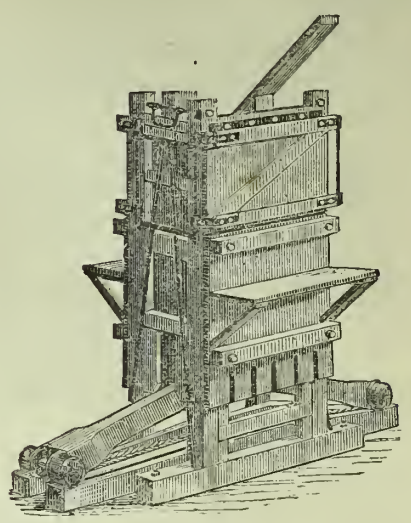

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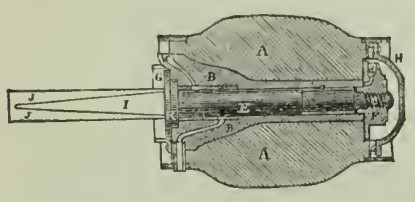

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CARLES R. DONNER, Inventor and Patentee,
ap15-3m-eow Sonora, Cal.

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PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, MAY 13, 1871. [Number 19.

## SHEEP HSBANDRY.

### Sheep Raising in California.

In raising sheep, the first consideration is always to secure good stock, whatever the breed may be. The three most prominent breeds to which attention is now being given are the Merinos, the Cotswolds, and the South Downs. In our issue, two weeks since, we remarked at considerable length upon the latter, giving the circumstances under which it would be found most profitable, together with a portrait representative of the breed. To-day we propose to enquire into the advantages of the Cotswold, and in furtherance of this purpose, Mr. H. F. Buckley, of Buckley & Brothers, Hopeton, Merced county, have placed in our hands the accompanying engraving, which is an accurate portrait of the celebrated Cotswold ram "Golden Fleece," which was purchased by the Buckley Bro's, from J. D. Wing, of Maple Shade, Dutchess county, New York, who imported him, with others, direct from England, where he was raised by Wm. Lane, Esq., of Broadfield Farm, a gentleman who stands at the head of breeders in the Cotswold hills—the native home of this remarkable breed of sheep—the original sheep of the British Isle. As we read—

"When Cotswold Hillocks, famed for weightly sheep, with *golden fleeces* clothed."

The pure Cotswolds are large bodied, with long and abundant fleece, and the ewes are very prolific and good mothers. The wool is very long, fine, wavy, remarkable for its elasticity, and is known in the markets as combing wool. It usually averages over ten inches in length, and sometimes reaches fifteen or more. The fleeces weigh from 10 to 15 pounds each. Mr. Wing, of New York, says that his entire flock of Cotswolds averages 12 pounds each.

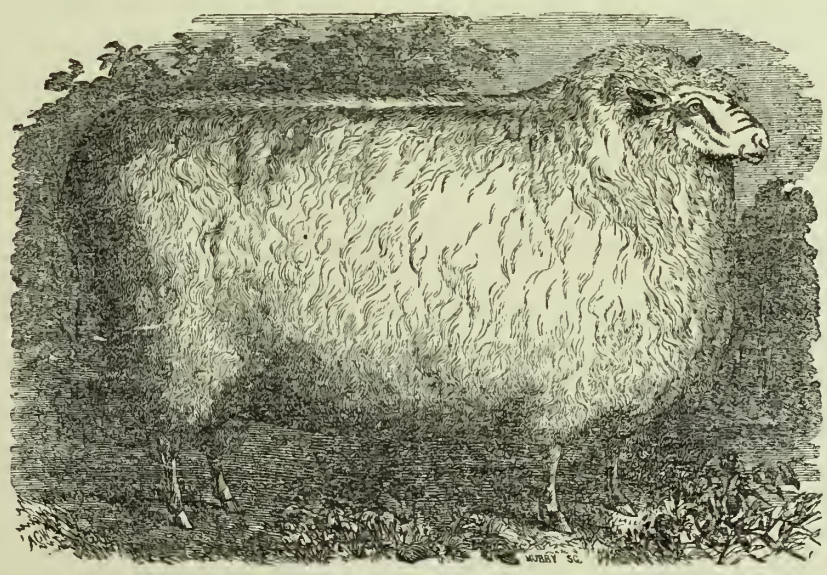
The "Golden Fleece" whose picture is herewith given, was shown at the fair of the New York State Sheep Breeders' Association, held on May, 1867, and took the first prize in his class, also the sweep stakes prize; his fleece weighed nineteen pounds four and one half ounces! He has also taken the first prize at a number of other important fairs. The wool of these sheep is very remarkably free from "yolk," and of course loses comparatively little in the process of "scouring." As an evidence of the advantage possessed by the Cotswolds, in this respect, we may state that while 106 pounds of merino wool scoured at the exhibition of the N. Y. Sheep Breeder's Association, as above, yielded but 43 pounds of clean wool, 49 pounds of Cotswold wool, gave 30 pounds of clean wool. The fleeces from these sheep besides its excess of weight, will bring double the price of the ordinary class, at no more cost for feeding.

The Cotswolds are being extensively crossed with Leicesters, by which the size of the carcass is somewhat diminished, but the flavor of the mutton greatly improved. They have also been crossed with other breeds with most gratifying results.

The Cotswold holds the same relative position among sheep that the short-horns do among cattle.

#### Cotswolds in California.

The Cotswolds have been thoroughly tested in California, and there is no question but that they will stand our dry summers fully as well as any other breed. They also do remarkably well in large flocks. An experiment was tried by the Buckley Brothers in 1868 as follows:—A grain field, in which an equal number of thoroughbred Cotswolds and common Merinos—wethers and ewes—were kept, had previously been fed off by hogs, so that little or no grain remained. The sheep remained in the field from June 1st to August 30th, with no grain or extra feed, when two Cotswold ewes were selected for exhibition at several of the Agricultural fairs, and won first prizes wherever shown. At the same time two of the best Merinos were selected for mutton, but were released, as not being in a passable condition for the butcher.



BUCKLEY BROS.' COTSWOLD BUCK—"GOLDEN FLEECE."

The increased and increasing demand for these sheep, everywhere, is a note-worthy and interesting fact. Wherever exhibited, their great size, perfect form and noble appearance attracts universal attention. They frequently weigh 200 pounds at one year of age, increasing gradually in weight up to two years.

#### Experiment in Feeding.

Professor Miles made a very interesting experiment with these sheep, in feeding, which shows how readily they take on flesh, even with less than their usual proportion of food. The experiment was made with two grade Merino lambs and two grade Cotswold lambs. The lambs were shut up in pens and fed on hay and grain for 23 weeks. The two former weighed 125¼ pounds, and the two latter 158 pounds at the commencement of the experiment. The two Merinos eat 574 pounds of hay and grain, and gained 36¼ pounds. The Cotswolds eat 767 pounds of hay and grain, and gained 67¼ pounds. Therefore it took 1,572 pounds of hay and grain to produce 100 pounds of flesh with the Merinos, and only 1,136 pounds to produce the same amount of flesh with the Cotswolds. The advantage of the Cotswolds in the matter of mutton production is therefore quite apparent.

The Cotswold possesses equal advantages to those already named in the matter of prolificness, as might readily be shown by accurate records kept; but quite enough has been written to show that for the improving of our large flocks of sheep, whether to give them greater vigor, an increased yield of wool of a superior staple, or an improved quality of mutton, no better crossing can be sought than the Cotswold.

### Rural Homes.

The growth, development and steady progress of rural taste among the people of this coast is surely indicated by the increasing demand manifested for information upon rural subjects. The rapidly increasing number of our suburban homes, where are found cheerful rural firesides and happy domestic family circles, betokens a most healthy appreciation of the homely, the useful and the beautiful. It is gratifying and suggestive to see Nature thus sought for and cherised in her most pleasing forms. How different, how much more lovely and really attractive is the unpretentious cottage, tastefully decorated with vines and surrounded by its neatly trimmed grass plots, winding walks, and beds of bright and fragrant flowers, than the stiff and stately "mansion" in the city street, with its brown stone front or severely correct architectural adornments! True, there may be as much family comfort and refinement in the one as in the other; but there is a certain indefinable air of taste, comfort, cheerfulness and hospitality connected with the former, which we cannot, for the life of us, associate with the latter. The latter induces reflections and tells a tale, which men of all industries, and all circumstances in life love to dwell upon. They are the kind of homes which go to make up the real happiness and the real attractions of any neighborhood. We never tire of looking upon them. We have been led into these reflections the past week by taking a short ride with a friend, through Oakland and out to Fruit Vale. The suburban improvements going on there and everywhere else around our city are most cheering and gratifying to witness. We hope soon to be able to follow the example of our Eastern contemporaries, in giving illustrated descriptions of the ground plans of some of our principal suburban residences and ornamental grounds.

### Exhibit at the Fairs.

Very few persons appreciate the benefits derived from exhibitions at our industrial fairs. If you are a manufacturer you can advertise the goods manufactured in no other way so advantageously and economically as by exhibiting them at our State and County and Mechanical Fairs. At these exhibitions people see samples of your workmanship, and judge for themselves of its quality. They learn your place of business, become acquainted with you or your assistant in attendance, and when they want anything in your line they remember you as a reality—as a person who can supply their wants, and the result is, you get their order and custom.

Having been long connected with the State Agricultural Society and its fairs, at Sacramento, and with the Mechanic's Institute, and its fairs in this city, we speak whereof we know. Persons often speak to us of the benefits they have experienced by exhibiting their products at this or that fair, and we could name many cases, in point. We will give but one now which has lately been brought to our attention.

The instance we have particularly in mind is of an artist—D. H. Woods, of Sacramento. One year ago he was almost without business. He had skill and taste as an artist, but he wanted an opportunity to show the public his ability and the real merit of his work. He saw that opportunity in the State Fair, and prepared several portrait and landscape paintings and placed them on exhibition. He was successful in being awarded but three out of many premiums distributed among the artists exhibiting. But he won the attention and approval of the people, and what is more, their patronage. He received orders at the fair for a large number of portraits, and he has not seen an idle day since that time. He has now over fifteen hundred dollars worth of orders for portraits in his hands, waiting his busy brush. Mr. Woods' exhibition at the fair this year will embrace portraits of some of the best and most celebrated stock on the Pacific coast—both horses and cattle. He is said to excell as a stock artist. We have no doubt other artists who exhibited at the last fair have been equally benefitted; but we only speak of what has come under our own personal observation.

THE farm affords a greater field for study than almost any other department of life.

## MECHANICAL PROGRESS.

EFFECT OF THE COAL TROUBLE.—The following is from the argument of President Gowen of the Reading Railroad Co. before the Judiciary Committee of the Pennsylvania Legislature:—"The effect on the coal trade has resulted in a diversion of at least 2,000,000 tons of coal per annum from the anthracite trade, which it will never recover. Upon the iron trade the effect has been such as to seriously threaten the removal of the whole iron producing interest from Eastern Pennsylvania to the South and West. No better protection can be offered the English iron trade than the action of the Workingmen's Benevolent Association. In the last sixty days more orders have left the country for Scotch Pig Iron than were sent in all last year. The effects upon the men themselves are even more disastrous."

The *Iron Age* of April 27th has the following:—"The effects of the strike in the anthracite coal regions are becoming quite serious. A dispatch from Scranton says: Thirty four blast furnaces have been compelled to suspend operations between Mauch Chunk and New York. One of the two furnaces of the L. I. and C. Co., in this city, has already blown out, and the other is now going out of blast, while the fires of the great rolling mills, too, have gone out. Silence and desolation now reign where but a few days ago all was industry and prosperity. Scores of the busy, industrious iron workers, who see no prospect in the future, are already leaving, while many others are preparing to leave as soon as possible. Thirteen hundred additional workmen are thus thrown out of employment."

THE FLUO-TITANIC PROCESS.—Prof. C. P. Williams, in the *American Exchange and Review* for April, thus remarks upon this steel-making process: "It consists essentially in mixing powdered titaniferous iron ore with calcic-fluoride (fluor spar), and charging this mixture upon the sole of the furnace. Gray pig-iron being then added, reactions are set up between the fluor spar and the titaniferous ore on the one hand, and the silicon, carbon, sulphur and phosphorus of the pig-iron on the other. The silicium is removed at an early stage of the process—at least such are stated to be the indications of rigid chemical analyses—and the carbon is changed from the graphitic into the combined form. Now, as it is claimed by some metallurgists that sulphur and phosphorus cannot be removed till all the silicon has become eliminated, and as the reaction of fluorine is always in this latter direction, it would seem that the practical realization of the long-desired production of sulphur and phosphorus free iron was at length to be brought about by the employment of a reagent which, though not new to metallurgy, is certainly a novelty in the iron furnace. The old oxygen method of removing silicon is in this process combined with, in this respect, the still more powerful fluorine reactions. There is this further advantage, that, in the earlier stages of the new process, there is no waste of the iron scorification, "as the silicon and phosphorus pass off in the form of vapor, and the only loss of weight attending the operation at this period is the weight of the silicon and phosphorus. Experiments made with the new process in crucibles, to produce steel and wrought iron (at temperatures 1,000° higher than in the puddling furnace used for the large experiments), have yielded considerably greater weight of wrought-iron than the weight of the pig-iron used. These gains are due to the reduction of the iron, in the oxide to the metallic state, and its incorporation with the rest of the metal."

IRON SHIP-BUILDING IN AMERICA.—"On April 15, there was launched from the yard of the Pennsylvania Iron Works, at Chester, Pa., an iron screw steamer, the City of Houston, of 1,600 tons burthen, designed for traffic between New York City and Galveston. It is claimed for this vessel that in strength, beauty of model, and finish of workmanship she cannot be excelled by any of her class and tonnage afloat. Her length on deck is 228 feet; breadth of beam, 33 feet; and depth of hold, 21 feet; and she has an estimated light-load draught of less than 8 feet. Her machinery will be driven by a single overhead engine, with a 48-inch cylinder and 4 feet stroke of piston. The surface condenser contains 2,130 5-8ths tubes of 4 feet length. The boilers are two, of the return flue variety, and together have a heating surface of 4,532 square feet. The propeller has a diameter of 13 feet. Although not of the largest size, this vessel, in its successful building in one of our own yards, shows, as others have done before it, that first-class work at paying rates can be done even under the discouraging conditions that now attend American shipbuilding."—*Am. Artisan, April 26th.*

INDIA RUBBER SPONGE.—The *Manufacturer and Builder* for May describes the new article made in New York:—"To render the rubber porous, some substance like sugar, common salt, or other solid soluble in water is mixed with the gum before vulcanization, the quantity, of course, determining the grade of the sponge. Each particle of the sugar or salt is, of course, enveloped more or less in a film of rubber. By proper working by the usual rolls and rubber-mixing machines, the whole forms a perfectly solid mass. It then goes to the vulcanizing oven, where the proper heating is given. The mass comes from the oven perfectly solid, and no more porous than an ordinary rubber spring. The salt or sugar is then removed by washing and kneading, which leaves the rubber in the form of a sponge. The porous condition produced in this manner differs very much from that produced by the alum or carbonic acid process. In the latter, there is a constant tendency to produce little balloons of rubber, with walls extremely thin. In the former process the cells are in free communication with each other, the material appearing more in the form of threads, grains, and perforated walls, with free passages in all directions. This remarkable product has the property of retaining heat to a great degree. For applications of hot water, it can be used in any position. It being free from grit, it can be used for the most delicate purposes—for the toilet and the bath, for cleaning carriages, for hat brushes, for cleaning kid gloves, pictures, or drawings, for lithographer's use, and for all purposes for which the natural sponge is used; and, as it can be made of any degree of fineness, any form, size, or color, and is unaffected by acids, for many purposes where the natural sponge cannot be used."

SPEED ON DIFFERENT RAILWAY GAUGES. The following is clipped from a circular recently published by Baird & Co., of the Baldwin Locomotive Works, Phila., and condensed by the Chicago *Railway Review*. "A narrow gauge locomotive with driving wheels 36 in. diam. and cylinders with 16 in. stroke, at 36 m. per hour, develops the same speed of piston as a full gauge loco. with 5 ft. driving wheels, and cylinders 24 in. stroke, at 40 m. per hour. With driving wheels 40 in. diam. and 16 in. stroke of piston, the narrow gauge locomotive develops the same total travel of piston per mile as does the full gauge locom. with driving wheels 60 in. diam. and 24 in. stroke. Equal speeds are therefore attainable on the narrow and the full gauge. The angle of stability of the narrow gauge loco. with 3 ft. driving wheel is somewhat greater than that of the 4 ft. 8½ gauge locomotive with 5 ft. driving wheel."

A PRETTY CONCEIT AND PRACTICAL HINT. A curious and beautiful effect was produced by one of the ice-making machines built by J. P. Morris & Co. of Philadelphia, lately, which excited the admiration of all who saw the specimen. This was a cake of manufactured ice, in the centre of which, completely enclosed by the translucent material, was a bouquet of fresh flowers. Every leaf and flower was perfectly visible while the brilliancy of the colors was enhanced by the refraction through the ice. This specimen was produced by the Carro-Ammonia process, under which these machines are operated. It was presented to the Hon. Marshall P. Wilder of Boston, who had delivered a lecture upon the fruits and flowers of the Pacific coast, before the Philadelphia Horticultural Society. Beyond the beauty of the spectacle there lies a practical use to which this process may be applied, which will result in the preparation of fruits and provisions for transportation from a distance.—*Iron Age, April 27th.*

ELASTIC IRON RAILWAY TRACK. — Mr. John E. Lowe, of London, has invented an iron sleeper in which elasticity is sought by sustaining the rail on a plate or clip of wrought iron or steel which is cast into the sleeper over a trough-like hollow, and forms an elastic bridge seven or eight inches long, on which the rail rests.—*Railroad Gazette.*

## SCIENTIFIC PROGRESS.

THE EOCENE BEDS OF UTAH.—T. A. Conrad contributes a note upon this subject to *Silliman's Journal* for May. We quote:—"I am indebted to Prof. Cope for an opportunity to examine some Eocene fossil shells, collected at Aspen station, and at Quaking Asp Ridge, east of Bear river, Utah, at an elevation of 7,100 feet. These fossils were taken from the rock in which they were imbedded, by Lucius C. Ricksecker, engineer on the Pacific Railroad. * * The fossils are especially interesting in consequence of the light they cast on the condition of the globe in the earliest Eocene period. * * The hydrography of this early Tertiary era may be imagined from the foregoing statement to have been a river system analogous to that of Brazil at the present time. The presence of vast numbers of estuary shells forbids us to suppose that the group inhabited lakes rather than rivers, which rose in not greatly elevated hills, for mountains, except as isolated peaks, had hardly been developed at this period, when the great basin of Utah was submerged, and the Mississippi valley and its rivers were not yet formed, but the general drainage was into the Pacific ocean. There was then a system of great rivers and a densely wooded country eminently fitted for land animals, whose remains I have no doubt are to be found, if they have not been already obtained. The elevation of this vast region to any considerable hight took place in the first stage of the Eocene era, and if we are surprised at the great extent of such brackish water rivers, we have only to glance at a similar river system 2,200 miles up the Amazon. By the rise of the Cretaceous formation, this condition of the country was formed, and as no transition beds are known, the advent of new genera and species so different from what had lived before is an unexplained phenomenon in the geological history of the globe. So far in Europe, I believe, no authentic account has been published of any fossiliferous beds between the lower Eocene and the Cretaceous strata, that would indicate a transition period to have intervened. And so in Utah, Idaho and Wyoming, the remarkable condition is apparent, as it is in the Eastern States, in England, France, Spain, India, on the banks of the Nile and in South America, which proves that the revolution which closed the Cretaceous era was co-extensive with the globe and destroyed the life of the period."

LEGS OF THE TRILOBITE.—Prof. Dana, in the May number of the *Am. Journal of Sci. and Arts* describes the specimen belonging to the Canadian Geological Museum, which has been supposed to show remains of legs. On account of the doubts upon the point, it was sent to him for examination, although decided upon in the affirmative by the Geological Society of London. Both Prof. Dana and Prof. Verill carefully considered it, separately and together, and arrived independently at a conclusion in the negative. Their opinion is published at the request of Mr. Billings, of Montreal, the sender of the specimen. We quote briefly:—"The conclusion to which we have come is that the organs are not legs, but the semi-calcified arches in the membrane of the ventral surface to which the foliaceous appendages, or legs, were attached. Just such arches exist in the ventral surface of the abdomen of the Macrura, and to them the abdominal appendages are articulated. This conclusion is sustained by the observation that in one part of the venter three consecutive parallel arches are distinctly connected by the intervening outer membrane of the venter, showing that the arches were plainly *in the membrane*, as only a calcified portion of it, and were not members moving free above it."

"TIMBRE."—Professor Helmholtz has published a work upon physiological acoustics and the principles of music, which, according to Sedley Taylor,—who notices it in *Nature*,—has practically revolutionized that branch of science. We quote a short paragraph from the notice, in relation to the subject named in the heading of this item:—"He begins by completely clearing up the nature of the *quality* (*timbre*) of musical sounds. He fixes his reader's attention on the *harmonics* which previous observers had recognised as accompanying a fundamental note. These, he shows, are no isolated phenomena, but invariable concomitants of nearly all musical sounds. In fact, what appears to be a simple note of any assigned instrument, is really a composite sound consisting of a number of different tones, all, however, members of a series connected together by a simple law. The *quality* of the sound depends on the relative intensities in which these *partial-tones* are present in the whole mass of sound (*Klang*) heard. Helmholtz illustrates his theory by determining the relative intensities of the audible partial-tones produced by the principal kinds of musical instruments, and also those corresponding to the different vowel sounds of the human voice. He has also invented an apparatus by which the most important members of the complete series of partial-tones corresponding to a fundamental tone can be sounded with any assigned relative intensities, and which is capable of producing a tolerably close imitation of many sounds differing widely from each other in quality."

SEXUAL SELECTION.—From a second article by Pye-Smith in *Nature* for April 13th, in continuation of his review of Darwin, we copy the following:—"We must admit that, on the whole, birds and other animals admire the same forms and colors which we admire, and this perhaps, may be admitted as an additional argument in favor of their kinship with us. Some of the ugliest creatures (like the hippopotamus) appear to have been quite uninfluenced by sexual selection, while the magnificent plumes of pheasants and birds of paradise are undoubtedly due to its operation. That it has occasionally led to unpleasing results in birds and monkeys of aberrant taste, is no more strange than that all savages do not carve and color as well as the New Zealanders, or that most Englishmen admire ugly buildings and vulgar pictures. The prevailing aspect of nature is beauty, and the prevailing taste of man is for beauty also. The *means* by which natural beauty has been attained are various. Natural selection is one, by which the healthiest, and therefore the most symmetrical forms survive the rest. Protective mimicry is another, by which fishes have assumed the bright colors of a coral garden and butterflies the delicate venation of leaves. Flowers again have in many cases obtained their gay petals and fantastic shapes from the advantage thus gained for fertilization by insects. The successive steps which have led to the graceful forms and brilliant tints of shells, to the intricate symmetry of an echinus-spine or a nummulite, these are as yet untraced even in imagination. But that many of the most striking ornaments of the higher animals, and almost all those which are peculiar to one sex, have been developed by means of sexual selection, is a conclusion which can no longer be distrusted. There remain doubtless many exceptions to be accounted for, many modifying influences to be discovered; but the existence of a new principle has been established which has helped to guide the organic world to its present condition. Side by side with the struggle for existence has gone on a rivalry for reproduction, and the survival of the fittest has been tempered by the success of the most attractive."

ALKALI METALS SOLUBLE IN AMMONIA.—It will be recollected that Prof. Chas. A. Seely proved that "ammonium amalgam," so called, is simply a metallic froth of which the liquid part is mercury, and the gaseous part a mixture of hydrogen and ammonia. His attention having been afterwards directed to Weyl's researches and conclusions, he carefully repeated Weyl's experiments, the results being a full confirmation of his own views. An article by him in the *Journal of the Franklin Institute* gives some experiments, the detail of which is preceded by the following remarks:—"This discussion involves the relation of ammonia to the alkali metals, and the results which grow out of that relation. Now, the key to the whole subject is the fact that liquid anhydrous ammonia is a solvent, without definite chemical action, of the alkali metals. I mean that these metals dissolve in the ammonia as salt dissolves in water,—the solid disappears in the liquid, and on evaporating the liquid, the solid reappears in its original form and character. There is no definite atomic action in any such cases; the components of the solution are not changed in their chemical relations to other substances."

# CORRESPONDENCE.

## Irrigation in Northern Italy.

EDS. PRESS:—In connection with the subject of irrigation, which is now attracting so much attention throughout our State, allow me to send for insertion in your columns an extract from an eminent writer of Great Britain. The result of the extensive system of irrigation in Northern Italy, as described by him, is full of encouragement to those who are ready to organize companies for this purpose in the valleys of California.

By a reference to this extract, and an examination of the map of Lombardy, it will be seen that the only advantage which the valley of the river Po has over Sacramento and San Joaquin valleys, as regards means for irrigation, is the number of lakes along the base of the Alps. These form huge reservoirs which furnish a more abundant supply of water than we can obtain from our streams alone. But it is to be hoped that what water we have, can be employed to such advantage, as to produce results like those described in the following extract.

In reading the description, one is particularly struck with the fact that the fertile soil of Italy is very similar to that of California, as we advance from the base of the mountains towards the rivers and the sea. May the future historian write as glowingly of success in irrigating our own San Joaquin valley, as the writer does here of Italy.

He says: "The whole plain of Lombardy, naturally of great fertility, is rendered still more productive by a system of irrigation more complete, we might almost say more magnificent, than is to be found in any other part of the world. Enclosed between two noble chains of mountains, the Alps to the north and west, the Apennines to the south, the deep and rich soil of this plain seems to have been deposited by an inundation which brought down a portion of the substance of those mountains; consisting, near their bases, of large rounded stones, which gradually diminish in magnitude towards the shores of the Gulf of Venice, where the soil consists entirely of finely-divided matter. To the east of Milan, this plain is covered with pastures of extraordinary richness, from which is brought the celebrated Parmesan cheese. These pastures are regularly flooded. *The grass is cut no less than four times in the year*; part is made into hay, and part is carried green to the cows, which are kept in stalls.

"In about fifteen years, the herbage, in consequence of this continual watering, becomes too coarse for use; the land is then plowed up, and during five years cropped with wheat, oats, maize, hemp and beans, after which it is again laid down to grass.

"This admirable system of irrigation, which has rendered Northern Italy the most fruitful country, perhaps, in the world, was established in very early times. It was during the flourishing period of the Lombard republics, about the era of our Norman and early Plantagenet kings, while the greater part of Europe remained yet in a state little short of barbarism, that the design was conceived and executed of this great national work. From each of the lakes that occupy the lower declivities of the Alps, and receive the waters of their innumerable springs, issues one principal canal, which, as it descends, is subdivided into a multitude of smaller channels, visiting every district, every farm, and even every individual field, to each of which the water is admitted at pleasure by sluices; and having performed its office, passes off by another cut to the lower land, till it ultimately reaches the Po, which carries off the whole drainage of central Lombardy into the Gulf of Venice. The banks of these canals are mostly planted with willows and alders, over which are frequently seen rows of tall poplars.

"The principal canals belong to the government; the smaller ones are generally the property of individuals, who let or sell the use of the water at so much per hour."

Such is a brief sketch of the system of irrigation in Italy, which has been in operation for more than six hundred years. If they are enabled by this means to cut their hay "four times in the year," may we not reasonably hope, by perfecting our system of irrigation, to harvest wheat and barley twice a year? Surely similar systems can be made equally successful by the capital, skill and energy of California. W. W.

Fairview District, Stanislaus Co.

## The Cinchona Tree in California.

The tree from which the Peruvian bark of commerce is obtained, is known by the above name. It is a native of South America, and is found in greatest abundance in Peru—whence its name. From this bark is manufactured quinine, and many other preparations so extensively used in the cure and prevention of diseases peculiar to tropical and miasmatic countries. It is, indeed, in some form the great reliance of the medical profession in the treatment of most all diseases of a malarial origin. There is generally but a faint idea of the great quantity of this bark, and the preparations made from it, used in the world. There were imported into the United States alone within a period of six years ending in 1865, according to the report on commerce and navigation, of bark, 1,631,876 pounds, of the value of $1,874,112: of all the salts of quinine, 7,525 pounds, of the value of $287,138; total value, $2,161,-250. In view of the great medical value of the bark, and the probability that the source from which it is obtained will at no distant day be exhausted, different nations have encouraged its cultivation within their own territories.

The English Government, as early as 1859, commenced the cultivation of the Cinchona tree in India, on the Neilgherry mountains, and the effort has been attended with good success. In 1866, the plantation, according to an official report, contains 1,123,645 plants. It has been ascertained by experiment and analysis, that the bark of these trees in India contains the same properties, and in the same degrees, as that from South America. A valuable species of this tree is also found growing naturally on the dry slopes of the Central Cordillera of New Grenada.

The section of country in the Peruvian Andes covered with these trees extends from ten degrees north latitude to twenty degrees south of the equator, at elevations from 6,000 to 11,000 feet, where the average temperature is about 68°. The temperature of the New Grenada district in which it is found, runs all the way from 35° to 60°, and sometimes in the night the temperature goes down to the freezing point.

We have culled the above facts from an able memorial to Congress by the American Medical Association, in which they ask the aid of the general government to establish a plantation of the Cinchona trees in the United States. They especially recommend for such experiment a locality on the western slope of the Sierra Nevada, in California, at an elevation of from 1,500 to 2,000 feet above their base. They say that they believe that all the conditions of climate, which would support the Cinchona, can be found on these mountains at about that elevation. From this memorial we make the following interesting abstract, which, by the way, is one of the most comprehensive and truthful topographical descriptions of California we have ever noticed:

"California covers about 189,000 square miles, between 32° 30′ and 42° of north latitude, and is traversed throughout its whole extent by two distinct lines of mountain ranges, while its southeastern limits stretch off towards the 114th degree of west longitude, into the table-lands of New Mexico.

"Sloping back to the first of these mountain ranges is a long line of coast under the control of the ocean—being the only portion of the State preserved from desication during the rainless summer, by showers of mist—which has a uniform climate of about 56°, the mean temperature of any one month never exceeding 61°, and never falling below 50°. The extensive region bordering on the great Bay of San Francisco, which seems to adopt one-half of its climatic features from the ocean, and the other half from the interior and more heated valleys, is inexhaustible in agricultural resources. The Pajaro, and some other valleys further south, to which the oceanic winds gain access through gaps in the Coast Range mountains, belong also to the same system, as well as the Sacramento and San Joaquin valleys, although in a less degree, these latter being further removed from the ocean. The mean temperature of the two last-named valleys is about 60°; while the hottest day is 94°, and the coldest 32°. Next we have the interior mountain region (Sierra Nevada) with innumerable little valleys, buried more or less in snow during the winter, and converted by the summer's sun at midday almost into furnaces, and yet luxuriant with all kinds of delicious fruits. Finally, the southern region, which includes nearly one-fourth of the State, being removed alike from both extremes of temperature which operate, as we have just seen, in the more northern parts, and uninfluenced either by mountain or ocean, enjoys a most genial and equable climate. Moreover, it has been found, practically, that California covers all the zones that belt the earth with climatic differences, for there is scarcely a cereal, fruit, plant, or tree, wheresoever it may be indigenous, that cannot be grown or nurtured in the open air in some part of this State.

"Another remarkable fact connected with the complex atmospherical conditions of California is that the well-known ordinary effects of latitude, longitude, and altitude seem to bear with but comparatively little direct relations in some portions of the State. In the more southerly part of the interior mountain system, the general character of the vegetation has obtained for these mountains the title of the 'Alps of California,' but their analogue is found in the Arctic zone rather than in Switzerland. In the Swiss Alps, trees are not found higher than 6,200 feet above the sea In the California Alps, trees are found 11,-000 feet above the sea, and good pasturage extends from 5,000 to 10,000 feet above the sea level, and even higher—up to the very crests of the peaks. At 3,500 feet above sea level the dense forest begins. The trees are mostly sugar and yellow pine, Douglass spruce, fir, and bastard cedar. Along the western slope, at an altitude of 5,000 to 7,000 feet, the big trees, or giant *sequoias*, are abundant, not merely occurring in isolated groves, but scattered abundantly in common with the timber for a distance of at least twenty-five miles along the tributaries of Kings, Kewent and Kern rivers.

"Considering, therefore, the peculiarity and variety of the climatic conditions and vegetable productions of California, it can scarcely be doubted that a locality may be found here for the propagation of the Cinchona as readily as in India, where its cultivation has been attended with success."

## Our Water Supply.

We have been having another deluge of water discussions, of which we enjoyed so copious a supply a year ago. The discussion has, to some considerable extent, been muddied through personal interests and through the prevalence of San Francisco fogs and sand, all of which have apparently collected in the eyes and ears of many of our worthy citizens to such an extent that it has been hard for them to get a clear, impartial view of the question.

Three propositions are now placed before the public. Two of these are for furnishing water by private parties, the third for a public or a private enterprise, as the city may elect. They are: the Peninsula supply, represented mainly by the Spring Valley Water company; the Lake Tahoe supply, represented by Col. Von Schmidt and associates; and the Blue Lakes Project, represented by W. V. Clarke. The latter has not been pushed so much as the others, although we have good reason to think that we shall hear more of it before many years have elapsed.

The question as to whether we can get a sufficient amount of good water from this Peninsula is naturally the first to arise. This is by no means settled. That our present supply is insufficient we think is now universally allowed. We need only to quote the words of Mayor Selby, a gentleman removed from all grounds of *suspicion* even. He says: "That the amount of water now supplied to the city will not suffice for the future, is obvious. With the present resources, the Spring Valley company are unwilling to allow water to be used for flushing the sewers, street sprinkling, and for the public grounds." In view of this statement, any figures as to the mere capacity of reservoirs are of but little account. It is easy enough to build large reservoirs; the difficulty is to fill them with good water.

We are inclined to doubt the probability of our getting enough good water from the Peninsula. The area of catchment is large enough and the amount of rainfall sufficient, if we can catch and preserve the whole amount. But then to get the benefit of this, the city must own the area, keeping off farmers and others. We cannot use water collected in driblets from cultivated lands. And, again, water kept nine months in pools is hardly to be regarded as a wholesome article.

The Lake Tahoe project is certainly worthy of consideration. The plan is to take the water from Truckee river at a point some four miles from the lake, thence to carry it by Squaw Valley to a tunnel, 12,000 feet long, which is to be cut through the Western Summit. From here the water will be led to the bed of the North Fork of the American River. The water may be taken again from the river at or near Dutch Flat and run by canal to Auburn, or it may be taken out higher up for use in the mining localities south of this. From Auburn a pipe will lead to Sacramento, then to Vallejo or vicinity, across the straits of Carquinez, to Alameda, and under the Bay to this city, having a pressure here of some 370 feet.

This project has the advantage of excellent water and of being of immense importance to the mining districts on the way. There are, on the other hand, great engineering difficulties and perhaps trouble from the State of Nevada. The company ask a loan from the city to the extent of six millions of 6 per ct. thirty-year bonds on supplying 20,000,000 gallons daily, and will furnish 20,000,000 gallons additional, at or near Auburn, if required, the city to pay the expense of laying their own pipes. The Board of Supervisors having passed an order providing for the issuance of the bonds, the Mayor has vetoed it as a most unwise business transaction, and the veto has been sustained.

The last, the Blue Lakes, project, is to take water from the Blue Lakes, in Alpine county, and the head waters of the Mokelumne, lead it in a canal to Spring Valley, near Mokelumne Hill, thence by pipe to Livermore Pass, thence to Alameda, and across the Bay to this city. This has also the advantage of a full supply of excellent water, no question as to rights, immense benefits to mining and agricultural districts, etc. The distance is given as one-fifth less than that to Lake Tahoe. Mr. Clarke proposes to give the city the entire ownership of the works, which he will build for them. The city would then be able to get a large revenue from sales of water on the way.

Now we do not propose to argue in favor of or against any one of the projects. We protest, however, against the way they are received by the public. The chief point in favor of the Peninsula supply, in the popular mind, is an unwilliness to give any more money, at present, than is absolutely necessary from the city treasury, because so much is lost in every such transaction by dishonest operations. There is an opinion that sufficient for the day is the evil thereof, and an inclination to let the future take care of itself; this is natural, but hardly wise.

Besides this, possible trouble with Nevada, and distrust of the financial ability of the company, and want of security to the city, are the arguments against the Lake Tahoe project.

The Blue Lakes project is not so widely known. Somebody did'nt know that there were any such lakes, or did'nt want to know it, and it was squelched in the Board of Supervisors, although it was a direct proposition to let the city own the works.

Now this is not the right way to deal with one of the most important subjects of the day. We cannot take it for granted that there is or is not a proper supply on the Peninsula, that we can or cannot get water from Tahoe, that we can or cannot own water-works furnishing a sufficient supply from the Blue Lakes, that there are or are not other available sources of supply.

We ought, as the Mayor suggests, to have the whole matter thoroughly examined by proper persons,—by a board of engineers, we would suggest, to be appointed by his Honor, Mayor Selby. A proper examination of the Peninsula, and of each of the above projects, or of any others proposed, would cost us some money, but it would save the city an immense amount. If we expect that San Francisco will become the important place of which we talk so much, we must provide for its future.

# Poultry Notes.

## Improving our Poultry Stock.

It is possible that there may be something of an undue speculation in the present furor in regard to blooded fowls; but that it will result in a most healthy and important reform in our poultry stock there can be no doubt, whatever. The time has fully arrived when the matter of poultry raising should receive a more extended and careful consideration than it has heretofore.

Let any one take a walk through the markets of this city or those of any other city in the Union, and note the class of chickens and eggs for sale there, as compared with the chickens and eggs produced and shown by our fancy poultry raisers, and he can no longer entertain any question as to the need of the reform we speak of.

Farmers have been too much accustomed to consider poultry raising as a small business—too small for any particular attention—and their chickens have thus been suffered to run wild and take care of themselves. The consequence has been a very general degeneration until they have finally become diminutive in size, mangy in appearance, of but little profit to keep, and when dressed, anything but tempting to the appetite. Under such circumstances it is not to be wondered at that all interest in the business was fast dying out, when the present "poultry fever," as it is called, fortunately set in, and at once commenced the inauguration of a new interest in this really profitable and interesting branch of husbandry.

There are now some 500 persons in the United States who are making a speciality of breeding superior poultry, many of them not for the money to be made out of it (for they are already wealthy) but solely for the public good and the pleasure derivable therefrom. It is through the efforts of such men mainly, that the attention of farmers has been so generally called to the improvement of their poultry, by securing thoroughbreds to breed from, or to cross with their common stock. Those who have done this have been most agreeably surprised at the result. Fowls are thereby increased one-half to twice their weight. The pullets are better layers of larger eggs, and the proportion of increase of their stock has been improved in like proportion.

### Poultry Yards of C. M. Nichols, at Fruit Vale.

We have been led into these remarks since visiting the Poultry Establishment of Mr. C. M. Nichols, of Fruit Vale, Alameda County, on Saturday last. Mr. N. is a pioneer in this business and a most enthusiastic operator. He has secured one of the most quiet and secluded spots to be found in the vicinity of this city, and has fitted up his grounds and houses in the most approved manner. He has eight breeding pens, so arranged with grass runs attached, that the occupants of the different pens can be alternately allowed to run upon the grass plots. He has two large general yards for his poultry, with well ventilated houses to each, easy of access.

Mr. N. never allows the cocks to run with the laying hens, except when he desires eggs for breeding purposes. Except when in the breeding pens they are all kept in a yard by themselves. All his poultry houses are elevated on posts, some two feet from the ground, with a stair or ladder way for the hens to enter easily. The houses thus elevated also afford a good and convenient shelter to the fowls from sun, wind or rain. His roosts, which are all made of Port Orford cedar, are elevated only about eight inches above the floor in the breeding houses, and two feet in the ordinary houses. The great weight of the Brahmas renders it necessary that they should not be compelled to either fly or jump to or from any considerable hight, as they might seriously injure themselves in so doing. All the houses, roosts and yards are kept scrupulously neat and clean, and also kept constantly and thoroughly dusted with ashes. Every yard and pen has a small hole dug in the ground and kept filled with ashes where the fowls may take their daily dust baths. In constructing the houses great care is taken that the openings for ventilation are always above the roosts, so that the fowls may be kept free from drafts, which are very deleterious.

In addition to these precautions Mr. N. has also a preparation of carbolic acid—apparently fine ground bark, saturated with the acid—which he occasionally scatters round to purify the atmosphere, grounds, walls, etc. We may also mention that he often finds this preparation of acid a very convenient application to free his trees and vegetables from vermin. Mr. N. has all the yards planted with fruit trees; principally Languedoc Almonds, which answer both for shelter and profit.

The nest boxes are placed carelessly around the yards, without uniformity in construction or location, yet convenien and secure from intrusion. Hens much prefer a secluded nook for their nests—they are lovers of Nature rather than of architectural beauty. Mr. N. follows Nature in the management of his poultry so far as a state of domestication will allow. He always allows his chicksus to run with the hen after five or six days old—securing them to a warm and dry shelter, however, if the weather is cold or otherwise unpleasant.

Mr. N. makes a specialty of Light and Dark Brahmas, and Partridge and Buff Cochins; although he keeps several other breeds constantly on hand. His experience is that these four varieties are superior to all others, whether for producing eggs or for the table. A careful record of the amount which they will eat, kept for many months, also assures him that it costs no more to feed them than it does those of most of the smaller and inferior breeds. These fowls are well calculated to adapt themselves to any climate, laying about equally as well in the cold winters of the north-eastern States as in the milder climate of California. They are evidently well adapted for our mountains and interior States and Territories. The Buff Cochins are comparatively a new breed in this country, and are one of the most beautiful as well as most valuable of all domestic fowls.

Mr. Nichols obtains his fowls from the extensive establishment of Wm. Simpson, Jr., of West Farms, West Chester County, N. Y., who is one of the largest and most successful breeders and importers of poultry and stock in the country. Persons desirous of improving their poultry stock will do well to examine Mr. Nichols' fowls and learn more fully of his mode of treating them. It is to be hoped that the farmers throughout the State and the entire Pacific Coast will take more interest in this matter.

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Choice Poultry.—We have already several times referred to arrivals from the East of choice poultry, to Mr. Geo. B. Bailey, of Oakland. Another consignment was received on Saturday last. Among them were numbered, Buff, Black, White and Partridge Cochins; Houdans; White Leghorns; Light and Dark Brahmas; Creve-Cœurs; and Silver Spangled Hamburgs. The value of the entire invoice is about $3,500—all warranted pure stock, and all in prime condition, notwithstanding their long journey. Among these arrivals was a trio of Buff Cochins which were the winners of the American Agricultural Cup, at the last New York Poultry Exhibition. The cock weighs 16 pounds, and the hens 12 pounds each; also a trio of Partridge Cochins, winners of the first prize at the same Fair. The Partridge Cochins are comparatively a new breed of fowls on this continent, having been introduced into the United States only about one year ago. Mr. Bailey is doing much in the way of introducing new and improved breeds of fowls for the improvement of the poultry yards of California. He has now on hand about 200 head, all of the choicest and most approved breeds.

# The Farm.

## Irrigation a Necessity.

The present dry season, following so closely upon the heels of that of last year, should turn the attention of our people to the most careful search for whatever means may be attainable for averting the terrible and blighting contingencies which are so liable to interfere with the profits of those farmers who are located in the more arid and least watered portions of our State. We have elsewhere given a few hints at the lessons which should be learned from our present disaster. Deep plowing, thorough tillage and summer fallowing, judiciously employed, may always be resorted to, as a means of increasing the yield of crops in all seasons, and under almost all circumstances; but they will not always serve the purpose of securing a crop.

Irrigation must be resorted to, wherever it is practicable. The past three years have fully demonstrated its necessity. Several large enterprises have already been carried out, and those within the reach of these benefits, are now realizing large returns for their foresight. There is no question but that irrigation, in favored localities, may be made practical and profitable to all kinds of crops, not excepting grain or grass. The Stockton *Independent* of the 26th ult., says: "The advantages of irrigation are probably nowhere better illustrated in the State than along the extensive stretch of low land bordering on the Calaveras river, where the grain crops are strong and thrifty. The flourishing condition of the young wheat in that section is due to the fact that the soil has been well watered by streams taken from the river at different points and spread over the farms through the medium of irrigating ditches. Hay lands have also been copiously watered, and the crop will be abundant."

In the southern and western portions of Merced county, says the Snelling *Argus*, associations of farmers have arranged with companies of capitalists to pay from one dollar to one dollar and a half per acre per annum, to have their lands watered and be supplied with the conveniences attending canal navigation through their lands; and as it is considered a good thing for both the farmers and the enterprising capitalists who propose and have commenced building these great works of necessity, operations will be pressed through to completion.

Mr. Friedlander and the large landholders in this city, who are largely interested in lands on the west side of the San Joaquin river, have arranged the preliminaries for a canal from Tulare lake along the west side of the valley, close to the foothills of the Coast Range mountains, designed for the double purpose of irrigation and navigation. An immense region of country will be brought under cultivation by means of this improvement.

The Napa *Register*, in a late issue, referring to the subject of irrigation, says that as a general thing, the summer-fallowed lands produce the best crops, while the grain on deep plowed lands, withstands the drouth and north winds far better than when shallow-plowed; still the principal fact is too patent to every farmer in the interior valley country this season, that wheat growing is extremely hazardous where there are no means at hand to irrigate the fields when the drouth and dry north winds set in.

The *Register* thinks, and correctly so, that we have abundant facilities in nearly every part of the State, to so utilize the waste waters of our mountain streams, that they may be made to add millions of bushels of golden grain annually to our products, and to make nearly all our now waste places rejoice.

Already many of these streams have been diverted from their natural channels in Colusa, Yuba, Butte, Calaveras, Fresno, Tulare and Kern counties; and another year will doubtless witness the inauguration of such a grand system of irrigation in this State as shall place the farming interest above all probabilities of any further general failure of crops by reason of drouth or scorching winds.

There is no doubt but that, with a general and wise system of irrigation throughout the interior counties, California might at once be elevated to the dignity of the first agricultural State in the Union, and present to the world a productiveness nowhere else greater, either in diversity of crops or abundance and richness of yield.

## How to Save Mustard Seed.

In view of the fact that mustard seed, if properly gathered and cleaned, is a merchantable article, and can be sold in any quantity for cash, the following information, from the Los Angeles *Express*, will probably be of interest wherever this plant grows in abundance, and can be had for the gathering:

It should be cut and gathered in the morning, while still wet with dew, so that the seed will not scatter out while handling, and the threshing should be done on a linen cloth—about thirty feet square is the proper size—to keep it from becoming mixed with the soil or dirt of any description whatever. It must be thoroughly clean to be marketable, and if threshed upon the ground or anything except cloth, it will become more or less mixed with dirt. The operation is very simple, and, many persons who are out of employment could make good wages, by engaging in this business, which requires so small a capital for a beginning as to be within the reach of the poorest. Messrs. Hudson & Co., of Los Angeles, who advertise to purchase the seed, consumed over two hundred tons of the seed last year, in the manufacture of table mustard, which is not only used for home consumption, but has become quite a considerable item of export. It is probably the market price will rule unusually high the present season in consequence of the drouth and consequent short crop.

Mustard seed always finds a ready sale in this market, and many tons are annually shipped to New York. The market in this State has been entirely bare of the article for several months past.

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The Nurseries.—The San José nurseries, says the Santa Clara *Agriculturist* have all done a fine business, in the way of disposing of saleable stock, this season. As the country becomes settled with families, little orchards are being planted everywhere. The day for planting large orchards, as a speculation, seems to have passed; but the number of trees planted exceeds that of any former year. A large number of forest and nut trees have been planted also along streets, for shade and ornament. Evergreens seem to be growing in favor. The *Eucalyptus* and Monterey cypress are the general favorites. We are glad to see so many evergreens planted, as we need them to enliven the landscape during our rainy seasons. We have many fine native evergreen trees and shrubs that should be more extensively cultivated for hedges, for streets and open grounds. There is a chance for many a chat on this subject, which we propose to consider with our readers.

## Terms Used in Describing Fruits.

The frequent use of descriptive terms, applied to trees and fruits, render them useful and interesting to the mass of our readers, as we design them to be.

Calyx—the remains of the flower left at the end opposite the stem.

Basin—the depression around the calyx.

Crown or Summit—the ridge surrounding the calyx.

Stem—the part connecting the fruit to twig of the tree.

Base—the part most remote from the crown.

Core—the cavities in the center of the fruit containing the seeds.

Core surroundings—the dim lines in the flesh, which partly or wholly surround the core.

Flesh—the edible portion of the fruit.

# Agricultural Notes.

## CALIFORNIA.

The Fruit Crop appears to be promising an abundant yield in every part of the State, affording good evidence that this crop, at least, is independent of our exceptional season of drought.

The Folsom *Telegraph* says the fruit and grape crops in that vicinity never looked better.

The Vallejo *Chronicle* says that Solano and Napa counties, renowned for their orchard and vine productions, will produce an abundance of fruit to reward the pomologist and viniculturist this season. No frost has blighted the blossoms, nor has curled leaf made its appearance, so far as heard from.

The Mendocino *Democrat* says many of the early fruit trees in this vicinity present a very promising appearance; and in some localities apricots have assumed a very sizeable dimension.

Similar reports reach us from all the fruit producing portions of the State.

The Haying Season has commenced, and many grain fields will be treated as "grass." The high price of hay, now $20 to $24 per ton, will go far toward making up the loss of converting grain into grass. Twenty bushels of wheat from an acre is worth $30; now if the acre yields only a ton and a quarter of grass, where is the loss, when the cost of harvesting and sacking the wheat is taken into account.

Luxuriant Grass.—R. C. Sargent has exhibited at the office of the Stockton *Independent*, a sample of grass—Rhode Island Redtop—which is about thirty inches in length, and finely headed. The seed was sown a year ago last fall on the banks of some ditches cut for the reclamation of tule land, and now the grass is spreading extensively over the reclaimed portion of the land, and growing with astonishing luxuriance. Redtop constitutes the main portion of the hay crop in New England, and is one of the most nutritious grasses cultivated.

Flax.—The flax crop promises well, wherever it has been sown. The Malcom brothers, near Hollister, will harvest a good crop from a sowing of 300 acres; while the neighboring wheat fields will yield but little. Flax seed always commands a good price. Its culture has been steadily increasing for several years, and as more care and attention has been given to its cultivation for seed, the crop has been a paying one. It pays better than grain, and stands the drouth better.

Crops within an area of 12 or 14 miles around Gilroy are said to be looking much better than about San José.

Cranberries in Santa Cruz.—The *Times* says Otto Stosser has started the cultivation of cranberries in Santa Cruz, as an experiment, and the plants appear to be doing well. We ought to raise our own fruit of that description and save importing from foreign parts.

The Los Angeles *News* of April 29th, says: Three days ago over a thousand horses were started in a single drove for Montana. There must be a market thereaways.

Horses Stampeded.—The Los Angeles *Star* of the 2d inst., hears that Mr. Hunter had 356 head of horses stampeded and run off by Indians, a short time since, at Kingston Springs, on the Salt Lake road, about 175 miles from Los Angeles.

Indian Raids on Ranches.—It is said that over forty miles of the valley ranches in the vicinity of Tucson, Arizona, have been broken up by the Apaches and the owners driven into that place.

The Coming Crop.—M. George C. Perkins, of Oroville, has already contracted for a number of wheat crops now growing in the vicinity of Dayton.

Acorns.—There is a good prospect of a plentiful crop of acorns throughout the State.

The Sacramento *Union* says the business of silk culture in that vicinity appears to have passed to a great extent into the hands of Italians and Frenchmen, thoroughly acquainted with the business.

Wool.—The San Joaquin *Argus*, says: Large quantities of wool are daily passing through this place on their way to San Francisco—the high prices brought by the article stimulating its shipment. H. F, Buckley has sold 120 bales of their crop in San Francisco at an averege of 30 cents per pound, a part of their crop being from quarter-breed Cotswolds. This sale should satisfy all sheep-raisers of the advantages derived by breeeding up their flocks by the introduction of the Cotswold and other long-wooled sheep. The Messrs. Buckley are among the most succesful sheep-breeders in this portion of the valley, and their enterprise in making direct importations of the best breeds has contributed greatly to their success.

Sheep and Hogs.—The Vaentura *Signal*, published in Santa Barbara county says;—Sheep and hog shipping by steamer, from this port to San Francisco, has become an interesting feature in our commerce. During the past two months a considerable number were sent up—as many as 500 head at one time. There is no reason why this should not speedily become the pork and mutton producing region of the coast. All that is lacking is producers aud better shipping facilities. Corn grows to perfection, and our unabounded natural sheep pastures can send fat mutton into market from one to two months earlier in the spring than any place on the coast, except the counties of Los Angeles and San Diego.

Fine Blooded Sheep.—The Sacramento *Bee* of the 5th inst. says that by the previous evening's train there was dispatched a car containing five beautiful sheep of the Cotswold and Lincoln breed, which were imported by Miller, of Toronto, Canada, and are the property of Isaac Smith, formerly of Sacramento, and now of Portland, Oregon. The wool of these sheep is of very fine texture; a sample before us measures fourteen inches in length.

Angora Goats.—There are now a large number of angora goats distributed throughout the State, and it is held by many that they are more profitable for wool growing than sheep. The pure bloods are crossed with the common goat, until the blood is brought up so as to produce wool long enough to be shorn and manufactured. Goats are much easier raised than sheep. When properly bred up the goat's wool, is worth twice as much or more per pound than sheep's wool, and it costs no more to produce it. Mr. R. W. Scott of Franklin county, Ky., has a flock of 200 thus bro't up. He also raises sheep. His last years sales averaged 85 cents for his goat's wool and 35 for sheep—currency.

Fine Blooded Cattle.—A lot of fine-blooded cattle were shipped by steamer Julia, to-day, for S. F. They are all thoroughbred short-horned cattle, and were raised by William L. Overhiser on his farm a few miles north of the city. One cow weighs 1,427 pounds; another cow is not quite so heavy, but is equally beautiful. Three young heifers are splendid animals, and the seven months old bull calf weighs 730 pounds. Mr. Overhiser sold the cow for $500 and the lot—six head—for $2,000. This is the largest sale of San Joaquin county raised blooded cattle ever made. E. D. Brown, of Alameda county is the purchaser.—*San Joaquin Republican.*

Movement of Stock.—The Visalia *Delta* hears of negotiations for horses and cattle to be driven to other pastures. Horses to Utah and Reese River. Immense herds of cattle are to be transferred from Kern county to other ranges. This movement is not so much on account of dearth of pasturage as to get rid of cattle thieves, and out of the reach of disturbance from the "fence question."

Blooded Stock.—About a year and a half ago, says the San Jose *Mercury*, Mr. S. B. Emerson, of Mountain View, in this county, imported some fine Holstein, or Dutch cattle, of pure blood, and also a number of pure blooded Cotswold sheep, bringing them across the continent by rail at a heavy expense. They arrived in excellent condition, and have thrived amazingly since. He has now a number of half-breed Holstein bulls and a fine lot of pure and half-breed bucks. The Holsteins are generally conceded to make fine dairy stock. And all sheep raisers know the value of the Cotswolds.

Fine Cattle.—Mr. Moses Wicks, of Butte county recently received, per overland railroad, thirteen head of fine blooded horned stock, from Chicago and one hog. This is the second car load which he has received within a few months. Mr. W. is said to be collecting one of the best herds of stock in the State.

Exportation of Horses.—The Stockton *Independent* says that John Sutherland has made preparations to equip a party of fifty men to take a drove of 5,000 head of horses from his ranches on King's River to Denver, where, it is believed, they can be sold in lots to dealers. Some thirty of the party left Stockton on Saturday last, and were subsequently joined by a number of others. Mr. Sutherland and John Barker will follow and start the men and horses on their way over the mountains, Mr. Barker will go in charge of the expedition. The horses are said to be in the very best condition, and are reputed to be by far the best lot of native horses ever driven from the State.

Land and Stock Valuations. — The Supervisors of Los Angeles county by resolution, requested the Assessor to assess certain classes of property at the following rates, and it is said that he has governed himself by their advice: Grazing land 75 cents per acre; grain land, $5; irrigable land, $10; vines, 4 years old and upwards, 2 cents; Malaga and Sicily lemon trees, in bearing, $5; lime trees, in bearing, $5; orange trees, 10 years old and upwards, $10; wine, 1 year old, per gallon, 10 cents; 2 years old, 30 cents; grape brandy, 75 cents; gentle California horses, each, $25; unbroken, $10; American oxen, each, $30; do milch cows, $25; do stock cattle, $10; California oxen, $20; do. milch cows, $20; do. stock cattle, $8; hogs, 6 months old, $2; merino and other fine sheep, $3; improved do. $1,50 California do. $1; bee-stands $2.

Tule River, Kern County.—The Visalia *Delta* recommends the Tule River as a good place for settlement in the following manner: As a river, it appears to be a gentle, unpretentious stream of indefinite width, and having a running depth of about ten to fifteen inches, lying nearly on a level with its low, sloping banks, which seem to rise but two or three feet above its sandy bed. As a range for cultivation, it is without doubt, one of the richest and best natural locations in the State. Its chief advantages are that, for most crops, little or no irrigation is required, and when wanted can be cheaply had by daming the river and turning it out of its low bed. The moisture beneath the soil is easily reached by the roots of the growing crops, water being found in most places near the surface as in Napa Valley. The climate is one of the best in the State, though subject, like many others, to occasional intermittent fevers for new comers during the first year or two of settlement. All, or nearly all, tropical fruits will grow luxuriantly and with little care as well as those of the temperate zone. Land is very cheap, and there still are many sections open to pre-emp-tion. The people are almost exclusively of American and German nativity, thriving, peaceable. hospitable and industrious. The operatfon of the fence law is the greaest objection to that region; but the *Delta* thinks that will be made right by the next Legislature.

## STATE NOTES.

Wheat Crop.—The St. Joseph (Mo.) *Gazette* of April 27th says:

No such prospets for wheat was ever known here as it spreads over Northwest Missouri. Our friend Dr. Faulkerson, of Andrew county, says that in his neighborhood not only is the breadth in wheat greater than ever before, but the yield promises to be many per cent. heavier than has ever before realized in this section. Similar word comes to us from the whole State.

The same reports come to us from the whole northwestern portion of the Union. This favorable state of the crop is to be referred to two causes—first, a very propitious season, and, second, the improved culture. What effect will be produced upon prices by such a crop is an interesting and important inquiry. No doubt the political state of Europe will effect the subject. The most favorable influence would result from peace of France.

They make wine out of parsnips in St. Joseph, Missouri.

Chinese cucumbers are said to grow from five to eight feet in length, and from six to nine inches in diameter.

Maples large enough to make three ten-feet rails each, with 4,000 trees to the acre have been raised from the seed in seven years, in Monroe county, Iowa.

New method of curing a balky horse—pour water into his nose. A Westfield man tried it the other day, and it proved effectual in five minutes—killing the horse.

## Oregon.—A Want of Our Coast.

There is a State lying to the north of us which has an area as large as that of the States of New York and Pennsylvania combined, but with a population of a little over one per cent. of that of these two States. It has good society, numerous and excellent schools and churches, and offers manifold inducements for immigration. Its growth, although slow, has been steady and healthy, without wild speculations or financial crises to any great extent.

Its climate is varied, generally most pleasant and healthy and in some places unsurpassed. Its arable land is sufficient to support a million of people. The agricultural productions of its soil are many, and the fertility of the land very great. Fruits of nearly every description are raised with success. For the stock-raiser there is an abundance of excellent grazing land. Its timber is of immense extent and of the best quality for manufacturing and other purposes.

Oregon is also rich in mineral. Its placer mines have yielded extensively and although the cream may have been taken off, enough is left for still many a good days work. Its quartz mines are being opened and worked to a considerable extent. But its iron beds and its coal deposits, already yielding largely now, promise the richest results for the future.

Its salmon fisheries are by no means unimportant, engaging large amounts of capital and the labor of hundreds of men. The manufacturing interests are growing largely. Woolen, lumber and flour mills, form the most prominent items, but many other important branches of mechanical industry are well represented. The resources of timber, iron and coal, with the fertility of the soil, the favorable climate and the abundance of water power show what can be done in manufacturing.

Cities and towns are dotted here and there over the State. Railroads are being built to traverse the land in various directions. Good wagon roads already exist. Such are a few items about Oregon.

### What Oregon Needs.—What the Pacific Coast Needs.

Now what does Oregon want? Immigration, and immigration of a certain kind. It does not want people who are willing to reside only in cities. Such men and women had better stay away. It is not the large towns which demand immigrants; these can get population at any time hereafter. But it is the people to go into the country, to till the land, open the mines, cut the timber, raise stock; it is men of stout limbs and willing hearts. One man in the country is worth three in the city. In the country there is room for all and work for all; in the city there is room and work for only a certain number, and that number is certain to be filled as necessity requires. The city can always get all the people from the country that they want; the reverse is not true.

Oregon does not want to have a quarter of her population in one place. It sounds rather nice to be able to talk of our large centers of trade and population; but Oregon is too young and too poor yet to be able to live on sound.

The great question is, how to get population. Ben Holladay is taking a step in the matter which, if successful, will prove an immense benefit to the whole coast; for he will introduce an industrious and law-abiding community where it is needed. The railroads are attracting people. The Board of Statistics, Immigration, and Labor Exchange of Portland are publishing pamphlets for general distribution, giving statistics and the like, and are otherwise doing good work. We are indebted to them for a number of publications, and likewise to the State Agricultural Society.

Now these publications are excellent and undoubtedly do much good. But they fail to answer the very first question of all would-be immigrants, and a question of vital importance to them. These people as a general thing have no money to spend in traveling all over our extensive coast in order to find where to settle. They want to know just where to go to. They require to be told where land is open to pre-emption or under the homestead law, as well as where it is for sale at moderate prices.

Before immigration can be induced in large numbers by the publications, these pamphlets must have maps appended to them, and in these maps must be denoted the vacant lands, as well as the lands for sale, and the descriptions must give something concerning these localities. Whatever its relative advantages or disadvantages, we believe that that section which publishes such maps and has out live agents, will be the first to grow in wealth and numbers.

The remarks which we have made concerning the needs of Oregon, will apply with equal force to any part of our coast. We are far off from the great centers of population, farther from them than they are from us, for we are more accustomed to venture forth into the uncertain. We must show them not only what we have, but where we have it; for to wander over the millions of square miles of our coast in order to pick out a home is what the immigrant will not and cannot do.

## Home and Farm.

### Native California Lupines—The Castor Bean, Etc.

Editors Press:—There appears to be much interest among the "book-farmers" of the East concerning the lupines—a plant much used in some parts of Europe for green manuring, also for fodder, and is found especially excellent for sheep.

From all the testimony it certainly stands high. (Sometimes *four feet*; only think of plowing under such a growth for manure!)

Now I believe it grows wild all over California. Cannot some of your wide-awake subscribers tell us all about it? There certainly is a species of lupine flourishing in hundreds of waste places, and it seems exactly to fill the bill. I once protected a few of them in my orchard for the beauty of the blossoms; but soon found they were for "squatting" all over my land, so I immediately commenced suit of ejectment.

Before I had learned its name, I concluded it would be valuable to *cover up* dry, sandy, unsightly places, as it seemed to flourish where nothing else could gain a foothold. Possibly the seed may have been brought here by the old Mission Padres, as in the case of our wild oats, mustard, etc. It was known and cultivated by the ancient Romans. Have noticed three varieties growing here—as indicated by different colors of the blossom.

#### Castor Beans.

At Knight's Ferry, in 1857, I think, I raised about the first castor beans ("*Palma Christi*—a nut") that were ever grown in this State. The rapidity of growth, beauty of shrub, and abundance of yield was a pleasant surprise; also the quality of the fruit was somewhat astonishing to those who partook of it freely—"merely from curiosity."

I sent to the city to learn if they were worth anything, and an answer immediately came back—"Will give you two dollars per pound for all you have;"—the news having gone forth in all the papers that they would kill or drive off gophers. Everybody wanted seed and none to be had. My crop was therefore forwarded to my brother in San Francisco; and, upon its arrival, happened to fall into the hands of his cook, whose culinary fancy was greatly taken with the plump, fresh beans, and he proceeded forthwith to lay out a mess for dinner, and was only prevented from serving this novel, dainty dish by the timely arrival of the proprietor who assured him they were much better taken raw. All who have ever partaken need not be told that the result was conclusive as to the "better way."

Gophers certainly have more sense than to reckon them in their bill of fare. I had them in my garden some ten or twelve years, and do not think they made the least difference with gophers, who seem never to cut the roots, but will drive their tunnels very close to them.

#### Poultry.

In the Pacific Rural "Extra" we find some excellent "Golden Rules for the Poultry-raiser," which, if carefully followed, would be sure to leave no room for failure. But there is a slight clashing or discrepancy that might tend to confuse the earnest seeker after knowledge in these lines:—"Treat your fowls according to Nature's laws. * * Keep the hen under the coop until the chicks are six weeks old. * * * Avoid rain or snow water." My experience is that hens and chicks thrive better if allowed to run free after the first few days. D. M. Locke.

Santa Cruz, May 1st.

With regard to the "discrepancy" noticed by our correspondent in the "Pacific Rural Extra," (which, by the way, was, as shown upon its face, merely a private circular,) the writer doubtless wished to be understood as advising to "treat fowls according to Nature's laws" so far as was consistent with the habits necessarily forced upon them by their domestication.

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The Holly Water Works.—The Sacramento *Bee* of a recent date gave the following description of the Holly system of supplying water to towns of moderate size, and under which there is to be no reservoir and no fire department:—"A couple of large wells are opened so near the river that they cannot be pumped empty, but so far that the water, in passing through the sand, will be rendered entirely clear, no matter how muddy the river may be. This gives the supply. There is then to be a steam pump, which is to run constantly, or be in condition to run constantly. The ordinary pressure will be just enough to carry water to the top of the highest houses; but in case of fire the pumps will put on force equal to that of a steam fire engine, so that all that will be necessary to put out fires will be to have hydrants and hose. Whenever a fire occurs, the opening of a hydrant will cause a reduction of the ordinary pressure in the pipes, and this reduction will instantaneously ring an alarm, as a signal to the engineer to put on full steam. This method has been tried for four or five years in a number of Eastern towns of 20,000 or 30,000 inhabitants, and they all express themselves delighted with it. It is certainly one worthy of consideration by all those towns which can have a steady supply without a reservoir.

It would seem as though this system might work well in many localities—especially in such a city as Sacramento; but the people of that city had the matter submitted to them about a month since, and the vote was against its adoption by a large majority. So it is not now a live question there.

### Hints to Farmers.

[Written for the Press.]

Scabby sheep are best doctored soon after shorn, but any time when the liquid is applied to the pelt to kill the scab. It is not a bad policy to scorify the worst points of attack, by an instrument that will scratch or cut the hide partially. This instrument can be made out of the bow of a pair of old sheep shears by filing in notches; but the more effectual mode is to set sharp-pointed instruments in a flat piece of wood, the points only to project not more than one-eighth of an inch; set one-fourth of an inch apart, about six in number; draw these points over but once; it makes an opening for the material applied to work under the hide and kill the insects that create the sore; that tobacco water is a safe and sure remedy, but petroleum in small quanties, or kerosine, will do the job effectually and cheaply.

#### Shrubs, Small Trees, Scions.

When you have a package of small trees, or any woody plant arrive in a shriveled condition, immerse them under water for 24 hours; if the trees are not damaged, put them in good, light soil, in a shady place, and let the light to them gradually; keep them well soaked up for two or three days, and slightly cover them with straw or other non-conductor of heat until the terminal buds begin to expand for a few days. In a hot, arid climate, it is very beneficial to cover the bodies of all trees, when transplanted, with some kind of cloth or bark. You will see a marked benefit in it; through the first season it requires less moisture to sustain the life and growth of the tree or plant. Scions do much better to protect them from the sun's direct rays when set. In root graftiug, only let the first bud project above ground.

Solomon W. Jewitt.

Kern County, April 10, 1871.

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Editors Press:—The following important typographical error occurs in the Rural Press for April 29th. In my report of rainfall for San Joaquin Valley, near Turlock, Stanislaus county, on page 265, the word "months" occurs where it should have been weeks.

The fifth sentence should read: "In this last rain we had just twice as much as in the whole six *weeks* previous." No rain fell in April after the 17th. Our entire amount for the month was 1.64 inches, making for the season a total of 6.75 inches. Our grain is now heading rapidly, but is beginning to need another refreshing shower. Your conclusion that crops will be light this season will apply emphatically to our section, unless we have more rain within a week. J. W. A. W.

Turlock, May 1, 1871.

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In the Sciota Valley, Ohio, the land is so rich that for 40 years corn has been grown on the same ground, and yet they who do the work are tenants and poor. In Northern Ohio, the land is so poor, it is constantly kept in grass, and yet they who do the work are the owners, and are rich.

### Population of San Francisco.

Mr. Langley has replied to the reply of Mr. W. G. Morris (U. S. Marshal) to the strictures of Mr. Langley on the U. S. Census. Mr. Langley defends the accuracy of his Directory, and answers certain challenges to publish a number of names omitted in the census, by publishing many more names than asked for. On one point both gentlemen agree,—in the enumeration of the Chinese.

We think that Mr. Langley shows that the returns of the census were too small. We would not assert that Mr. Langley's returns were absolutely correct. But then we can only judge concerning the arguments advanced on either side, for the careful examination and compilation of such statistics is a job too large for our hands and one which we must leave to others.

The matter is perhaps not yet settled to the satisfaction of the public. The popular belief is, so far as we can ascertain, that the census is too low and the Directory too high. The census takers could have no object in giving aught else than the truth, yet might have made mistakes. The Directory is concerned to have the numbers as high as possible; but enjoys the best of reputations for general accuracy. Any one acquainted in the slightest degree with the enormous labor of compiling such statistics, will agree that there are many chances for errors.

The question still remains for public satisfaction: 150,000 or 170,000? We modestly confess our inability to decide between the two. Splitting the difference is a common method of compromise, not always of the greatest accuracy, and probably, in the present case, not satisfactory to either of the two parties of the argument; yet we can just now suggest no better.

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The Heathen Chinee.—One of the handsomest, neatest and most interesting publications which we have seen lately, is the pamphlet just issued by the publishers of the *Overland Monthly*. It is an admirable *fac-simile* of the original manuscript of the "Heathen Chinee," as written by F. Bret Harte, with all its interlineations and corrections, together with the letter-press copy as it appeared in the *Overland* of September, 1870, embellished with a capital likeness of the author. The lithographic execution is very fine. To possess a likeness of Bret Harte and a specimen of his handwriting, is surely enough to warrant the expenditure of 25 cents, the price of this publication. The little gem issues from the office of John H. Carmany & Co., 409 Washington street, and is for sale by all news-dealers.

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A Costly Carpet.—The Sultan of Turkey has presented, the U. S. Government a magnificent carpet manufactured expressly for the East Room of the White House. It is woven in one piece, was made at the Imperial factory, being a year in preparation, weighs 1,500 lbs., and is said to be worth $9,000 to $10,000. Red and blue are the prevailing colors.

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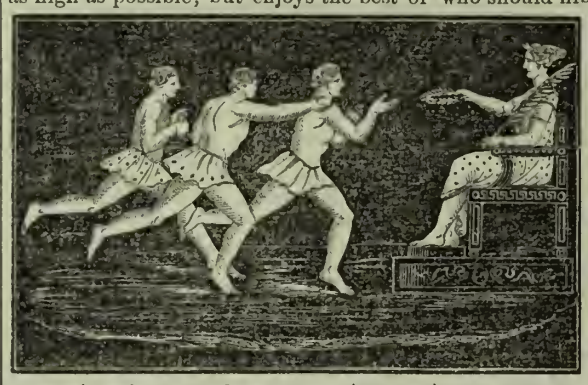
A Chief reason why young men dislike farming is their father's worn-out fields. To sow clover bountifully is the best way to prevent our youth from tramping the streets of our cities looking for situations and pocket-books.

### The Olympic Games—The Ancient Greeks.

The earliest and most famous of games were those celebrated at Olympia, a plain in the territory of Elis, in Ancient Greece, and in the immediate vicinity of the celebrated temple of Jupiter. The origin of the games is lost in the mists of antiquity. The spot where they were celebrated was sacred ground; and so sacred and universal was their celebration that whatever war raged at the time of their occurrence, between the different territories of Greece, a truce was proclaimed in season for all to attend them, and the combatants, even, met as friends in friendly contest. The games continued five days.

Spectators attended from all parts of the then known world; but those only of pure Hellenic blood were allowed to enter the lists, until after the Roman conquest, when Roman citizens also were allowed to enter. The place where the games were celebrated was called the Stadium, and consisted of a slightly elevated mound of earth, upon which were also placed seats for the Greek spectators; while all foreigners occupied back seats, and had an entrance of their own—so that there could be no mixing up of nationalities.

The games at first consisted of running, as represented in our illustration, where the contestants are seen in full rush for the prize so temptingly held out for the one who should first be able to reach it. They were open to all—both rich and poor, high or humble, who could give evidence of an unblemished character. In earlier years various prizes of value were offered; but in later times the only prize was a simple wreath made from the leaves of the sacred olive tree which grew near the temple of Jupiter. It is such a prize that is held forth in the illustration herewith presented. The winner of a prize became thenceforth a marked man, and honors were extended to him as to a conqueror, and also to his family. His success was supposed also to reflect honor upon the State where he belonged. These games, after being held many ages, were finally abolished by a decree of the Christian Emperor Theodosius, for the reason that they were connected with idolatrous worship. Freedom of thought being then a thing unknown.



In later days chariot racing, wrestling, boxing, jumping, throwing heavy weights, etc., were introduced. The course was a circle; the distance of the foot-race was one circuit, about 600 English feet—if extended, it was by making additional circuits. The games were celebrated once in four years.

Literary exercises were also one of the attractions of these games, although forming no part of the festival proper. Original poems and literary works were there first publicly read or recited; and painters and sculptors exhibited and disposed of their productions. The presence of the multitudes was also turned to account by improving the opportunity for other secular advantages. No games with weapons were allowed, by which personal injury might happen to contestants. In this respect they possess a peculiar interest, illustrative of the social life and dispositions of the ancient Greeks, which is in marked contrast with that of the Romans, as manifested by the barbarous and cruel national games sustained by them.

The simplicity of the prizes, the sacred ceremonies attendant upon the games, the cessation of all warlike strife throughout Greece, during their continuance, the immense attendance of all nationalities, the glorious season of the year at which the ceremonies took place, and the admirable order always preserved were influences well calculated to ennoble and harmonize all who came in contact with those games. These things no doubt did much toward elevating that remarkable people to the high standard of excellence which they attained, and toward maintaining in the nation that general respect for manly and intrepid character which enabled them to resist for so long a time the aggressions of foes from without, and fix moral dignity and independence which gave them such immunity from the contagion of weak and licentious principles that usually wrought such disastrous results on the nations of antiquity as soon as they arrived to any noted degree of importance wealth or power.

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There are 38,000 horses in New York City.

# POPULAR LECTURES.

## The Greek we Speak.

[Prof. Martin Kellogg before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Fourth Series. Reported expressly for the PRESS.]

LECT. III. May 6.—Having spoken in the preceding lecture of the Latin element in the English language, Professor Kellogg was led naturally to consider next the Greek element. That the latter is not so important as the former in colloquial English, is not to be wondered at. Not, however, because the Greek language was so much older than the Latin and had already lost a part of its vitality before the formation of the English language began. It would be nearer the truth to say that Latin and Greek were cotemporaneous,—that they sustained the relative of sisters rather than that of mother and daughter. But in Western Europe—the home of nearly all the original occupants or conquerors of the British isles—Greek was never so potent as Latin. Athens founded no world-empire. Greek was not carried across the Alps by the sword. It did not force its way into every household. But the great strength and wealth of the Greek language and literature were universally recognized by the better educated classes, even in the palmiest days of Rome. Virgil was the diligent student of Homer, and Cicero was not ashamed to learn of Demosthenes. The Greek language is the most wonderful creation in the world's linguistic history. It is a mine of unrivalled wealth, which none but fools would reject.

Earlier in the course, attention had been called to the importance of a knowledge of Greek to the man of science, but in this lecture the chief aim was to show how much even the ordinary, everyday discourse of an English-speaking people is indebted to the language of the ancient Grecians. A few illustrations from the many given by the lecturer will be all that we have room for.

The Church.—The word church itself is of Greek origin, though not so obviously as many others. The Greek word which corresponds most nearly to our idea of church is *ekklesia*, which appears in *ecclesiastical* and its derivatives. An apostle *(apostolos)* is one sent; an epistle *(epistole)* is a message sent—a letter to the church. The words sect and denomination are of Latin origin; but the names of the different sects are drawn largely from the Greek. As, for example, Catholic (meaning universal); Episcopal, from *episcopos*, *epi* and *skopeo*, an overseer, the church whose head is a bishop or overseer. The Presbyterians are governed by the elders *(presbuteroi)*. Even the word Bible is nothing but the Greek *biblos*, book, anglicized. Genesis (from *genao*) means creation; and Exodus *(ex-odos)* the going out. Orthodoxy is from *orthos*, straight (or right) and *doxa*, opinion; heterodoxy from *heteros*, other than straight or right. "Orthodoxy is my doxy; heterodoxy is your doxy."

The School.—School is derived from *schole*, leisure. The school then is a place where one has leisure to study. The alphabet is properly the A B of the Greeks *(alpha* and *beta)*. Grammatical terms are largely of Greek origin, such as Orthography, Orthoepy, Etymology, Syntax (from *sun* and *taxis*—a putting together, hence that branch of grammar which treats of the construction of sentences), the comma, the colon, the period. Geography means a description of the earth (from *ge* and *graphein*); hence the error of speaking of the "Geography of the Heavens."

Poetry and Music.—The word *poet* is entirely Greek, and means literally the *maker*, a significant illustration of the character of the ancient Grecian mind. Ode, Harmony, Melody, Rhythm, are all found in the Greek.

Politics.—From *polis*, city, comes a large class of words referring to cities and the management of affairs in cities. Annapolis is equivalent to Anna's city. Chrysopolis is a properly formed word, meaning Golden City; but Copperopolis is a barbarism in word-forming, an English and a Greek word being combined together into one.

Many of the illustrations given were accompanied with humorous allusions which will aid much in fixing them upon the mind of the Professor's auditors. In closing, Prof. Kellogg endeavored to impress upon his hearers the fact that these relations between English, Latin and Greek are not merely playthings to be handled by the lovers of the curious, but that the study of the so-called "dead languages," which are in reality still living in almost every sentence we utter, has a decidedly practical side for every one who uses English.

This lecture finishes Prof. Kellogg's series. The next will be by Prof. Pioda on the Utility of the Modern Languages.

## Cut-worms Destroying Grape Vines.

The greenish gray cut-worms, sometimes called the corn-worms, are, in some places, making great havoc among the grape vines. J. P. Odbert, near Brighton, Sacramento county, informs us that two weeks ago, his vineyard was in splendid order and gave promise of an abundant crop of grapes. Since that time the cut-worms have attacked the vines and are eating the young shoots and leaves so rapidly that he has almost despaired of any crop at all, unless the vines shall throw new fruit-buds and make a second crop. They climb up the body of the vine in the night and eat all they can, and then, letting loose, fall to the ground and lay during the day just below the surface, and so repeat this operation each night and day.

Mr. O. has tried various experiments to stop the destruction, but with poor success. He has thrown ashes and lime around the roots, but the worms will hide themselves under these the same as in the oil. Cole tar put around the body of the vine will prevent their climbing it for about two nights, but requires to be renewed every two days. He has finally undertaken to pick them up and destroy them. By brushing away the surface of the soil around the roots of the vine, he finds them very thick. They seem to collect near the roots and he says he finds as many as *thirty* of these worms around the roots of each vine, every other day. His land is of clayish soil, mixed well with sediment, and he had taken much pains to keep it very clear of weeds and grass. In this he has undoubtedly made a great mistake, under the circumstances. Had he allowed the weeds and grass to grow, his vineyard would not have looked so well, but they would have furnished food for the worms and saved his vines.

## The Activity of Vesuvius.

Dr. Colton writes to the Boston *Transcript*, from Naples, under date of March 8th:

Last evening, as we came home from the opera, we saw the grandest spectacle yet presented by Vesuvius. A vast flame, or what appeared such, was issuing from the new crater, and the lava in two streams was pouring down the sides of the cone. Both these streams, I should judge, were five hundred feet wide. Looking across the bay in one direction we saw in the rippling water the red light reflected from Vesuvius, and in another the white light of the moon. The effect was strikingly beautiful. The lava as iron heated to a white heat, and the clouds of smoke and surrounding air were tinged with the red reflection.

Two ladies at our hotel visited Vesuvius to-day, and could only get as far as the Hermitage. They said a stream of lava was flowing directly toward them, and the constant thundering from the old crater was fearful. A stone over two feet in diameter was thrown out and landed near where their horses were hitched. They could see large stones constantly being thrown up. As I look at the crater this evening, I can occasionally see what appears to be red stars flying into the air. These must be immensely large, as we are twenty miles distant. Great anxiety is felt at the Hermitage for their safety, as the lava has commenced flowing down on this side of the mountain.

BARLEY—A NEW VARIETY?—Mr. George Pucket has exhibited at the office of the Snelling *Argus*, a few heads of a peculiar kind of barley. The stock, leaves, husks and grains, are of a pale blood color, but are in all other respects similar to the common barley, except that the grains are a little under size. Mr. Pucket finds considerable of this kind of barley mixed with his grain, but can give no account of the origin of it.

# GOOD HEALTH.

## Fat vs. Lean People.

Leanness, at least in the earlier ages, has been considered a reproach, rather than a merit, either in an individual or a nation. Pharaoh's lean kine were never held up as models to the graziers of any age or any country. Brutus was not so very much in the wrong when he entertained doubts about "that Cassius" with his lean and hungry look. The point of one of the bitterest of the many epigrams shot at Voltaire is blunted and rendered harmless by translation into a language where "death and sin" do not rhyme to "thin." We cannot fancy a fat Macbeth, a corpulent traitor in Venice preserved, or an obese Iago are impossibilities. Assuredly, Falstaff was not scrupulously honest or honorable; but what was he, after all, but a merry rogue? Plumpness and beauty have been regarded as inseparable Siamese twins, from the illustrious regent whose ideal of female loveliness was summoned up in "fat, fair and forty," to the Egyptians who fattened their dames systematically by making them sit in a bath of chicken broth; the etiquette being that the lady under treatment is to eat, while sitting in the broth bath, one whole chicken of the number of those of which the bath was made, and that she is to repeat both bath and dose for many days. A doubt, one should think, must have sometimes arisen, whether the beauty thus in training would fatten or choke first.

As to the question of who would be most likely to sink or swim, on getting into hot water or falling upon troublesome times, the lean person would have no chance against the fat one. Byron certainly, fretted over his increasing bulk; and the same gracious prince who admired rotundity in his favorites, had such a horror of the consciousness of his own corpulence, that "Who's your fat friend?" was the most severe aside-speech that poor, discarded Brummel could make in revenge for being cut by his former patron.

A book has been written by a Dr. Dancel, of Paris, in which to be or not to be fat is treated as the grand question of human life. The epitome of welfare is leanness; while the origin of evil, nay, evil itself, is fat.

It appears, that it is only a vulgar error to believe that an increase of what is called good plight is any symptom of improving health. As an over-sanguine temperament is dangerous; as daily accidents occur from the undue predominence of the nervous system, so does the extraordinary development of the fat cause first inconvenience, then infirmities, and finally constitute a malady hitherto considered incurable, and known as obesity. To men, it is true, personal grace is not indispensable to happiness; but with women the case is different. Dr. Dancel reminds them that when once they have lost their personal attractions, intellectual treasures serve merely to render them just supportable in society.

Fat has ruined the prospects of many a man, as of many a woman, by rendering it impossible to continue a profession which affords them an honorable livelihood. Persons who live by mental labor find their faculties clouded by the increase of the corporeal substance; and literary men—but there is no need to consider that eventuality, because it is too outrageous a supposition that a man who earns his bread by his pen should ever have the time to grow rotund and ponderous. With publisher the case is different; often the publishers sucks the marrow, while the auther is left the bones for his pains. At one epoch, the Romans, not caring to give room to useless individuals, banished those of their fellow citizens who were guilty of the crime of corpulence.

But all this is mere nothing. Such misfortunes are only slight and few. Thus, *embonpoint* is a common cause of sterility, both in man and beast. A fat queen may cause an ancient dynasty to become extinct, for want of an heir to the throne. The very peasants sell off their fat hens, as unproductive of eggs. Even over-luxuriant plants produce no flowers, or barren ones. Excess of fat causes the human epidermis to crack, mottling the skin with white speckles and streaks; it induces hernias of various distressing forms; it is the parent of ulcerated legs; it gives rise to headaches, giddiness and dimness of sight. In short, among the infinity of causes which originate disease, a bloated habit of body takes conspicuous rank, although modern medical works bestow but little notice on this morbid disposition.

## Dyspepsia.

Dr. A. O'Leary lectured recently at Cooper Institute, N. Y., on "Dyspepsia." "Indications of the disturbances of the stomach, are," he said, "caused by the fermentation of food. No one should eat cabbage boiled with meat, or onions with the stalks, as they create billiousness. Cabbage is one of the best articles of food when properly cooked. It should be boiled in pure water. As a cure for dyspepsia a teaspoonful of carbonate of soda, which neutralizes the acid in the stomach is recommended. The causes of dyspepsia are the use of butter, grease, gravy, and eating hastily. Dyspepsia does not come from large eating. Those afflicted with it should take a short sleep after dinner. The liver has much to do with dyspepsia. Whenever the white of the eye shows a yellow tinge, it proceeds from the liver; tenderness in the pit of the stomach is an indication of a diseased liver. A slight pain under the right ribs and back to the shoulder blade, also proceeds from the liver. Those that are prone to this disease should not sleep too much, or enjoy too much heat—too much heat tends to enlarge the liver. Fruit and vegetable diet is the best that can be adopted, but persons of a week constitution should add to it meat once a day, but not oftener, with bread, properly made. Persons affected with dyspepsia should not use calomel. Turkish baths are recommended, as they relieve the liver.

## What Goes into Your Stomach.

"I have often wondered what the stomach must say to itself while an ordinary meal is coming down. This stomach knows perfectly well what it needs. It asks at breakfast a moderate piece of steak, a slice or two of good bread, and a baked potato. Now, just stand by and see what goes down. First, a great mass of greasy buckwheat cakes, now a swash of scalding hot coffee, again buckwheats, more coffee, sausage, hot biscuit saturated with melted butter, buckwheats, coffee sausage, hot biscuit, and so on and so on for half an hour. And here we have an enormous mass of hot, greasy, doughy, indigestible stuff swimming in hot coffee. The stomach asks at dinner roast beef or mutton, with bread, potatoes and other vegetables. Now, what is the conglomeration that comes rushing down that red canal. Turtle soup, fish, beef, duck, plum pudding, pie, nuts, raisins, coffee, and several condiments; with this hotch-potch, ice water, ice cream, and wine. For supper the stomach asks for nothing, and gets hot biscuit, butter, cake, preserves and strong tea."—*D. Lewis.*

TO REMOVE CORNS.—First, remove the pressure or friction of the shoe which occasioned the corn. Second, keep it moist long enough, and it will drop out of itself or can be easily picked out with the finger-nail: and if it ever comes again, repeat the process. Lockjaw has frequently followed cutting hard corns; at other times convulsions and death, This risk ought never to be run as long as a bit of cotton saturated with water, or sweet oil, or, better still, glycerine, which is the essential element of sweet oil, is a safe, certain, and efficient cure for hard corns, if kept constantly applied for a day or two, and no shoe is worn.—*Dr. Hall.*

WATER DRINKING.—A certain amount of water is necessary to carry on the functions of the animal economy. During the season of active perspiration, the quantity is considerable. When shall this water be taken into the system? It may be introduced during the day, when thirst requires; but it is a capital practice to introduce a quantity on first rising in the morning, and on going to bed at night. Thousands of dyspeptics have derived signal relief by drinking one, two or three tumblers of water on rising in the morning, and on going to bed at night. I have sometimes thought, on hearing the testimony of these dyspeptics in regard to the influence of cold water thus taken into the stomach, that, perhaps, of all baths, this is the best. —*Dio Lewis.*

SLEEP will do much to cure irritability of temper, peevishness, uneasiness. It will cure insanity. It will build up and make strong a weary body. It will do much to cure dyspepsia, particularly that variety known as nervous dyspepsia. It will relieve languor and prostration felt by consumptives. It will cure hypochondria. It will cure the headache. It will cure neuralgia. It will cure a broken spirit. It will cure sorrow.

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SAN FRANCISCO:

Saturday, May 13, 1871.

## Our Weekly Crop.

The wool business is certain to be most important in our State, and we present our readers with a specimen of the Cotswold Sheep, the best breed for wool and mutton as a general thing. This will be Exhibited at the Fairs, the advantages of which proceedure are here touched on. From this point of view our readers get a glance at some Rural Homes.

Our library of Mechanical and Scientific Progress is found filled with new and interesting matter. Close at hand are found articles concerning three matters of great importance to us: Irrigation (as practiced in Northern Italy), the Cinchona Tree in California, and Our Water Supply.

Passing on to our Poultry Yard, we find some choice notes from our choice poultry. Walking about the Farm, we see the Necessity of Irrigation, and learn How to Save Mustard Seed. Ascending an eminence, we review the Agricultural Notes of the Coast, and examine into the Needs of Oregon.

California Lupines and Castor Beans are growing abundantly around us, as we peruse Hints to Farmers. We enquire concerning the present Population of San Francisco, and then rush off to see the Games of the Ancient Greeks. This leads us to consider the Greek We Speak, in which Prof. Kellogg lends his valuable assistance. Then we witness the Activity of Vesuvius, and count the advantages and disadvantages, with regard to Good Health, of Fat and Lean People.

Our Beet Sugar Factory requires a call and the cocoonery is also visited, more particularly to see the Japanese Silk Worm Shipments. Hung up in a line are the Gold Medals to be given at the State Fair.

Next, we con the Lessons of the Drought and witness the operations of a new Bobbin-Winder for Sewing Machines.

The ladies of the Home Circle show us Aunt Mary's Gems, and read us a Chapter for the Month, after which we have a Talk with the Boys, and then go to the Kitchen to learn of Domestic Economy. We finish with a Trip Down the Coast, having some Plain Talk by the way, and with a call on the Santa Cruz Farmers' Club.

UNIVERSITY OF THE PACIFIC.—The Ninth Annual Announcement of the Medical Department of the University of the Pacific is at hand. This institution, with its very able instructors and many advantages, is now, and has been, exercising an ever growing influence and making itself a credit to our city. Among its graduates are names of physicians who, although comparatively young, are earning high and well deserved reputations.

THE Santa Clara Agricultural Society will commence its next annual exhibition on the 28th of August, and continues five days.

ANNEXATION OF DOMINICA.—To the Honorable Cornelius Cole we are indebted for a copy of his able speech before Congress in favor of this project.

OUR CHAPTER FOR MAY came to hand too late for insertion last week, and we give it a place in to-day's issue.

## The Beet Sugar Interest.

The 600 acres of sugar beets at Alvarado promise a fair crop. The scanty rains will no doubt lessen the production; but the soil is a rich, dark loam and holds considerable moisture. Rating the crop at 20 tons to the acre and the sugar content at 8 per cent., we have 12,000 tons of beets and nearly 1,000 tons of sugar. Counting 3c per ℔. profit, which is safe, we have $60,000 profit on an investment of $125,000.

The experience of one season gives assurance that our figures will not vary much from realization. Let it be understood that out friends at Alvarado are perfect masters of sugar-making. From the word "go," there has been no balk and no mistake in the working of their sugarie; and no sugar in the world excels theirs in public favor or in market valuation.

Between crops, the Alvarado sugarie is not idle. With small outlay, it has been temporarily converted into a refinery of crude imported sugar. That product is now in market and it is not excelled by any rivalry.

It may be mentioned that the Alvarado company is preparing to use Prof. Partz's economic plan for making sugar and for refining. Should this process prove a success, it will revolutionize the process and add to the glory of California invention.

The prospects for beets, at the Sacramento Sugar company's plantation, are not flattering. The Northers have so cut down the young plants that we are informed the company has abandoned 200 acres to other purposes. It is not known whether the company will put up sugar works this year or not; but Herr Ernstein, the German Superintendent, is here in consultation.

MACHINERY FOR THE CALIFORNIA SILK MANUFACTURING COMPANY.—Two car loads of machinery for the factory of this company, were dispatched from Jersey City on the 15th of April, and should now be due at San Francisco. When the machinery shall be in place, and the factory in operation, our silk husbandmen throughout the State will have a market for their cocoon silk. The investment of stock in this company will probably become valuable, and before the stock commands a premium, it would be prudence to invest. We cordially recommend this foundation enterprise of silk manufacturing, which from the first has presented a business air about the characteristics of its organization. With such men as President Ellsworth, Henry F. Williams, Messrs. Pillsbury and Rosekrans as Trustees, and J. D. Johnston as Secretary, it ought to prosper.

TOO AMBITIOUS.—A well known agricultural writer thinks that the great trouble with many farmers is that they are too ambitious to get rich at once; buy a large farm, get in debt for material and labor, are compelled to sell at a bad stage of the market, or when other work needs their attention, and, if they do not fail, they have one continual struggle for existence. Had they been content to operate with their own capital and labor, they would have gradually risen to a higher position. No wonder that we have a close money market in the country, and the rural population complain of hard times—hard times that this system of bad management will always insure.

THE BENICIA SEMINARY for young ladies is one of the most complete, excellent and popular institutions of the kind. It has existed and flourished for twenty years, and has even the highest reputation. Having the courses of study and the modes of instruction carefully adapted to the pupils and regulated to satisfy the demands of the best modern culture, its success is perfectly natural. The new session will commence on July 26th. Rev. C. H. Pope, of Benicia, is the proper person to address.

## The Silk Eggs from Japan.

The 130,000 cards of silkworm eggs sent to this market from Japan, leave a record that will not invite further consignments. Here there is no market. We have a surplus of our own without an export demand.

One of our mulberry planters made a considerable shipment to Europe as a venture, of which we have yet no returns. The disturbed condition of France forbids hope in that direction. Italy wants eggs; but our supplies have not yet any standard reputation. Success has not been uniform. Japanese eggs, though vouched for by the seals of that government, are not true to their labels. We have yet no reliable means of retarding the hatching of eggs till leaf time.

As a rule, our home supply has begun to hatch this year, prematurely; and the French annuals, which make the best cocoons, have proved unhealthy in many localities. Italian experts say this is due to defective management in the nurseries where the worms are hatched. New comers from Italy, who have taken on rental many of our cocoons, have selected the French annuals, confident of success under their treatment, which consists in having hatching houses outside of the cocoonery, provided with open fire-places and means for keeping an even temperature—say 70° Fah. These Italians come here expressly to raise eggs for the silk-growers of Italy.

This review of our market, and that of Europe, is necessary to understand the hopeless venture of consignments from Japan, especially in April, and in closely packed boxes. In the center, the heat hatched the worms. This rendered necessary a review and repacking. But the central heat spread throughout, and certainly hastened the ripening of others and made it imprudent to ship them at this time of the year. Nevertheless, after much use of the telegraph, some parties in New York were found to risk a shipment hence overland and thence to Europe. If any eggs arrive there in the latter end of May, in this year or in any other year thereafter, in sound condition, the age of miracles is not past. A large portion of the whole consignment was thus disposed of. The balance, consisting of some 10,000 pounds in weight of cards, was sold as waste paper to Mr. S. P. Taylor, for paper making.

Of those sent overland, some cards suffered by leakage of rain through the cars. These will probably find the best market, if the damages claimed be realized.

It is a sad ending of an invoice, which, but for the French war, would have sold in Japan for $500,000.

CHANGE IN THE WOOL TRADE.—Heretofore nearly all the wool exported from this coast has passed through San Francisco, our business men here making all the commissions and profits of the trade. The labor of assorting, pressing and baleing was all done here. Since wool has been shipped East, by rail, this trade has been undergoing some changes, and Sacramento is dividing it with San Francisco. Sacramento has already, this year, pressed and shipped direct, over 100,000 pounds, and there is now on hand at that place, and being pressed, 100,000 pounds more. It is said that about one-half the wool of the State can be collected at, and shipped from Sacramento more economically than from San Francisco; thus saving the expense of freight to and from this city.

FASTEST TIME ON RECORD. — Eugene West of Sacramento, rode one hundred miles, in four hours and thirty-four minutes, one day last week, at the Park race course in Sacramento. Some fifteen or twenty horses, mustangs, were rode during the progress of the match. West advertised to make the 100 miles in fours and fifteen minutes.

## Gold Medals.

In addition to the large amount of cash premiums to be distributed among the exhibitors at the approaching State Fair, we notice that there are seven gold medals, and a large amount of silver medals to be competed for. The gold medals are offered as sweepstakes,—one in each of the seven departments into which the exhibition is divided. To make this more plain, we will give the classification.

First department, Live Stock. Second, Machinery, Implements, etc. Third, Textile Fabrics—including mill and domestic products. Fourth, Mechanical Products. Fifth, Agricultural Products. Sixth, Horticultural Products—fruits, flowers, etc. Seventh, Fine Arts, etc. Now in the first department, when competing for the ordinary premiums, the horses are divided up into classes as thoroughbreds, draft horses, etc., and individual animals in each class compete against each other for the ordinary premiums offered in each particular class. The same with cattle, sheep, goats, hogs and poultry.

When, however, the gold medal is to be competed for, all the animals exhibited by any one individual are placed in competition with all exhibited by any other individual, or the flock of sheep, or herd of cattle exhibited by any one person are placed in competition with the flock of sheep or herd of cattle or with the stable of horses exhibited by any other person. So with all the other departments. The *exhibition* of one person, being pitted against the *exhibition* of each and every other person in the same department.

The questions to be decided by the judges is, which exhibition in each of the several departments is the most *meritorious*. To decide the question of *merit* the judges are allowed the greatest scope of argument and consideration. Whatever legitimately goes to add merit to any exhibition—whether the intrinsic value of the exhibition itself—the influence the animal or article exhibited has or will have in improving the stock of the State, or in developing the resources or adding to the aggregate wealth of the State, or the energy, enterprise, or patriotism of the exhibitors as manifested in the exhibition—each and all of these and thousands of other questions are properly taken into consideration by the judges in fixing upon the relative degree of merit to which any exhibition may be entitled.

It has been the custom heretofore for the judges to require the claimants for the gold medal of any department to file statements setting forth the claims of merit upon which they rely, and this custom will undoubtedly be adhered to at the coming Fair. The committee of judges to award the gold medals consists of one person for each department making seven in all, and they are appointed with direct reference to their competency, honesty, and integrity, so that strict impartiality may be relied on by all exhibitors. The actual value of the medal is about fifty dollars, but it is not the actual value for which competitors desire to obtain it. It is the name, the *honor* that is attached to it.

It is indeed an honor to be one of seven, in a new and prosperous State like ours, to win the distinction of having made the meritorious exhibition where all the industries of the State are brought into competition. It is worthy the ambition of any citizen and more creditable to the winner than to gain high political position.

EGGS, NOT COCOONS.—The car load of California cocoons, which the telegraph reports as having reached New York a few days since from this city, was the Japanese silk-worm eggs, elsewhere noticed as having recently been shipped from this city.

## Lessons From the Drouth.

Wm. R. Olden, Anaheim, furnishes through E. F. Northam, to the *Alta*, the following account of some interesting and instructive experiments made by him the past season, the results of which afford a most convincing proof of the beneficial effects of deep and thorough cultivation, as the best means of avoiding the disastrous consequences of a severe drouth, in the absence of any means for artificial irrigation, when permanent moisture can be found in the subsoil, at any reasonable depth below the surface. We quote as follows:—"All that is required is to pulverize the crust that overlays this moist subsoil, and the upward flow of moisture is steady and abundant. In proof of this, my grain came up promptly and has grown steadily, and has apparently been entirely unaffected by the very unfavorable weather of the past winter and spring. Three times it has been prostrated by the furious gales that devastated the whole state, but in two days it was erect and growing as vigorously as ever. Neither sun nor wind can dry out my subsoiled land any more than they can my well; both are supplied from an unfailing source.

The specimens that I send to you [specimens of rye and barley were sent, just four months from the seed,] will fully illustrate the effects of good culture. The best is from ground ploughed and subsoiled two feet deep; the next best, from 12-inch ploughing: and the worst, from 3-inch scarifying, according to the most approved method of our *agriscratchural* community. As these specimens are taken from contiguous spots, and from precisely the same kind of soil, it is sufficiently evident that the failure of the crop is not owing either to the soil or climate, but simply to the insufficiency of cultivation.

I can force the soil of this valley to yield a crop without one drop of rain, and without irrigation. My crop is the best I have seen in this county, irrigated or otherwise, and the best of it as good as I have seen in the best of seasons. With a steam plough I could have had a crop of 500 instead of 50 acres, equal to my best, which I think will yield 40 sacks per acre. When the grain has ripened, I will send you a specimen, if you desire it.

I think the specimen of barley from 12-inch ploughed land will be hard to beat, either for the vigor of its growth or the size of its heads. I think the rye from the 12-inch ground will yield quite as much grain as the subsoiled—the heads are as large and numerous and the straw is shorter which is no disadvantage.

The following is a list, referred to above, of specimens of rye and barley from Wm. R. Olden, of Stearn's rancho, Anaheim, Los Angeles county, four months from seed, not irrigated:

Rye on land scratched 3 inches deep, 2½ feet high.

Rye on land ploughed 6 inches deep, 3 feet high.

Rye on land ploughed 12 inches deep, full head and heavy, 5 feet high.

Rye on land ploughed and subsoiled 2 feet deep, full head and heavy, 6½ feet high.

Barley on land ploughed 12 inches deep, full head and heavy, 4 feet high.

The locality of the above experiments was at the Aneheim settlement on the "Stearns Rancho,"— a sandy loam, where the moisture is said to be found at a moderate depth (how deep we are not told), below the surface. Will some of our Los Angeles corespondents give us more precise information with regard to the character of this soil and the depth at which permanent moisture may be found.

### Early Sowing as well as Deep Plowing Necessary.

The last California *Horticulturist*, in the course of an article upon the agricultural prospects of the State uses the following language, which is especially pertinent in connection with the above:—

We have seen various districts, and have received information from many others, and we have come to the conclusion that one-half of the crops were ploughed and sown too late, and there is no doubt that while early sown crops would have matured well even with less rain, the late sown crops would have suffered terribly if the late rains had not come just in time. So often as it has been repeated that deep ploughing and early sowing and planting are our only safeguards against drouth, yet there are some who still advocate shallow plowing and others who always manage to be behind time. We hope, most sincerely, that our farmers will open their eyes and ears and recognize *deep plowing and early planting and sowing* as one of the chief elements of success, and the result will not be anxiety and fear if the rain does not come exactly when it is wanted.

The above are views which we have already urged, through the PACIFIC RURAL PRESS, and which have been repeatedly presented through the columns of the SCIENTIFIC PRESS, during several years past; and it is with pleasure that we see the press generally, throughout the State urging the same upon the attention of farmers.

If the present season shall have the effect to convince farmers of the necessity of a radical change in our principles of husbandry, the disaster that is now upon us may in the end prove of positive benefit rather than injury. We must look largely to irrigation in certain districts; deep plowing and artificial dressing almost everywhere; thorough pulverization of the soil, summer fallowing more or less often, and rotation of crops, with mixed husbandry, everywhere.

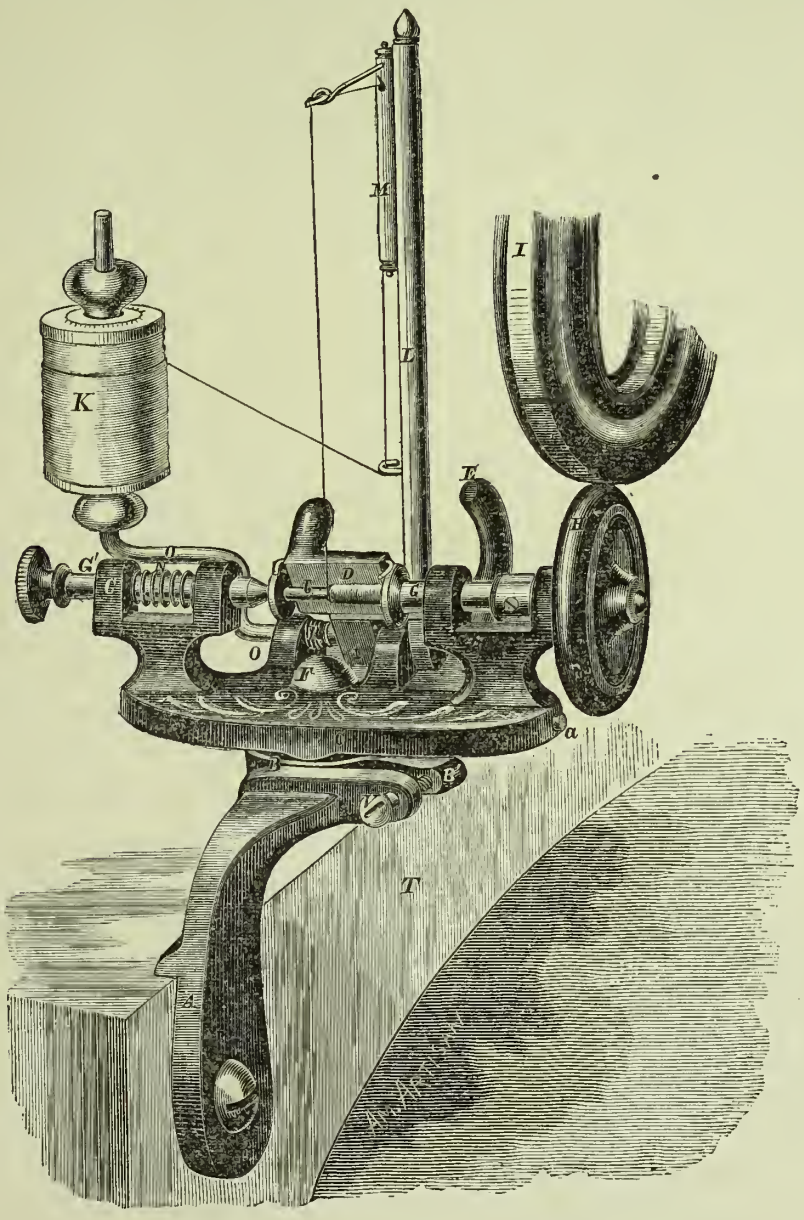
More attention must also be paid to reclaiming and cultivating our tule land, where moisture can always be reached by deep plowing, and the bottom lands near the foot-hills of the Sierra Nevada, where experience has ever shown that the rain fall is much greater than in our large valleys.

### Sensible Advice.

The Santa Clara *Agriculturist*, in alluding to our present failure of crops, gives the following sensible advice:—

While we reorganize the real condition of things, we have too much faith in facts to despond. Though our seasons are variable, our success in farming may be sure. By inaugurating and following a thoroughly practical and economical system of culture, we may be sure of success in any season. The blind and reckless chance-taking farming, so usually practiced, may win once or twice in a decade of years, but it is generally ruinous. If any farmer will summer-fallow his land every third season, plowing it deeply, and thoroughly pulverizing it two or three times, and cultivate well for crops, he may be sure of escaping the worst seasons of drouth, while the extra yield of produce will surely pay for all extra labor. This system once under headway—one-third in fallow, and two-thirds in crop each year—and it will never be abandoned for a thriftless skimming of the soil, for a short crop of grain amidst filthy weeds. During seasons of abundant rains, and also where irrigation is practical, a slacker cultivation may be followed. But, to succeed on uplands in seasons like the present and past year, requires such a treatment of the soil as shall accumulate and retain, for the use of plants, all the water afforded by rains, and also such cultivation as will leave the soil in a friable condition, the most conducive to the deep rooting and rapid growth of plants. There is no mystery in this matter. It only requires a proper understanding of things in their true conditions; and just the most natural treatment to subserve the purposes required.

We propose to treat upon this important subject again, and to give data from practical experience.




PALMER'S AUTOMATIC BOBBIN-WINDER FOR SEWING MACHINES.

## Automatic Bobbin-Winder for Sewing Machines.

Persons using shuttle sewing-machines have experienced great inconvenience in winding the thread on the shuttle-bobbins. There is considerable loss of time in performing the winding by the winders commonly provided, and much difficulty in winding the thread with that degree of uniformity which is desirable in order to obtain a uniform tension of the under thread, and make a tight and even stitch. The object of the winder represented in the accompanying engraving is to obviate the above inconvenience and difficulty; and besides accomplishing this it enables a larger quantity of thread to be wound upon a bobbin, and the operator is therefore not so often required to change the bobbin. The device is simple, and can be attached to any shuttle sewing-machine without requiring any alteration of the machine. It is the invention of Mr. C. H. Palmer, of New York. The description is taken from the *Amer. Artisan.*

The engraving gives a front view in perspective. *A* is a bracket by which the winder is attached to the side of the sewing-machine table, *T*. *C* is a small frame which carries all the working parts, pivoted to the bracket, *A*, by a pin, *F*, and having interposed between it and the top of the bracket, *A*, a circular disk, *B*, having a projection, *B'*, on one side, which is impinged upon by a set-screw, *V*, screwing through the bracket for the purpose of regulating the extent of motion of the frame, *C*, on the pivot, *F*.

*G*, *G'*, are two spindles arranged in line to center the bobbin and hold it in position; both supported in bearings on the plate, *C*. The spindle, *G'*, is movable endwise, to allow the bobbin to be put between it and *G*, and is held up to the bobbin by means of a spiral spring, *N*. The spindle, *G*, is so constructed with pins to enter holes in the head of the bobbin as to compel the bobbin to turn with it when the said spindle is driven by the contact of the driving-wheel, *I*, of the sewing machine, with the friction-wheel, *H*, on the said spindle.

Behind the spindles, *G*, *G'*, there is arranged in bearings on the frame, *C*, a horizontal oscillating shaft, *O*, which has one end turned upward to carry the spool, *K*. This shaft has firmly secured to it a pressure-lever, *D*, the face of which is caused by a spiral spring, *R*, to press upon the thread that is wound upon the bobbin, *J*. Below the spindle, *G*, is situated the fulcrum-pin, *a*, of a cam trip-lever, having on one side of its heel a spur, not visible, which acts upon a projection on the heel of the pressure-lever. The toe of this cam-lever bears against the back of the projection, *B'*, on the disk, *B*. In a recess surrounding the pivot, *F*, and between the frame, *C*, and disk, *B*, there is a spiral spring, not shown, which turns the said frame in such manner as to throw the friction-wheel, *H*, out of contact with the driving-wheel, *I*, when it is not locked in contact therewith by the action of the toe of the cam trip-lever against the projection, *B'*, of the disk, *B*.

The thread passes from the spool, *K*, through guides attached to an upright spindle, *L*, and thence through an eye in the end of a crane-like leading arm, *M*, which is secured to the said spindle, and thence to the bobbin, *J*. The leading arm is free to swing to and fro over the length of the bobbin, its motion depending simply upon the impinging of the thread against itself as it is being wound upon the bobbin.

To operate the winder, after the end of the thread has been attached to the bobbin, *J*, and the bobbin put in place, the cam trip-lever, *E*, is pushed back until the spur on its heel passes under the projection on the heel of the pressure-lever, *D*. The frame, *C*, and attached working parts of the winder are thus caused to turn upon the center pivot, *F*, by the action of the toe of the cam-lever against the projection, *B'*, and thus to bring the friction-wheel, *H*, into contact with the driving-wheel, *I*, of the sewing-machine, and lock the frame, *C*, with the wheel in that position, while the spiral spring, *R*, causes the pressure-lever, *D*, to press against the bobbin. The rotary motion of the driving wheel, *I*, then produces the rotary motion of the spindle, *G*, and of the bobbin, and as the thread is thereby wound upon the latter, the leading arm, *M*, moves back and forth with exact regularity, its motion being regulated by the thickness of the thread. As the bobbin gradually fills, the thread steadily lifts the pressure-lever, *D*, and by the time it is filled the said lever has been lifted up so far as to let the projection on its heel pass the spur on the heel of the trip-lever, *E*, and so unlock the latter, when the frame, *C*, is instantly turned by the spring before mentioned as arranged around the center pivot, *F*, and the friction-wheel, *H*, being thus thrown out of contact with the wheel, *I*, the winding is thereby automatically arrested.

The automatic stoppage when the bobbin is full enables the winding to be performed while the sewing is going on, thus saving the operator's time. Then again the larger quantity of thread—about one-third more—that can be wound on a spool by this winder effects a further saving of time by making the necessity for changing the bobbin less frequent.

BY OUR LADY EDITORS.

## Aunt Mary's Gems.

BY NELL VAN.

"Delia," said my aunt Mary, "would you mind stepping out of your way as you go home, to carry a few of these "gems" to old Mr. Wilcox? In my opinion he is in a very critical state of health, caused without doubt, by his mode of diet. His wife, good soul, thinks she is doing him a kindness by pandering to his morbid appetite for strong coffee and soda biscuits. She cannot be persuaded that his dyspepsia is fed by just such poisons; and that she is in a measure responsible for the conditions under which he is suffering.

As I sat at their hospitable board a short time ago, eating sparingly of the numerous viands so temptingly spread before me, my eyes wandered to the gaunt form, with the narrow chest and hollow cheeks. The pale blue eye with such a helpless expression told the whole story. In my heart I pitied the man who preferred, as he said, 'to live while he did live,' vainly imagining that he enjoyed, what in his healthy boyhood he had such a keen relish for; fortunate indeed that his appetite craved no more, for he ate but little. My stomach, accustomed to simple food, rebelled against the intrusion, and made me uncomfortable for the next 24 hours. Thought I, does Nancy Wilcox realize the extent of the injury she is doing, by thus forcing those who sit at her table to fill their systems with poisons? Somebody's uncle Toby speaks facetiously of the delightful little sensation kicked up in the stomach by the effervescence of the alkali and buttermilk used in forming soda biscuits. I can imagine that the skillful preparations of that most thrifty hand-maiden of the mountains, where buttermilk abounds, must be appetizing in the extreme. Her careful study of the "Philosophy of Eating" (which should indeed be every woman's companion) doubtless prevents her from using an undue proportion of soda; therefore, beyond the creation of alcohol, and consequent loss of bone and muscle-forming elements, which can be substituted, it is said by lean meat, cheese, etc., her little plan for tickling the palate brings about no very serious results.

Going over to spend the day with Nancy last week, I carried with me a few gems, and when we sat at the table I laid them on a plate beside me, resolving to fortify myself against the temptation of fine flour and soda. A sickly laugh from the old gentleman drew a smile from Nancy, who was too generous to take offense at what she terms my eccentricities. So I passed the plate over and urged them each to try one. As I have said before, Delia, I *do* pride myself on my plain cooking, but my graham gems bear off the palm and their praise is in every one's mouth."

"And did he take one aunt?" enquired I, deeply interested. "Yes, indeed," said aunt Mary, and in a few minutes he said, "I'm sorry to rob you, aunt Mary, but I believe I'll try another of those gems. Nancy, here, cannot make them without buttermilk, though she did once or twice try her hand at the thin crisps, but could not begin to bake them fast enough to supply the family, so concluded she did not like the extra trouble. "Are you sure, dear aunt Mary, he was not praising your gems just to flatter you?" "As to that I cannot say, Delia, all I know is he punished both himself and me by monopolizing all that the plate contained. I enjoyed the hearty reception they met with from my dyspeptic friend. His system is in such a wretched condition that I doubt if anything can really cure him, still by cultivating a taste for simple food he will have a healthier appetite and thus give Nature a chance to throw off impurities.

It is an acknowledged fact that drugs given for one form of disease effect a cure by creating another, for instance the homeopathic preparation of aconite, which is thought by many, so indispensable in cases of fever, is found to lessen the action of the heart, thus quieting Nature's voice, which upon the slightest provocation gives the alarm and cries out for rest and cooling elements. Now it seems to me, that impure food, by clogging the system, acts like drugs, and fosters disease.

I have known sensible people, who, suffering from eating too freely of fruit, instead of refraining, and allowing the system rest, eat cheese to counteract the effects. Now any thoughtful person can imagine the result of such a course of proceeding. In the case of common colds, which in the outset are so easily cured by keeping the extremities warm and the pores of the skin open, we daily see the seeds of consumption sown. A physician of considerable experience says that any kind of food which will cause the deposit of fat or adipose tissue in the system, will prevent the approach of consumption. Therefore, my dear Delia, we cooks have heavy responsibilities resting upon us. By our culinary preparations we can predispose children to disease, or prevent the approach of that dread enemy consumption. Should we not then seek to obtain a wider knowledge of the action of all kinds of food on the living organism?

A few days ago old Mr. Wilcox came over here, and while chatting, he suddenly burst out with—"Well, aunt Mary, give me one or two of your gems before I go, if you have any handy. Nancy has promised to try her hand at them again, but she thinks she can't make them, so they won't flatten out and be clammy when they are cold." You may be sure I gave the old man all he would carry away, and promised to send them to him from time to time. Sometimes the neighbors' children come in at meal time and seeing the dish of gems, faintly whisper to one of the children, "can't I have one," till I begin to think it would be doing a real service to humanity to engage to supply the neighborhood with hot gems for breakfast.

I laughingly told Mrs. Jones the other day that the reason I had such capital luck in baking them was because my stove is a "peace maker," and the food cooked thereon acquired peaceable qualities, which aided the digestion. But she quizzically enquired if soda biscuit might not lose a portion of their unwholesomeness by being baked in that peace-giving atmosphere.

There, now, run along with the gems, you always have the faculty of drawing me out on these health subjects till I find myself growing more alive to the importance of the theme. If the women would establish a club where they could meet to discuss the important question of food, and exchange the results of their experiences and the effects of different kinds upon certain temperaments, just as the farmers, in *their* club discuss the qualities of different kinds of feed for their stock, what a vast amount of good might be accomplished! How many might be thus prevented from becoming hopeless invalids and be able to acknowledge that without health, half of the enjoyments of this life are lost."

## A Chapter for the Month.

BY MRS. F. H. MCDOUGAL.

[Written for the PRESS.]

Spirit of poesy, of love and beauty, ever welcome art thou; and we hail the period of thy coming as one of the brightest passages in the calendar of Time. Thy mantle is wrought with all the hues of unnumbered blossoms; and its floating folds are gathered in a zone of the brightest emeralds; dew drops, purer than orient pearls, begem thy sandals; and the conscious earth, when it feels the pressure of thy gliding foot, wakes in the renewed beauty of leaf, bud and flower. The rains of April foretold thy coming; and the gentle southern breezes, as they went over the sunny slopes, whispered thy name to a thousand buds of beauty; and as the tall Oak bent to catch the sweet syllable, he donned his own tiara, and his imperial mantle, bordered with crimson fringes, and made himself ready for the fairest holiday of the year.

The chaparral has nearly thrown aside its mantle of snowy blossoms, which but lately waved along the hillsides, like drifts of living snow; but the eschscholtzia in its bright golden glory, and lupines, violets, purple and white, make every nook and niche of the hills gorgeous with their wanton waste of beauty. The golden cups of coreopsis cover the fields producing in the early twilight the glow of an indescribable glory; and hundreds of unnamed beauties vie with our old favorites of the field.

A thousand birds of brilliant feathers and sweet song, gem the air with life and beauty, and make both day and night musical. The orioles, the jays, the blackbirds now appear in their richest robes; and the mocking bird, hardly inferior to his musical cousin of the Southern States, marks the midnight, and ushers in the dawn with songs of plaintive sweetness and notes of power.

The labors of the husbandman, for the spring, are nearly or quite closed; but the whistle of the jocund plowman who is preparing the soil for another year, comes over the fields with an exhilirating consciousness of liberty and happiness; and the listener feels within himself the assurance that the free laborer is not only a useful, but an exalted being. Yet to the condition of freedom there are other requisites than the mere negative one, implied in the absence of external restraint. To be *truly free* a man must only be unsubjected to any foreign influence; but all that he is, and all that he is capable of being, must be developed without restraint. To this end, he must first know the soul within himself, or, rather, which *is* himself—its tendencies and relations with the external world, and with the Divine Source.

Thus shall his whole nature be as a lyre, with all its chords in unison, among which the fingers of the Divinity are ever moving, with a power to awaken different strains, indeed; but all truthful, all harmonious. That this is not the condition of human society, at the present time, we have daily most melancholy evidence. How, then, does man lose this condition, but by first losing the consciousness that he is Man? By this I do not mean the no-wise exalting sense of mere animal force. But I do mean the conscious possession of intellect of a nature allied to that of God—of a soul, to whose interminable period, of being, myriads of ages would be but as the measure of a moment.

Who could reflect on these high attributes, and feel the possession of them—or even the right to possess them—without perceiving that to be a *true man* is to be inferior only to God. This self-knowledge is the true philosopher's stone, which transmits all things to gold—it is, in fact, the title deed to the wealth of the universe; and when this is recognized, the Millennium will have come. Then will Nature be no longer a sealed book, written in unknown characters; but it will be an open volume, infinite in extent, infinite in beauty, yet all plain and clear to every man, as if its teachings were in his own mother tongue.

The Ancients, from time immemorial, celebrated the victory of the Sun, the Leader of the Powers of Light, on the first day of May; as it was supposed that the potent Luminary, or Gods were then fairly in the ascendant, having overcome and risen above the Powers of Darkness.

### Canzonet to May.

Crowned with garlands, rainbow bright
Nature hails the Powers of Light;
For each quick and kindling ray
Feels thy power, and owns thy sway,
Beautiful May!

Thou art sunny, sweet and calm,
Waking buds and breathing balm;
Gliding on from day to day,
Trailing blossoms all the way,
Beautiful May!

Birds of richest, rarest song,
Now their gladdening strains prolong,
With many a sweet, inspiring lay,
They sing thy praises day by day,
Beautiful May!

Now the bright and festal hours,
Garlanded and crowned with flowers,
Call the dancers, young and gay,
To commemorate thy day,
Beautiful May!

Birds may flit on careless wing,
Happy children shout and sing;
Still innocent where'er they stray,
So shall they keep thy bloom alway,
Beautiful May!

HELPING WOMEN TO HELP THEMSELVES. Miss Anna Phelps and some 2,000 other women have petitioned the legislature of Massachusetts to purchase in the neighborhood of Boston a tract of good cultivated land, to be laid out in lots of from half an acre to five acres, with houses on each, to be leased to the poor working women of Boston, to whom the State will be willing to furnish rations, seeds, and instructions in gardening until they would be able to raise their own food and otherwise become self-supporting, the payment of rent to be commenced on the third year, and to be so applied that each woman would eventually pay for the estate, in the way of rent, and become its possessor.

LOW-NECKED DRESSES are again in vogue at balls and evening parties. Consumption is also on the increase.

## YOUNG FOLKS' COLUMN.

### Talk with the Boys.—No. 3.

[Written for the PRESS.]

In our last talk I spoke of the enemies of plants. Insect enemies are numerous. Some of these can easily be seen with the unassisted eye, but others require the aid of magnifying glasses, and still others require the aid of a powerful microscope.

You may think that such small insects could do but little damage. One of them or a hundred of them, merely, could do but little harm, it is true; but millions of them come quickly from a few, and millions can destroy valuable crops. If we would be safe from these enemies we must study their nature and habits. Man conquers animals many times stronger and fleeter than himself by his superior knowledge. So he can conquer these infinitely small, yet infinitely numerous insect enemies by his knowledge.

Some of the moths fly in the night, and a good bonfire, just at the right time, would destroy thousands of them. Others can be caught by poisoned food placed near a light at night. Some are best subdued in the egg, others in the larva or caterpillar state, others while in the pupa or chrysalis state.

The object of these lessons is not so much to tell you all about how to meet and destroy each of these enemies by name, as to incite you to a study of the nature and habits of those most likely to do you harm or afford you pleasure. To lead you to watch carefully all your trees and plants, to discover the first sign of the presence of these enemies, to patiently follow up these studies till you have a practical knowledge of the best methods of managing each and all.

Several of the States have each appointed a man to study their insects. He is styled "State Entomologist." It has been suggested that the State of California ought to have such an officer. But what can one man do in such a State as ours—700 miles long—with every variety of climate of all the zones? Our insects must be far different from those where there are no rainless months. The State officer could collect information from all parts, gather and put into shape the results of observation and experience of other men, direct as to the best methods of investigation and observation, call attention to particular insects at particular times, and thus do great service to the agricultural interests of this State.

But the most valuable results must follow intelligent and careful study by all of our boy farmers; I call upon you, then, to join your efforts with those of scientific men. Enter earnestly upon the study of all these smaller enemies of our craft Do this systematically as well as earnestly. Keep a record of what you do. Note the day and the month when you first observe anything new. Put down the date with the result of each observation and experiment.

You do not know the true names of the various insects. Never mind that now. You can learn them by and by. Put down the names common in your neighborhood, with the best description you can give of their appearance and habits, and we can understand you when we come to compare notes.

There ought to be found in every township in California some energetic boy who would do such study, and make such record. His notes, if carefully kept, two or three years, will be found valuable, and he will become the most successful cultivator in his neighborhood. Who among the readers of the PRESS will do this work?

JEIGH ARRH.

"MAMMA" said little Jane "when I grow up a big lady will I have to marry some one and promise to love and obey him always, just as Aunt Julia did? If so, I don't want to grow up. How do I know whether I can always love him or not? There's Netty Green, who I loved to death last month, and I can't bear her now because she said something about one of the girls, that I did not like. And how can a body love a man who comes home drunk at night and frightens his little children, as old Sam Hunter does, and calls them little 'skalliwags', and tells his wife to "scatter and get the grub quick." I should think it would be awful hard to promise to love such a man and then have to keep the promise."

# DOMESTIC ECONOMY.

## Hints for Housekeepers.

One of the highest and most important duties of the housekeeper is to preserve the health of her household, and to do this she must carefully study the methods by which food can be made palatable, without being too rich for the stomach. In the first place avoid frying; broil your steaks and chops invariably. Cook vegetables so that they will retain their natural flavor; do not drown them in melted butter, which is one of the most indigestible and unhealthy ingredients. If one portion of a dish of vegetables be boiled in pure water and the other in water to which a little salt has been added, the latter will be found better flavored and more tender; if potatoes, they will be mealy. Onions are especially improved by being cooked in salt water. Their rankness of odor and flavor being mitigated or modified by this process. Green peas and shelled beans should be boiled in soft water. Hard water may be made soft by the addition of soda. If potatoes boil too rapidly they are apt to fall to pieces, which spoils the appearance of them on the table. Many sorts of potatoes are liable to this defect, even when all the care possible has been taken. When this occurs remove the pot from the fire about ten minutes before they are done, and let them stay on the stove until cooked. In this way the most untractable potatoes may be rendered sightly and boiled without breaking. Avoid the common error of using so many eggs as to make pastry, pudding, etc., tough instead of light. When you see six, eight or ten eggs put down in a receipt for an ordinary sized pudding or cake (unless it is a rich plum cake or pudding), make up your mind the receipt is a bad one, and should not be followed.

How to Utilize Stale Bread.—Soak the bread in cold water. When soft, pour the water off; then to each quart of bread add a pint of flour. Stir into a batter and bake like buckwheat cakes.

Good Hams.—After hams have been smoked take them down and rub the flesh part with molasses, then immediately apply ground and powdered pepper, by sprinkling on as much as will stick to the molasses when they must be hung up again to dry. Hams treated in this manner will keep perfectly sweet for two or three years. This must be done before the fly deposits its eggs, for after this is done nothing will stop their ravages. Try this plan if you want good sweet hams.

## To Prepare Lambskins for Ladies' Overcoats.

A correspondent of the New York *Tribune* gives the following process for preparing lambskins for clothing material:—"Make a strong suds with hot water; let it get cold and wash the skins, squeezing them carefully to get out all the dirt from the wool; wash the soap out with clean, cold water, and cover them with water for twelve hours; hang them over a pole to drain; when partially dry, stretch them carefully on a board, and when a little damp, sprinkle on them an ounce each of pulverized saltpetre and alum; lay the flesh sides together, and hang in the shade for two or three days, turning them over every day to bring the under skin uppermost, till they are perfectly dry; then scrape the flesh side till all scraps of flesh are removed; rub with pumice or rotten stone and with the hands; then lay the cloak pattern down on the flesh side of the skin, trace it round with a pencil, and cut it out with a sharp knife; overcast the edges together on the wrong side, and line with quilted silk. No collar, fur, or trimmings, is worn with an astrachan or lambskin cloak."

Cotswold, Leicester and other long-wool pelts, prepared in this way, and lined and trimmed with some bright material, will be found comfortable, and quite useful in almost every household.

Girls and Butter.—Mrs. D. B. Long lately read an essay before the Kansas farmers' club on the making of Butter, in which she "hit the nail on the head" by saying—"Girls must educate themselves for these duties if they expect to make successful housekeepers and always have a good article of butter on their tables, as everybody, ought to have. It is always relished better by the guests if they understand that the hostess manufactures it herself."

## Beans without Pork.

The usual way people cook beans is to parboil them; put them in a kettle or pan, and set them in the oven with a chunk of fat pork in them. The grease bakes out into the beans, making a most unwholesome and indigestible mess, destroying all the good flavor of the beans. Now, a method for cooking them recommended by a correspondent of the *Rural New Yorker* is as follows: Parboil as usual, putting in salt to suit the taste. Then put them in a pan and set in the oven to bake, putting in a piece of good, sweet butter. Bake until tender and nicely browned over on top. Beans are very nutritious; and cooked in this way are palatable, digestible, and can be eaten by any one.

### Beans with Pork.

If you insist on having pork with your beans, the best way to cook them is as follows:—Pick over a quart of beans, put them to soak over night. Put them to boil next morning, throwing off the water just before boiling point. Cover with cold water again, put in a square pound of nice, sweet, salt pork, and let them both boil together till the beans are tender. When the beans are done, the water should have all become absorbed; they are then put in one pan to brown, and the pork in another, scoring the latter first, through the skin. Before serving, set the pork in the center of the beans. Serve with pickles and horse-radish.

## Utilizing Sorghum Seed.

A correspondent of the *Rural World* has been utilizing the *seed* of the sorghum, the method of which he describes as follows:—We raised, as usual, a small patch of sorghum the past year (a yellow seeded variety); it made a very fine quality of syrup, and the seed has proved, when ground and bolted, to make a good article of flour for pancakes. We were led to the experiment by a neighbor who sent us a few quarts of the flour. When properly raised and baked they are equal to buckwheat, and I think more easily digested. The flavor cannot well be improved; the cakes do not have the tough, feathery consistence of buckwheat cakes, and I cannot see why it (the flour from sorghum seed) should not become a common article of food. We had thrown it to the hogs heretofore, as soon as the seed was separated from the cane at the mill; this is but one of our heedless wastes of the bountiful productions of a kind Providence. How much better to carefully save the seed at the proper time and have it ground, when it will make an excellent slop for the cows or hogs; or cooked, will be fine for hogs or hens. I have no doubt but in the single State of Missouri there has been enough of this seed wasted in a single year, which, if saved and properly used, would have been many thousands of dollars to the producers.

Messrs. Editors:—The entrails in dressing sheep for mutton may cause the rank flavor, by tardy removal at the butcherie, as you quote from the *Agriculturist*. But the most successful mutton renders of Philadelphia say:—"Be careful, in skinning, not to permit the wooly side of the hide to have contact with the carcass, and the meat will never be rank. s.

Our correspondent makes an important suggestion, omitted by the writer in the *Agriculturist*. The fleece of the sheep contains about half its weight of a semi-viscid, oily substance, known as "yolk," to which is due the peculiarly unpleasant odor of sheep and unwashed wool. The slightest contact of the wool with the flesh, in the process of skinning, must leave upon it a small portion of this oil, the odor of which will be rapidly diffused over and through the flesh.

Hospitality.—To press people to eat more than they wish is vulgar hospitality.

Excess of ceremony shows want of good breeding. That civility is best which excludes all superfluous ceremony.

When invited to partake of another's hospitality, and the invitation is accepted, be punctual in meeting the engagement. If unforeseen circumstances prevent the engagement being kept, immediately notify the person by sending an explanatory note.

There is no social duty which the Supreme Lawgiver more strenuously urges than hospitality and kindness to strangers.

The perfection of hospitality entertainment is to offer the best to visitors; show a polite regard to their wishes; give precedence in all matters of comfort and convenience."

## Domestic Receipts.

Moths in Carpets may be conquered in this way: Take a coarse crash towel, and wring it out in clean water, and spread it smoothly on the carpet, then iron it dry, repeating the operation on all suspected places, and those least used. Then, by placing a few crumbs of sulphur under the edges of the carpet, the result is accomplished.

Mosquitoes.—A camphor bag hung in an open casement will prove an effectual barrier to their entrance. Camphorated spirits applied as perfume to the face and hands will prove an effectual preventive; but, when bitten, aromatic vinegar is the best antidote.

Coffee Cake.—Five cups of flour, one cup of made coffee, one cup sugar, half cup molasses, one cup of butter, one teaspoonful soda, two teaspoonfuls of cinnamon, one of cloves, raisins or currants.

## Approved Cosmetics.

### Glycerine Balsam.

This is designed to whiten and soften the skin, remove roughness, chaps, chilblains, and irritations from common causes.

| | |
|---|---|
| Take white wax (pure) | 1 ounce. |
| Spermaceti | 2 ounces. |
| Oil of Almonds | 9 " |

Melt together by a moderate heat in a glazed earthenware vessel, and add

| | |
|---|---|
| Glycerine (best) | 3 ounces. |
| Balsam of Peru | ½ ounce. |

The mixture is to be stirred until nearly cold, and then poured into pots. [Instead of balsam of Peru, 12 or 15 drops of ottar of rose may be employed.]

### Balsam of Honey.

| | |
|---|---|
| Take fine pale brandy | 4 ounces. |
| Glycerine | 1 ounce. |

Mix by a gentle heat; when cold add

| | |
|---|---|
| Alcohol | 1 ounce. |
| Essence of ambergres | 6 drops. |
| Citric acid | 3 drachms. |

This is intended to remove freckles and discolorations, as well as to improve the general appearance of the skin.

### Cold Cream.

| | |
|---|---|
| Take white wax, Spermaceti, Oil of almonds, of each | 1 ounce. |
| Oil of almonds | ¼ pint. |

Melt, pour the mixture into a Wedgewood mortar which has been heated by being immersed in hot water; add gradually

| | |
|---|---|
| Rose water | 4 fl. ounces. |

and stir until an emulsion is formed, and afterward until the whole is nearly cold. Put in pots. It may be perfumed with bergamot or lavender.—*Druggists' Circular.*

## Mechanical Hints.

Oiling Nails.—Every one knows the difficulty experienced in driving old nails into hard wood—it may not be so generally known that moistening the point with spittle or, better still, with oil, will enable one to drive them much more easily. Again, old nails soon become loose when driven into soft wood; this is caused by the rust which acts also upon the wood, rendering the fibre brittle or rotten. To prevent this, place the nails for a few minutes in hot grease, which will penetrate under the scales of the rust, and if the nail is soon after excluded from the air by being driven into wood, it will effectually arrest the rusting process, and it will hold as well as a new nail—moreover it drives much easier. Anything which is kept from the air may be preserved almost indefinitely. When nails are driven, it is economy to paint over their heads, when it will not pay to paint the whole surface—the paint excludes the air.

To Prevent the Cracking of Wooden Instruments.—Put them in a vessel of melted paraffine, and keep the temperature of boiling water until the air bubbles cease to escape from the pores of the wood. Then as soon as cooled, sufficient to handle, rub briskly, while yet warm, with a dry cloth.

To Clean a Gun.—First take the barrels off the stock; then take enough vinegar to fill the barrels, and heat it boiling hot; pour it into the barrels, and let it stand until it stops foaming over at the muzzle, letting some run through the tubes; then take the cleaning rod and rub the inside of the barrels; then take water, hot enough to warm the barrels, and rinse out until the water is perfectly clear; then, with the cleaning rod, wipe the gun out perfectly dry, after which put a little sweet oil on a bit of cloth, and rub on the barrels, both on the inside and outside, and your gun is clean. The vinegar removes all stains and smut, and the water and oil prevent it from rusting, or hurting the gun in any way.

# LIFE THOUGHTS.

A Blush is the complexion of virtue.

More men fail for want of energy than for want of ability.

The crown of all real manliness—of all Christian manliness, is purity.

See the sack open before you buy what is in it, for he who trades in the dark asks to be cheated.

Think before you speak, and you will never be mortified with yourself, nor cause a thrill to flush through the face of a friend.

He that can please nobody is not so much to be pitied as he that nobody can please.

One of the most important rules of the science of manners is an absolute silence in regard to yourself.

Have frank explanations with friends in cases of affronts. They sometimes save a perishing friendship; but secret discontent and mistrust always end badly.

Virtue.—Without virtue there can be no true happiness; but we want love joining with virtue to give us all the good which this world is capable of bestowing.

A Benevolent Heart.—The best heater to resist winter with is a benevolent heart. Those who have tried improved stoves and failed, will please to remember that a load of wood given to a poor person warms you almost as much as it does him. Try it.

Oaths are vulgar, senseless, offensive, impious; like obscene words they leave a noisome trail upon the lip, and a stamp of odium upon the soul. They are inexcusable. They gratify no sense, while they outrage taste and dignity.

Satisfy Your Conscience.—Seek not to please the world, but your own conscience. The man who has a feeling within him that he has done his duty upon every occasion, is far happier than he who hangs upon the smiles of the great or the still more fickle favors of the multitude.

## Life's Trials and Rewards.

Many persons are afraid of their trials. It would be wiser to fear their mercies. They are in more danger from their friends than from their enemies; from their comforts than from their crosses; from their health than their sickness. They often desire our prayers when they come into affliction, but they need them most when they are coming out of it, and are returning into scenes of danger and temptation again.

A holy life is made up of a number of small things. Little words, not eloquent speeches or sermons—little deeds, not miracles, nor battles, nor one great, heroic act or mighty martyrdom, make up the true Christian life.

Many men attend the Gospel to secure themselves reputation, business or friendship. This is trading in divine things. And what is the hope of the hypocrite, though he has gained, when God taketh away his soul?

Many there are who do not desire to be made whole, because being made whole would involve their losing their present position in society, they do not wish to part with their ungodly gains or wicked companions.

Earn Your Daily Bread.—Earn your comfort, earn your pleasure, earn your social blessings, earn your privileges as a citizen, earn everything you have by giving a fair equivalent for it. Be ashamed to hold anything that you have paid nothing for. Or, if you have been left property that you have paid nothing for, take it, and give an equivalent for it in the using.

Labor.—It is to labor, and to labor only, that man owes everything possessed of exchangeable value. Labor is the talisman that has raised him from the condition of the savage; that has changed the desert and the forest into cultivated fields; that has covered the earth with cities, and the ocean with ships; that has given us plenty, comfort and elegance, instead of want, misery and barbarism.

Great Minds.—Great minds had rather deserve contemporaneous applause, without obtaining it, than obtain, without deserving it; if it follow them, it is well; but they will not deviate to follow it. With inferior minds the reverse is observable; so that they can command the flattery of knaves while living, they care not for the execrations of honest men, when dead. Milton never aspired to present fame, nor even expected it; but (to use his own words) his high ambition was, "to leave something to after ages, so written that they should not willingly let it die." And Cato finely observed, he should much rather that posterity should inquire *why no statues* were erected to him than *why they were.*

## From Down the Coast.

[Written for the PRESS.]

San Antonio, Monterey Co., May 4, '71.

Since my last we have participated in the fall of rain noticed in the PRESS of the 29th ultimo; but unfortunately its good effects were almost wholly neutralized by succeeding steady and strong dry weather. An examination of soils of varied qualities, after the rainfall just noticed, has satisfied the writer that even on light sandy soils, in order to receive the full benefit of rain, that the soil should at least once be well pulverized to the utmost practicable depth. In all cases around here where hen-scratch plowing and harrowing have been adopted, the crops are another failure. I should probably not have addressed you had it not been from seeing a communication by G. W. T. C. in your last number on

### Dr. Mendenhall's Theory.

By a course of inductive reasoning, the writer during the celebrated flood season of 1861-62, was induced to adopt opinions similar to those arrived at by Dr. Mendenhall, from actual observation, and as yet, has not seen any reason to vary therefrom, for we may yet have during the month of May for California an abnormal amount of rain and this may probably occur prior to or about the last quarter of the present moon. [As a general rule the writer places little dependence on the phases of the moon, as indications of changes in the weather. On evenly balanced atmospheric occasions there can be no doubt but they occasionally do exercise a slight influence which ought not to be overlooked, to explain which, however, would be to enter on an interesting but very little understood branch of meteorology. This latter remark also applies to the reason why, from natural causes, a sort of sympathetic association exists between certain phases of the seasons of Central America and those of California, an elucidation of which would require an elaborate essay, which, if leisure permits, the writer proposes at some future day to attempt.] This statement is worth noting by those who may be interested in saving hay, not to be caught napping. Rain, such as above indicated, may now perhaps be too late for the cereals; but it would promote the growth of the different varieties of

### Bunch Grasses and Weeds,

and thus greatly mitigate the distress which otherwise might be suffered by equine, ovine and bovine stock. As might have been anticipated, an inspection of the *floræ*, both of uplands and plains in this district, clearly shows that those plants which are capable of enduring early drouths are deep rooted varieties, a remark especially applicable to the grasses; thus showing that by a proper selection, the injurious consequences of drouths might be greatly mitigated, when they occur with severity, while in ordinary seasons the value of the pasturage would be enhanced five-fold by the employment of judiciously selected seeds.

On this subject the remarks of the late Mr. Swayne may be appropriately quoted, who observed that "If gardeners and farmers are so careful, as we know they are, in raising the seeds of their turnips and cabbages, surely some care is due to the cultivated grasses. RUSTICUS.

### The Moon's Influences.

POSTSCRIPT.—At the time I addressed you last, the sky was overcast, and for two mornings and evenings had been so, which cloudiness, however, became pretty much dispensed soon after the rising of the sun or moon, the latter then approaching its culmination. Before, however, my letter reached a short distance on its travel to your city, we were gratified by a copiously warm rain which continued for nearly twenty-four hours, its amount being nearly as heavy but much more fertilizing in its effects, than the one that preceded it. Mornings and evenings still gloomy, affording goodly promise of farther downfall which may yet occur. In fact the chief object of writing this postscript is to explain in some measure why it was deemed probably by the writer at the time of writing, that any serious pluviose deposit might not probably take place until about the period of the moon entering on the last quarter. This opinion being based on observations made in various parts of the world. Space will only allow of one being quoted, viz., that during 21 years of well marked observations it was found that at the period of the moon entering on the first quarter a rise of temperature occurred in nineteen years of the twenty-one, while on entering the last quarter during 13 years of the same period a fall took place. The physicist will easily see the application of the illustration.

Should southerly winds prevail on or about the time just indicated, and this is very probable, G. W. T. C., together with other residents, may witness an amount of rain fall during the current month such as has not been witnessed in the State since the American annexation during any corresponding period, and if so, will go far to prove the correctness of Dr. Mendenhall's "Rain Theory." R.

San Antonio, May 6, 1871.

## Plain Talk.

Under the above head the Santa Clara *Agriculturist*, gives some sensible advice to its readers from which we select the following:—

The farmers who should now be laboring earnestly to improve and beautify their homes, and making gradual but sure provision against present wants and future need, are still following up the wild hopes of gaining a fortune by a single stroke of good luck. This is plain talk, unfortunately it is true. The old education of "flush times" and mining excitement still clings to us. But we must throw it off if we would succeed. Yes, we must cease to think of being "in luck" as farmers. To speak of the lucky or unlucky miner is quite in keeping with the circumstances and conditions of the man, but to refer to the lucky or unlucky farmer is a form of speech that ought not to be tolerated. But in future let us talk of our honest, industrious, frugal and successful husbandman, and try to unlearn as soon as possible the impracticable education of the past, and put forward every effort to place ourselves on a higher, more permanent and successful plan of industrial economy. Let us consider ourselves at home, and labor earnestly and intelligently to improve ourselves and the section in which we live.

The bitter disappointment which has fallen to the many who came here to *get rich* did not result from any unfavorable condition of climate or soil, for we believe, and are free to maintain, that there is no land under the sun more lavishly favored by nature in all that goes to make a country delightful, than the one we possess. But disappointment has come from the overdrawn statements in regard to the case and rapidity with which fortune or competency could be gained, and the wild and groundless hopes and expectations produced by extravagant satements.

SAVE THE WATER.—The San Jose *Mercury*, says there is a large waste of water into the San Francisco Bay from the streams flowing through the Santa Clara valley, even doing the dryest seasons. These streams, are fed from numerous flowing wells. All of this water should be utilized. The descent of the valley toward the bay is about fifteen feet to the mile, affording sufficient fall for conveying the water in flumes to any point desired. The volume of water increases from the flowing wells as we approach the sea level. In the lower portion of the valley there are many of these wells flowing to waste, to the serious injury of the country to the south. This should, and must be stopped. If we cannot enforce the restraining of this waste by our present law concerning artesian wells, let us have a law that will be effective. Water is too precious with us to be wasted. It should be a misdemeanor, punishable by a heavy fine, for well-owners to suffer their wells to flow to waste. We have heretofore repeatedly alluded to this matter, and we do not intend to let the subject rest until the evil is corrected. If the owners of these wells fully realized the injury they are doing to the valley, they would surely cap their wells without being compelled to do so.

A BIG EGG.—Mr. J. R. Fishbeck, Jr., exhibited in the *Alta* office, a few days since, an egg that could only be raised in California. It was the production of a very small hen, but was nine inches in circumference lengthways, and six and three-quarter inches round. It was received from H. Kuck's ranch, at the Petrero.

CALIFORNIA WOOL IN NEW YORK.—The Dibblee clip of 200,000 lbs, from Santa Barbara, fine, but burry, and one of the largest single clips of the world, sold to a New York house at 28½c per lb., gold; and the Hernandez clip of 75,000 lbs., understood to be one of the best clips that comes to market, sold to the same house at 30c per lb., gold.

## Santa Cruz Farmers' Club.

[Reported for the PRESS by ROGER CONANT.]

The Club met on Saturday afternoon, May 6th, and was called to order by the President. Roger Conant was elected a member of the Club.

The committee appointed to ascertain whether the Jerusalem artichoke would prove a profitable food for stock, made a verbal report through the chairman, Mr. Locke, who said:—I have examined the American *Agriculturist* and some reports upon this subject. The article in the *Agriculturist* states that 150 bushels can be raised to the acre and are good to feed to cattle.

*Mr. Swain.*—The Jerusalem artichoke raised at home looks very much like our sun-flower.

*Mr. Dahen.*—In Iowa and other Western States where it grows wild it is similar to the kind here. Hogs used to get fat eating them.

*Mr. Cahoon.*—My father used to raise them to feed stock with. Hogs would eat them readily. The subject was referred back to the committee for further investigation.

The committee on questions in the PACIFIC RURAL PRESS were allowed further time.

*Mr. Cahoon.*—I have been informed that Judge McCann has a full blooded Durham calf which he will sell for $50. Mr. Kinsley moved that a committee of three be appointed to examine the calf, and if found to be full blooded to purchase him. The President appointed Messrs. Kinsley, Cahoon and Dakin as such committee.

*Mr. Locke.*—I have received a communication from the Commissioner of Agriculture at Washington, requesting facts respecting the record of officers of Agricultural, Horticultural and Pomological Societies. The Secretary was requested to fill out the blank and forward it to the Commissioner.

*Mr. Locke.*—Often valuable seeds and plants are distributed to Societies. At Knight's Ferry we organized a club for the express purpose of receiving valuable seeds and plants. We received at one time a cork oak, and the bark in time showed half an inch of cork.

*Mr. Mathison.*—I once received a package of wheat which, when opened, showed one-fifth weed. In the *Agriculturist* there is an article about sending out weeds with the wheat.

Mr. Locke announced the receipt of several books from Senator Cole, for the Society. Several members volunteered books, when Mr. Dakin named the appointment of a committee of three to collect books for the library of the Club.

*Mr. Feeley.*—Anything to keep the Club intact. These books contain many valuable statistics. They should be obtained and kept in a convenient place for the use of the members. It is one of the leading features of a club to have a good library, as a great deal of practical experience can be gained from reading the books, and it should be so that all members can draw from it.

A proposition was made and laid over to the next meeting to amend the Constitution so as to create the office of librarian. Adjourned to the 3d Saturday in May.

FANCY AND DOMESTIC STOCK.—Thomas E. Finley will leave in a few days for the East, for the purpose of bringing to California several car loads of poultry and domestic animals, such as pigs, sheep, pigeons, etc. Every possible care will be taken to secure the best of stock, and it will receive the closest personal attention *in transitu*. Mr F. goes East in the interest of the California Stock and Poultry Association.

THE RAINFALL.—The San Francisco *Call* says: "It may be interesting to compare the average rainfall in this State with the amount enjoyed by our Eastern neighbors, who have no "rainy season," and who sometimes commiserate California upon her protracted spells of wet weather. Boston, for instance, averages thirty-eight inches of water during the year; in Philadelphia they get as much as forty-five inches; while at St. Louis, in the great Mississippi basin, only thirty-two inches falls on the average. We presume this season's rainfall in California, taking the State throughout, will not average more than eight or nine inches. In England the average quantity is thirty-two inches; in France, twenty-five inches."

## Kauri Gum.

Mr. J. W. Cartier, of Auckland, New Zealand, having determined to test personally and practically the reports concerning our State by a settlement here, has visited the office of the PRESS for the purpose of giving and receiving information concerning the two countries.

Mr. Cartier has given us a specimen of kauri gum, an article of considerable commercial importance, and one for which the demand is increasing. It is used in the manufacture of varnishes, in stiffening ready-made clothes, in making ornaments (by melting it and running into molds), and for various other purposes.

The Kauri tree (*Dammara Australis*), a member of the Pine family, grows in New Zealand, principally to the north of Auckland, very little of the timber or gum occurring to the south of that place. The tree grows generally to a diameter of about 6 feet, but 15 feet is not uncommon; its hight, from ground to lowest branches, is often 100 feet. The largest tree known is at Mercury Bay, is called the "Father of the Kauri," and measures 72 feet in circumference near the ground.

The gum is found exuding from the trees, and in the ground around the roots. The most valuable sort, however, is found in places where no trees have grown within the memory of man. This occurs in lumps, varying from one ounce to twenty pounds, even as high as 70 pounds, at a depth of from 3 inches to 2 feet below the surface, just above the clay and under the sod. It is generally obtained from the poorest lands, where a stiff white or red clay occurs, and where fern is generally abundant, but no trees; or in swampy ground.

Two years ago, the gum was worth $250 per ton in Aukland; now it is sold for about $125 at that place, or $110 where found. A large number of men are engaged in digging for it. The common method of prospecting is to prod the ground with a pointed iron wire, fastened to a stick, until a lump is hit. Ground which has been considered worked out previously, has since proved rich in many instances.

It would appear that the use of the gum was increasing, and the trade in the article bids fair to assume important dimensions.

## Napa County.

A correspondent writes from Oatville, Napa County, under date of May 8th, as follows:—I notice in your issue of May 6th, under "Agricultural Notes" that the prospect of the crops in the Counties of Colusa, Yolo, Sutter, Solano, Contra Costa, San Joaquin and Napa is represented to be very discouraging. This is incorrect in regard to the last one on the list. Napa should have been classed with the Counties of Alameda, Santa Clara and San Mateo, and it is certainly doing her great injustice by publishing the statement that the condition of her crops is no more promising than that of the Counties of Solano, Yolo or San Joaquin.

If the weather henceforward be favorable, Napa will have three-fourths of a crop—with a good rain at present, they would be up to the average; but under any circumstances we shall at least have half a crop. The fruit crop of all kinds promises to be large. The grape crop, never yet injured by drouth, promises to be most abundant. The grape interest is greatly increasing. Many new vineyards have been planted, as well as additions made to older ones.

The placing of Napa County in the connection referred to was an inadvertance, as we had at the time abundant evidence before us that our correspondent is correct.

FARMING is a trade; and a man has to learn it, however much he may know; the knowledge must be applied, and made the man's business. He cannot learn in a day but must expect to improve constantly. A good understanding is a very good basis to begin with—it is rearing a superstructure on a good foundation.

# City Market Report.

## DOMESTIC PRODUCE AT WHOLESALE.

San Francisco, Thurs., a. m., May 11th.

FLOUR—The market still continues quiet under the pressure of a further advance of 25 cents.

Transactions embrace 3,500 bbls. California extra, 3,000 bbls. Oregon extra, and 2,000 qr. sks. California at current rates.

We quote superfine, $7.25@7.75; extra, $8.25@8.50.

WHEAT—Has still further advanced, as the millers have generally stocked up during the week. Sales include 17,000 sks. fair to choice at $2.81½@3.10. At the close we quote good to choice at $3@3.10 ₱ 100 lbs.

The Liverpool market has advanced to 12s. 3d. New York rates unchanged.

BARLEY—The market still continues unusually excited. Prices have advanced during the week from $2.25 and $2.35 to to $2.30 and $2.50. These were the figures at the close of last week; $2.40 is about the ruling price this week. Market weak.

OATS—The range of the market is set down at $2.15@2.35; a sale of 620 sks. choice has been made at the latter figure.

CORN—Is quotable at $2.70@2.75 per cental.

CORNMEAL—Is quotable at $2.50@3.25.

BUCKWHEAT—Still quotable at $3@$3.25.

RYE—Nominal at $2.50 for choice.

FEED—We note a small advance, and quote: Straw, $9@10; Bran, $37.50; Middlings, 42.50@45.00; Oil Cake Meal has advanced to $35.

HAY—We quote ordinary to choice at $18.00@$24.00 ₱ ton.

HONEY—But little in market and quotations nominal.

POTATOES—Receipts continue fair, with moderate demand at from $1.60@2.00, with the exception of XXX, (the favorite Humboldt mark), which commands $2.25. New Mission are still coming forward at the rate of 200 to 300 bags per day. These sold from teams yesterday at the rate of $2.50@2.75 ₱ 100 lbs.

HOPS—Demand light—prices nominal at 8@12½c. for California crop of 1870.

HIDES—We quote Dry, slaughterer's stock, 17@18 c; Salted, 8@8½c. Sales during the week 1,852 Cal. dry, and 1,850 salted. Cal. dry in New York were yesterday quoted at 22@22½c.

WOOL—Is less active at the close and very little is now changing hands, owing mainly to the withdrawal of Eastern buyers, who consider the market here too high—the New York and Boston quotations being 28@30c for burry spring, and 35@36 for free; while fair to choice shipping, is quoted here at 27@37½. Reports from Eastern mills of several shipments of the present clip of California wools show a loss of 65 per cent. in scouring—there being much sand and soil mixed with the wool, particularly in lots grown in Los Angeles county. These apparently fraudulent transactions have doubtless much to do with the withdrawals of Eastern buyers at present figures. A shrinkage of 65 per cent. is more than they can stand.

TALLOW—The extremes may still be quoted from 7½@8c. Sales of 25,000 lbs. are reported for the week.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 16@17c; Oregon, 16@16½; Chicago 17c; California Hams 13½@14½; Oregon do, 16@17c; California Sugar-cured Hams, 18@19c; Oregon do, 18@22c; Eastern do, 22@24½c; California Smoked Beef, 13@14c.

BEANS—There is less speculative enquiry: We quote Bayo, $3.25@3.25; Butter, $3.00@3.25; small White, $3.00; Red, $3.00; Pea, 3.00; Pink, $3.00@3.25 ₱ lb.

NUTS—California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 6@7c; Hickory and Walnuts, 12½c; Pecan, 23@25c ₱ lb, Cocoanuts $12@15 per hundred.

FRESH MEAT—We quote prices from slaughterers to dealers at a material reduction:

BEEF—American, 1st quality, 9@10c ₱ lb.
Do 2d do 7@ c8 ₱ lb.
Do 3d do 6@ 7c ₱ lb.

VEAL—Extremes, 7@9c.

MUTTON—Declined to 5@5½c ₱ lb.

LAMB—May be quoted at from 7@8c ₱ lb.

PORK—Undressed is quotable at 5@7½c. dressed, 10@11.

POULTRY, ETC.—The Market very dull—Hens $6½@7; Roosters $6½@7; Ducks, tame, $6@7 ₱ doz; geese, tame, $1.85@2.00 ₱ pair; live turkeys, 18@19c ₱ lb.

WILD GAME—Hare, $1.50@$2.50; Rabbits, $1.25@1.50; No Ducks or Geese in the market.

DAIRY PRODUCTS—California Butter, fresh, in rolls, still remains at 27@32½c; California firkin butter, 26½@30c.

Cheese—In fair supply, California new, 10@14c., Eastern, 16@17c. for new.

Eggs—California fresh, 26@27c;

LARD—California Lard, 11-lb tins, 15@16c; Oregon, 16@17½c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Oregon Apples, per box, $2.50@$4.00; Tahiti oranges $30 per 1,000; Los Angeles oranges, $30@$40 per M.; Malaga Lemons, per box, $15@16; Cal. Lemons, $3@4 per 100; Strawberries, 5@6c; Rhubarb, 4@5c; Asparagus, 4@8c.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

BUILDING AND FENCING MATERIALS—The local trade has not exhibited any great degree of activity during the period under review. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12c ₱ lb; Raisins, layer, $3.50@4.25 per box; Currants, Zante, 10½@11½c.; 50c.

TABLE OF MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Sugar, crsh'd, lb. | $ 14 | @$ 14½ | Hemp Seed, lb. | $ 7 | @ 9 |
| Hawaiian, do. | 9 | @ 12 | Castor Beans, lb. | 4 | @ 4½ |
| Coffee, Cos. R, lb | 14½ | @ 15 | Castor Oil, gal. | 1 75 | @2 00 |
| Rio, do | 16 | @ | Linseed Oil, gal. | 1 05 | @1 10 |
| Tea, Japan, ₱ lb. | 50 | @ 90 | Broom Corn, ₱ lb | 3 | @ 5 |
| Green, do | 50 | @1 00 | Beeswax, ₱ lb | 27 | @ 30 |
| Rice, Haw'n, ₱ lb | 8½ | @ 9 | Peanuts, ₱ lb | 5 | @ 7 |
| China, do | 6 | @ 7½ | Corn Meal, cwt. | 2 50 | @4 00 |
| Coal Oil, ₱ gal. | 50 | @ 60 | Onions, cwt. | 1 50 | @3 50 |
| Candles, ₱ lb | 14 | @ 18 | | | |

## San Francisco Retail Market Rates.

Friday, May 5, 1871.

MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Butter, Cal fr. lb | 35 | @ 40 | Wheat-sks, 22x36 | 13½ | @ 14 |
| Pickled, Cal. lb | | @ | Potato G'y Bags. | 23 | @ |
| do Oregon, lb | | @ | Second-hnd do | 16 | @ |
| Honey, ₱ lb | 25 | @ 30 | Deer Skins, ₱ lb. | 15 | @ 22 |
| Cheese, ₱ lb | 20 | @ 25 | Sheep sks, wl on | 50 | @ 75 |
| Eggs, per doz | 30 | @ 35 | Sheep sks, plain. | 12½ | @ 25 |
| Lard, ₱ lb | 18 | @ 25 | Goat skins, each. | 25 | @ 65 |
| Sugar, cr., 7 lb | 1 00 | @ | Plums, dried, lb. | 15 | @ 30 |
| Brown, do, ₱ lb | 10 | @ 13 | Peaches, dried,* | 15 | @ 30 |
| Beet, do, 7 ₱s. | 1 00 | @ | Dry Cal. Hides, | Weak | |
| Sugar, Map. lb. | 30 | @ 35 | Salted do | Dull | |
| Wool Sacks, new | 40 | @ 90 | Dry Mex. Hides. | 15 | @ |
| Second-hnd do | 67½ | @ 70 | Salted do | 9 | @ |

PRODUCE, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Codfish, dry, lb | 6 00 | @ 12½ | Barley, cwt | 2 35 | @2 40 |
| Flour, ex, ₱ bbl. | 8 25 | @8 50 | Beans, cwt | 3 00 | @3 50 |
| Superfine, do. | 5 50 | @6 00 | Potatoes, cwt | 1 75 | @2 12½ |
| Corn Meal, 100 lb. | 3 50 | @4 50 | Potatoes, new | 2 75 | @ |
| Wheat, ₱ 100 lbs. | 2 95 | @3 10 | Hay, ₱ ton | 18 00 | @24 00 |
| Oats, ₱ 100 lbs. | 2 00 | @2 10 | Live Oak Wood. | 10 00 | @12 00 |

FRUITS, VEGETABLES, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Pine Apples, † | 5 00 | @9 00 | Garlics | 5 | @ 8 |
| Bananas, ₱ lb | 3 00 | @5 00 | Green Peas, ₱ lb | 8 | @ 6 |
| Cal. Walnuts, lb. | | @ 20 | Green Corn, doz. | | @ |
| Cranberries, ₱ g | 75 | @1 00 | Sugar Peas, ₱ lb | | @ |
| Cranberries, O,¶ | | @1 00 | Lettuce, ₱ doz. | 12 | @ 25 |
| Apples, No. 1, lb. | 4 | @ 5 | Mushrooms, ₱ lb | 25 | @ 50 |
| Pears, table, ₱ lb | | @ 12½ | Horseradish, ₱ lb | | @ 20 |
| Oranges, ₱ doz. | 50 | @ 75 | Okra, dried, ₱ lb | | @ 50 |
| Lemons, ₱ doz. | 75 | @1 00 | Okra, green, ₱ lb | | @ |
| Figs, dried, ₱ lb. | 15 | @ 20 | Pumpkins, ₱ lb. | 3 | @ 4 |
| Asparagus, wh.* | 12 | @ 15 | Parsnips, † bnchs | | @ 25 |
| | | | Parsley | | @ 25 |
| Artichokes, doz. | 50 | @ 75 | Pickles, ₱ gal. | 50 | @ 75 |
| Brussel's sprts, * | | @ 15 | Rhubarb, ₱ lb. | 8 | @ 12½ |
| Beets, ₱ doz. | 20 | @ 25 | Radishes, † buns | | @ 25 |
| Potatoes, ₱ lb | 2 | @ 3 | Green Peppers, * | | |
| Potatoes, sweet,* | | @ 5 | Red, do | | @ 25 |
| Potatoes, new | 4 | @ | Summer Squash | 12½ | |
| Tomatoes, ₱ lb. | | | Marrowfat, do. | 4 | @ 6 |
| Broccoli, ₱ doz. | 1 50 | @2 00 | Hubbard, do. | | @ 5 |
| Cauliflower, † | 2 50 | @1 25 | String Beans, lb. | 12½ | @ |
| Cabbage, ₱ doz. | 3 00 | @1 50 | Summer Squash | 3 | @ |
| Carots, ₱ doz. | 10 | @ 25 | Dry Lima, shl. | | @ 8 |
| Celery, ₱ doz | 75 | @1 00 | Spinage, ₱ bskt. | 25 | @ 50 |
| Cress, ₱ doz bun | 20 | @ 25 | Salsify, ₱ bunch | 25 | @ 12 |
| Dried Herbs, b'h | 25 | @ 50 | Turnips, ₱ doz. | | @ 25 |
| Egg Plant | | @ | Asparagras | 10 | @ 15 |

POULTRY, GAME, MEATS, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Chickens, apiece | 75 | @1 00 | Tongues, pig, ea | | @ 15 |
| Turkeys, ₱ lb | 20 | @ 25 | Bacon, Cal., ₱ lb | 18 | @ 20 |
| Ducks, wild, ₱ p | | | Oregon, do | 18 | @ 20 |
| Tame, do | 1 50 | @ | Hams, Cal, ₱ lb. | 18 | @ 20 |
| Teal, ₱ doz | | | Hams, Cross' s c | | @ 25 |
| Geese, wild, each | 37½ | @ 50 | Choice D'field | | @ 25 |
| Tame, ₱ pair | 2 50 | @3 00 | Whittaker's | | @ 25 |
| From Chicago. | | @ | Johnson's Or. | | @ 25 |
| Hens, each | 75 | @1 00 | Salmon, ₱ lb | 6 | @ 8 |
| Snipe, ₱ doz | 1 25 | @1 50 | Smoked, new,* | 10 | @ 12 |
| English, do | 2 50 | @3 00 | Pickled, ₱ lb. | 6 | @ 8 |
| Venison, ₱ lb | | @ | Rock Cod, ₱ lb. | 10 | @ 12 |
| Quails, ₱ doz | | | Kingfish, ₱ lb | 25 | @ |
| Pigeons, dom. doz | 3 00 | @3 50 | Perch, s water, lb | 10 | @ 12½ |
| Wild, do | 1 50 | @2 00 | Lake Big. Trout* | | @ 25 |
| Hares, each | 40 | @ 50 | Smelts, ₱ lb | 6 | @ 8 |
| Rabbits, tame | 50 | @1 00 | Herring, fresh | | |
| Wild, do, ₱ dz. | 1 75 | @2 00 | Sm'kd, per 100 | | @1 00 |
| Squirrel, ₱ pair. | 25 | @ 38 | Tomcod, ₱ lb | | @ 20 |
| Beef, tend, ₱ lb. | 20 | @ 25 | Terrapin, ₱ doz. | 4 00 | @ |
| Sirloin and rib | 18 | @ 20 | Mackerel, p'k, ea | | |
| Corned, ₱ lb. | 10 | @ 12 | Fresh, do | | |
| Smoked, ₱ lb | 15 | @ 18 | Sea Bass, ₱ lb | | @ |
| Pork, rib, etc., lb | 12½ | @ 15 | Halibut | 62 | @ 75 |
| Chops, do, ₱ lb | 12 | @ 15 | Sturgeon, ₱ lb | 4 | @ 5 |
| Veal, ₱ lb | 15 | @ 20 | Oysters, ₱ 100 | 1 00 | @1 25 |
| Cutlet, do | | @ 20 | Chesp. ₱ doz. | | @1 00 |
| Mutton chops,* | 12½ | @ 15 | Turbot | | @ 40 |
| Leg, ₱ lb | 12½ | @ | Crabs ₱ doz | | @1 00 |
| Lamb, ₱ lb | | @ 12½ | Soft Shell | 37 | @ 50 |
| Tongues, beef, ea | | @ 75 | Shrimps | 10 | @ 12 |

* Per lb. † Per dozen. ¶ Per gallon.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

Friday, May 12, 1871.

| | | |
|---|---|---|
| Iron.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb | | |
| Scotch and English Pig Iron, ₱ ton | $32 50 | @$33 50 |
| White Pig, ₱ ton | — — | @ 40 00 |
| Refined Bar, had assortment, ₱ lb | — 03 | @ — — |
| Refined Bar, good assortment, ₱ lb | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ — 06½ |
| Copper.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | |
| Sheathing, ₱ lb | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | — 22 |
| Composition Bolts | — 21 | — 22 |
| Tin Plates.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX ₱ box | 12 00 | — — |
| Plates, I C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 10 00 | 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | — 42 |
| Steel.—English Cast Steel, ₱ lb | — 15 | — 15½ |
| Quicksilver.—₱ lb | — — | — 80 |
| Lead.—Pig, ₱ lb | — 06 | — 07 |
| Sheet | — 09 | — |
| Pipe | — 10 | — 11 |
| Bar | — 08 | — 09 |
| Zinc.—Sheets, ₱ lb | — 10½ | — 11 |
| Borax.—Refined | — 25 | — 30 |
| Borax, crude | — 5 | — — |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

San Francisco, Thursday, May 12.

Sole Leather.—The demand is still equal to the supply, and prices firm.

| | |
|---|---|
| City Tanned Leather, ₱ lb | 26@30 |
| Santa Cruz Leather, ₱ lb | 28@30 |
| Country Leather, ₱ lb | 25@28 |

French Calf and Kip Skins still continue firm, with a slight advance in Jodot Calf and the best brands of Kips. Domestic Skins rule the same.

| | | |
|---|---|---|
| Jodot, 11 to 19 Kil., per doz | $82 00@ | 96 00 |
| Cornellian, 16 Kil., per doz | 72 00@ | |
| Ogerau Calf, ₱ doz | 54 00@ | |
| Mercier Calf, 16 Kil., per doz | 65 00@ | |
| Jodot, second choice 11 to 15 Kil. ₱ doz | 68 00@ | 88 00 |
| Common French Calf Skins, ₱ doz | 35 00@ | 75 00 |
| French Kips, ₱ lb | 1 00@ | 1 30 |
| California Kip, ₱ doz | 60 00@ | 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ | 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ | 1 25 |
| Eastern Calf for Backs, ₱ lb | 1 15@ | 1 25 |
| Sheep Roans for Topping, all colors, ₱ doz | 8 50@ | 13 00 |
| Sheep Roans for Linings, ₱ doz | 5 50@ | 10 50 |
| California Russett Sheep Linings | 1 75@ | 5 50 |
| Best Jodot Calf Boot Legs, ₱ pair | 5 25 | |
| Good French Calf Boot Legs, ₱ pair | 4 50@ | 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 | |
| Harness Leather, ₱ lb | 30@ | 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ | 72 00 |
| Skirting Leather, ₱ lb | 34@ | 37½ |
| Welt Leather, ₱ doz | 30 00@ | 50 00 |
| Buff Leather, ₱ foot | 22@ | 25 |

## Our Printed Mail List.

Subscribers will notice that their names are printed on colored paper and pasted upon each copy of the Press. This is done by machinery, to expedite the issue of our paper, the regular edition of which has become too large to be convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriber has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4j10, to the 4th of July, 1870. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction.

## Our Agents.

Our Friends can do much in aid of our paper and the cause of practical knowledge and science, by assisting Agents in their labors of canvassing, by lending their influence and encouraging favors. We intend to send none but worthy men.

**Traveling Agents.**

W. H. Murray—Eastern States.
M. B. Starr—Pacific Coast.
Thos. Poyzer—California.
Wm. J. Clark—California.
S. H. Herring—California.
L. P. McCarty—California.
E. P. Hicks—California.
A. C. Knox, City Soliciting and Collecting Agent.

**London Agency.**—Bates, Hendy & Co., 4 Old Jewry, E. C., & Geo. Street, 30 Cornhill, E. C. London will receive subscriptions and advertisements for the Press

**Thursday Noon** our last forms go to press. Communications should be received a week in advance and advertisements as early in the week as possible.

Subscribers should send former address, when ordering the paper sent to a new place. Returning a newspaper, or blank slip, without the name and residence of the subscriber is a thoughtless act, and useless both to subscribe and publisher.

Four Months' Subscription for $1.—Subscribers to the Press who remit direct to this office $5 coin, in advance, hereafter, will be credited four months over a year for the extra dollar received above our regular rates. This will render it both convenient and profitable to enclose a $5 piece in a registered letter, in which case we will be responsible for its safety.

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Every Mechanic should read and familarize himself with "Brown's 507 Mechanical Movements," illustrated, published and sold by Dewey & Co., Scientific Press office, San Francisco. Bound in cloth. Price, (very low) post paid, $1, coin, or its equivalent in currency. Inventors, Engineers, Students, and Apprentices will find it exceedingly useful and especially handy for reference.

Success in Business.—Success in the business world usually depend upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to Heald's Business College, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about this school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and Heald's College Journal, which will be sent free upon application. Address, E. P. Heald, President, business College, San Francisco, Cal. 1v1-3msnr

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### How to Make Money.

Send to the American Publishing Company, Rutland, Vt., for their beautiful Specimen Book, and make ten dollars the first day you show the book. Read their advertisement in another column, concerning the Parlor Album, and you will get full particulars. The Parlor Album contains more beautiful embellishments than any other work extant. The Specimen Book is sent free on receipt of postage.

To the Mining Interest.—Believing that they can thereby aid the mining interest, the managers of the Eighth Industrial Exhibition of the Mechanic's Institute request contributions of ores, minerals and metals from the mines, mills and furnaces of the coast. Such contributions will be given a prominent place, and will be labelled, with details furnished of the condition, etc., of the works from which they come. The collection, if a full one, will attract attention and capital to our mines. Wells, Fargo & Co., will forward, free of charge, all such packages, to be sent before August 5th, addressed to Mechanics' Institute, care J. H. Gilmore, San Francisco.

Mathew Bridge, Mason and Builder, Residence S. W. corner Larkin and Jackson streets, San Francisco, would call the attention of all parties intending to erect buildings of any description, that he is prepared to build concrete buildings, where lime and clean gravel are convenient, cheaper than wooden buildings. Concrete Buildings, properly built, are in many respects the most substantial, as well as cheapest, buildings that can be erected. For any further information, address as above.
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**San Joaquin Valley Ag'l. Society.**—Officers; President, J. K. Doak; Vice Presidents, Geo. S.Ladd, John Tuoby; Secretary; H. T. Compton; Directors, James C. Gage, George West.

**Upper Sacramento Agricultural Society.**—Officers—President, Harman Bay; Secretary, E. Hallet.

**Bay District Horticultural Society, of Cal.**, S. F.—Officers: H. N. Bolander, Prest.; E. L. Reimer, V. P.; F. A. Miller, Sec.; R. Turnbull, C. Schuman and F. A. Hering, Trustees.

**Contra Costa Co. Agricultural Society.**—Officers: Geo. P. Loucks, Prest., Pacheco; Henry Shuey, V. P., Lafayette; R. R Brock, Sec., Martinez; S. W Johnson, Treasurer, Pacheco; G. W. Bryant, R. G. Davis, Directors, Pacheco.

**Santa Clara Valley Ag. Society.**—Officers: President, William C. Wilson; Vice Presidents, Cary Peebles, Chas. B. Polhemis; Directors, James P. Sargent, Wm. O. Donnell; Treasurer, M. Schallenberger; Secretary, Tyler Beach.

**Sonoma and Marin Dist. Ag. Society.**—Officers: President, E. Denman; Vice Presidents, Lee Ellsworth, H. Meeham; Treasurer, Wm. Hill; Secretary, J. Grover; Directors, N. L. Allen.

## Travelers' Guide.

### CENTRAL PACIFIC RAILROAD.

| Pass'ger Sunday except'd | Express Train Daily. | MAY 1, 1871. | Express Train Daily. | Pass'ger Sundays excepted |
|---|---|---|---|---|
| 4.00 P M | 8.00 A M | ... San Francisco | 5.45 P M | 12.30 P M |
| 4.42 P M | 8.40 A M | ... Oakland | 5.12 P M | 11.58 P M |
| | 7.30 A M | ... San Jose | 5.40 P M | |
| 7.58 P M | 12.15 P M | ... Stockton | 1.43 P M | 8.35 P M |
| 9.35 P M | 2.10 P M | ... Sacramento | 11.1 A M | 7.00 A M |
| | 4.10 P M | ... Marysville | 9.10 A M | |
| | 9.00 P M | ... Sesma | 4.20 A M | |
| EASTWARD. | 2.20 P M | ... Sacramento | 11.45 A M | WESTWARD. |
| | 5.25 P M | ... Colfax | 8.45 A M | |
| | 1.15 A M | ... Reno | 1.00 A M | |
| | 9.10 A M | ... Winnemucca | 4.05 A M | |
| | 12.00 M | ... Battle Mountain. | 1.25 P M | |
| | 4.40 P M | ... Elko | 8.45 A M | |
| | 6.10 P M | ... Ogden | 5.15 P M | |

OAKLAND BRANCH.—Leave San Francisco, *6 50, 8 00, 9 10, 10 20 and 11 10, a. m. 12 00, 1 50, 3 00, 4 00, 5 15, 6 30, 8 30 and *11 30 p. m. (10 20, 11 10 and 3 00 to Oakland only).

Leave Brooklyn, *5 15, *6 30, 7 40, 8 50 and 10 00 a. m., 1 30, 2 40, 4 55, 6 10, and 10 10 p. m.

Leave Oakland, *5 25, *6 40, 7 50, 9 00, 10 10, 11 00 and 11 50 a. m., 1 40, 2 50, 3 50, 5 05, 6 20 and 10 20 p. m.

ALAMEDA BRANCH.—Leave San Francisco, 7 20, 9 00, and 11 15 a. m., 1 30, 4 00, 5 30 and 7 00 p. m. (7 20, 11 15 and 5 30 to Fruit Vale only).

Leave Haywards, *4 30, 7 00 and 10 45 a. m., and 3 30 p. m.

Leave Fruit Vale, *5 25, 7 35, 9 00 and 11 20 a. m., 1 30, 4 05 and 5 30 p. m.

* Trains do not run Sundays.

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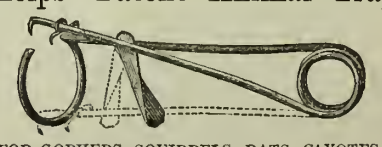
## Phelps' Patent Animal Trap.



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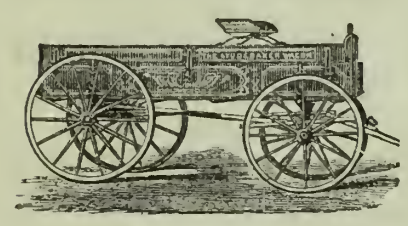

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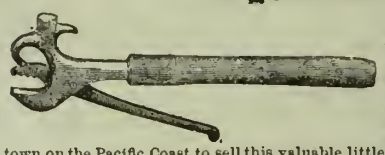
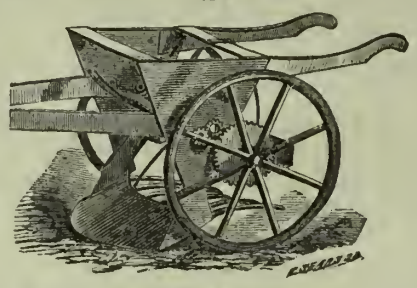
### Longshores Combination Tool.



This device is just what its name indicates. As a KITCHEN TOOL it is indispensible. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

### Westfall's Improved Potato Digger.



We ask special attention to this practical and useful invention. Nearly every farmer has felt the want of a machine to dig potatoes. This new invention fully supplies that want. The machine being made entirely of iron and steel, will last longer than the farmer who buys it. It is operated by a man and one or two horses, and digs one row at a time. The shovel part of the digger enters under the potatoes and raises them on to the fingers in the rear, where the dirt falls through and the potatoes roll back on to the surface of the ground. The machine is prevented from clogging by a reel which revolves above the fingers and carries through the potato vines, weeds, etc. A complete model or full sized machine can be seen in our office. Full particulars in regard to Machines or Rights furnished on application.

### P. Davis' Wire and Picket Fence.

Although about two hundred different styles of fences have been invented and patented in the United States within the past ten years, yet this Fence, for GENERAL FARM USE, stands at the head of the list. This is a Virginia invention, and the actual cost of the Fence complete in that State is less than fifty cents per rod. Three men can put up six hundred yards per day. You men who are idle, why hang about the city talking hard times when you can make from five to eight dollars per day building this Fence? We will make a present of ONE FARM RIGHT in each county on the Pacific Coast to farmers who will erect one hundred rods of the fence in good style within thirty days after the privilege is granted. We wish to employ several working men to travel in this State and Oregon. Price of territory, and circular with full description of fence sent on application.

### New Gas Light.

This Light takes the place of the Candle, the Kerosene Lamp and Coal Gas. Each Lamp is a perfect Gas Factory, making its own gas as fast as it is required. It is a safe, cheap and beautiful light. Circulars and full particulars sent on application.

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### Hunter's Improved Grain Separator.

The best machine to *Clean Grain* in the world. Prices reduced. Send for descriptive circular and price list. County Rights for sale.

### O'Hara's Patent Giant Corn Sheller.

Although this little invention weighs only twelve ounces, and can be carried in the pocket, yet it is really a "Little Giant" for shelling corn. It is a late invention, and has recently taken the First Premiums at the State Fairs of Mississippi, Louisiana and Texas. We are prepared to furnish them in quantities to suit. Will give exclusive agencies to local agents who will advertise and push the introduction of the Sheller. Retail price, $2. A liberal discount to agents. A sample will be sent by mail, prepaid, for $2.75.

### New England Spring Bed.

The cheapest and best in the market. Rights for sale and beds at cost. Send for descriptive circular.

### Tarbox's Combination Stencil Alphabet.

By the use of this ingenious device, ANY NAME OR NUMBER can be marked well and perfectly, thus saving the necessity of having a number of different plates. The exclusive right to sell said invention in California, and also a small stock of Places, for sale at a low price. Send for Circular, or call and examine the Plates.

### Nut Roaster.

This machine will roast one quart or half a bushel of nuts at once. All that is required is to wind it up and fill with nuts. It roasts evenly and perfectly and will keep nuts warm a whole day and not burn them. The Patent Right for sale to any town or city in the States of California and Oregon, and Washington Territory. A sample machine furnished to each purchaser. sp1-tf-r

### Hill's Grate Bar.

This Bar will withstand 800 degrees more heat than any other Bar now in use. It is unequalled in durability. It generates more steam from the same quantity of coal, making a saving of from 10 to 15 per cent. in fuel. It has been examined and used by some of the most scientific Engineers in the United States, and pronounced the best Grate Bar extant for marine or land boilers. The Patent Right to the Pacific Coast is placed in our hands for sale. A complete model can be seen at our office, or a descriptive circular will be sent on application.

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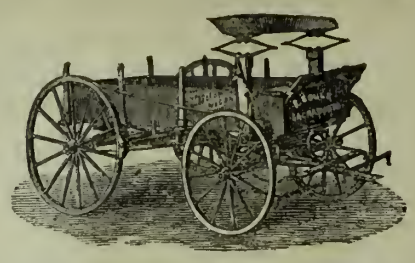

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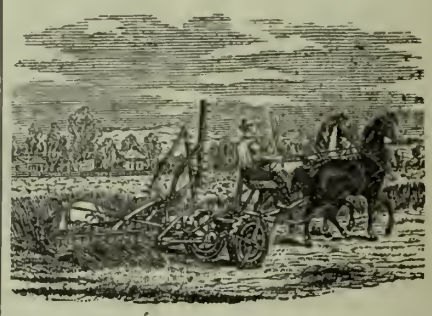

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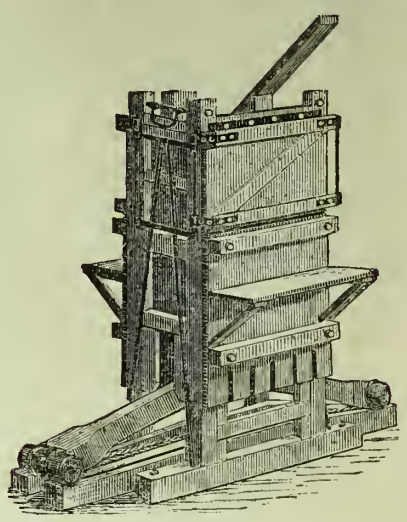

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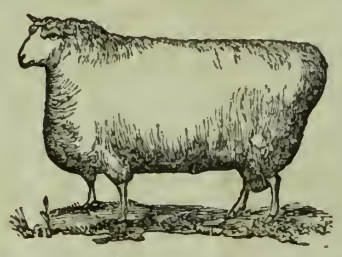

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| McMullen..... | 4 | | " | 16.3½ | 6 4½ |
| W. Cole..... | 5 | 1 | " | 13 7½ | 5 2½ |
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| J. D. Wing..... | 8 | 1 | Cotswold. | 18 9 | 11.37 |
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PACIFIC RURAL PRESS

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## Stock Raising.

### Selecting Cattle.—Ayrshires.

There is no one breed of cattle universally adapted to any large extent of territory; neither is there any one breed equally well calculated for the purposes of the dairy and for fattening. A short-horn or an Ayrshire requires quite a different range from a Hereford or a Devon. The former delights in a rough, rolling country or in elevated mountain valleys; while the latter thrives best in low, warm pastures. If we place either of the former in a large, rich agricultural valley, like the Sacramento or the San Joaquin, they will be very likely to lose their characteristics in a few generations. So if we place either of the latter in a contracted mountain valley, a similar deterioration will take place.

It is by reason of such facts as these that we find such dissimilarity of opinion among farmers in their preferences—that one man will tell us the short-horn is the best animal he can raise, while another insists that the handsome, rich-colored Devon is preferable. Again, a third is enthusiastic over his Ayrshires, while a fourth will have nothing but white-faced Herefords on his farm.

The fact is, every man must be governed, in his selection of stock, by the locality in which he lives and the particular purpose for which he intends them; but the selection is no easy matter under any circumstances. The only rule is to study your locality, and the peculiar adaptedness of the different breeds for the purpose proposed. If you desired to reach the highest economy, it would be folly to get a stock of Ayrshires for beef, and you would be equally unwise to stock a dairy ranch in Sierra valley with Herefords or Devons.

The man who can go over a farm and decide upon the best kind of stock to put upon that farm; or who can go into a herd of cattle and select the best animals for any given purpose, must have cultivated his powers of perception and judgment to a very high point, and must possess an education in that line which should render his services as an expert exceedingly valuable. No merchant, manufacturer or artisan is called upon to exercise more judgment, or should be more thoroughly educated to his calling than the farmer, be he a raiser of stock or grain, or fruit or whatever else is produced on the farm.

In our issue of Feb. 11th, we devoted a considerable space to a consideration of the Short-horns, giving at the same time a characteristic portrait of one of that breed. To-day we place before the reader an illustration characteristic of the Ayershires. We are indebted to the *Rural World* for the engraving, which is said to be an accurate portrait of an animal of that breed belonging to Messrs. Walcott & Campbell, of New Yorks Mills, N. Y. The representation herewith presented shows a milk development seldom excelled or even equalled. The unusually large development of the udders, the great distance between the teats, the large girt just in front of the udder, all indicate a No. 1 milker.

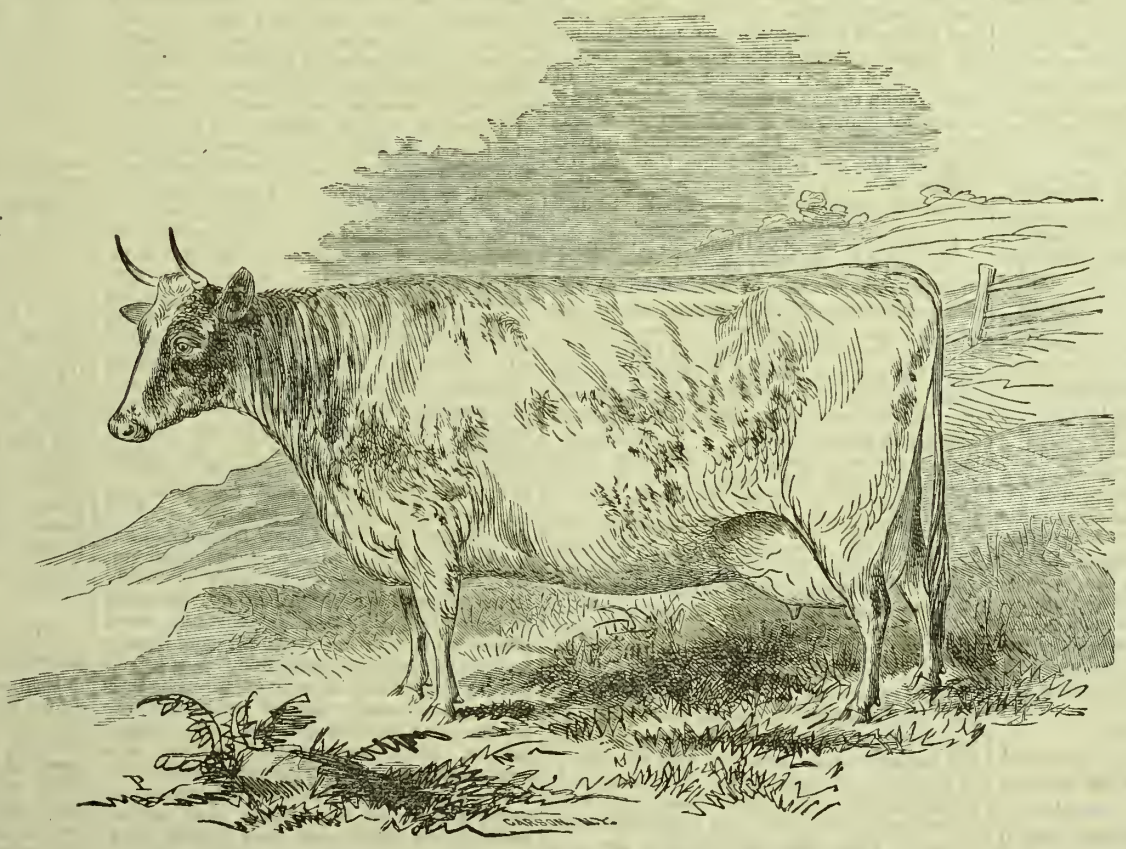
The Short-horn probably belongs where we have placed it—first in order of value; for there is no doubt that that breed is the result of more care, skill and intelligence in development, and presents a more uniform progeny than any other breed of cattle in the world.

Next to Short-horns, in the judgment of the best informed in such matters, is placed the Ayrshires,—as we have also placed it—second in our order of description of desirable breeds of cattle. The Ayershire is supposed to have been originated by proper selection and crossing, within the last hundred years, in a county in Scotland whence it derived its name. The locality is a high exposed region of clay soil, with bleak hillsides and vast tracts of moorland. The climate is mild and damp—too damp for wheat growing. It is generally supposed that the breed originated from a short-horn cross with a long-horned native breed.

This brief history of their origin may serve to indicate the character of country to which they are particularly suited. The elevated mountain coast valleys and the higher valleys of the Sierra Nevada, in the northern portion of this State, and in Oregon and Washington Territory are probably as good localities for these cattle as can be found on the Western Continent.

This animal is especially designed for the dairy, and the Scotchman's beau ideal of the same is as follows:—The head must be small, light and bony, the eye bright and the horn white, with dark tip and upturned; the neck must be thin and light; the shoulder must lay flat, forming a plane with the fore rib and neck; the point must not project. The posterior ribs must spring well from the back bone. The stomach should be large, seemingly out of proportion, giving a big belly as the laboratory when the processes antecedent to the lacteal secretions are rapidly and properly elaborated. The rumps should be wide and high, tail long and slender, legs straight, and udder large, extending well forward, with teats wide apart and short. The color should be generally red and white—blotched, but not run together. The white is often flecked with a dark color, sometimes appearing white and black; skin thin and loose, hair soft and woolly. The udder of this animal is its great peculiarity, and has been the study of the breeders. By careful reference of the above description to the representation herewith given the reader will readily see that the portrait is a faithful and characteristic one.

Instances are on record where not less than 257 pounds of butter have been realized from an Ayrshire in one year, or "her own weight in cheese." The latter is probably exaggerated, or rather is simply a "saying" among fanciers of that stock. The usual annual yield is about 650 gallons of milk, making 175 pounds of butter or upwards of 430 pounds of cheese. These are the figures which an entire herd has averaged. As high as 36 quarts have been taken from a cow in a single day.



AYRSHIRE COW—PROPERTY OF WALCOTT & CAMPBELL, NEW YORK MILLS, N. Y.

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Short-Horn Cattle.—It is no boast to assert, says the Marin county *Sentinel*, that we now have in the United States as good short-horn cattle as can be found in England. Our enterprising breeders have sought without regard to price, the best herds of the country, and drawn from them the choice of their favorite and most approved strains of blood. A sufficient proof of the excellence of our cattle is the fact that several young bulls, the product of these choice selections, have been taken from this country by prominent English breeders within a few years past, at prices almost equal to any previously paid by our own breeders. The dairy interests of this State have grown into great importance. Immense quantities of butter and cheese are manufactured within its borders and it should be the first aim of the dairyman to secure good stock. It is as easy to raise a good cow as a poor one, though not quite so certain, and with the proper material at hand the business is a good and sure one, for if a heifer at three years old does not make a good milker, she can surely be fattened off, after her first calf, and made into good beef. It is well known that the short-horn, from half breed and upwards, attain a growth and ripeness for market one or two years in advance of the native stock and at a greater weight, and the dairyman who does not secure the best breeds, now so easily attainable, is not alive to his interest.

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Improvements in the Breed of Cattle.—According to Prof. Schmied, a permanent improvement in the breed of cattle is inseparably connected with the following proposition, namely: that calves must be nourished with a sufficient quantity of their mother's milk for a much longer period than has hitherto been the custom; all other methods having reference to this same object being insufficient without a proper adherence to this fundamental consideration.

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Mr. Hutchison, of Milford, Mass., recently stated that he considered the Ayrshires better than the Durhams as dairy cattle. He gets twelve quarts per day from his Ayrshires in winter. The general sentiment of the farmers at the same meeting seemed to be in favor of grade Durhams.

## MECHANICAL PROGRESS.

BURNT IRON AND BURNT STEEL.—This is the title of a paper read at a late meeting of the London Chemical Society, by W. Mattieu Williams. *Nature* for April 20th gives an abstract of it, from which we quote:—"Iron which has been damaged by reheating, or excessively heated and exposed after balling in the puddling furnace, is designated 'burnt iron' by the workmen. It is remarkable that no amount of heat applied to the iron in the blast furnace or in the early stages of the puddling process produces burnt iron. Burnt iron is brittle, its fracture is short and what is called crystalline, it has lost the fibrous character of good iron. If steel is raised to a bright red heat and suddenly cooled, it is rendered hard and brittle, but these conditions may be modified by the process of tempering; if, however, the steel be raised to a yellow or white heat, and then be suddenly cooled, it is no longer capable of being tempered by mere reheating. It is worthless for ordinary uses of steel unless it is again raised to a welding heat and rolled or hammered while hot, and then allowed to cool gradually. The fracture of burnt steel presents a coarse grain and a crystalline appearance. Careful investigation, however, shows something more, viz., that the facets of the aggregated granules have a more or less conchoidal form. The name of 'toad's eyes' has been given by practical men to these concavities. Mr. Williams found that a piece of burnt iron contained oxide of iron dispersed through the mass. A sample of burnt steel, however, investigated in the same manner as the iron, showed no indications of the presence of oxide. This, of course, was to be expected, as the carbon of the steel must, more or less completely, protect the metal from oxidation. That iron, when unprotected by combined carbon, should oxidise not merely on its surface, but through its whole substance, when exposed at a sufficiently high temperature and for a sufficient length of time to the action of the atmospheric oxygen, is not difficult to conceive, since the researches of Deville, Troost, and Graham have shown red-hot iron to be permeable by certain gases. In the case of steel, as Mr. Williams states, the burning is limited to the oxidation and consequent removal of the carbon, which takes place even at a low red heat. The permeability of red-hot steel by oxygen and carbonic oxide enables us to understand the process of the internal oxidation of the carbon. The 'toad's eyes' or conchoidal facets of the so-called crystals, Mr. Williams explains by supposing a piece of steel at the temperature most favorable to the rapidest endosmosis of oxygen and the exosmosis of carbonic oxide to be suddenly cooled, and the possible occlusion of the carbonic oxide to be arrested. The results would be a certain molecular disintegration and porosity of the steel presenting those conchoidal spots. This view is further supported by the fact that burnt steel may be cured by reheating and hammering, or rolling at a welding heat."

SAFETY DEVICE FOR WATER PIPES.—A new English device to prevent the freezing of water in pipes is thus described:—Weighted valves are so arranged that if left to themselves they will drop, shut off the supply of water, and empty the pipes. But being suspended from a small glass tube filled with water, they are supported until the tube is burst by the freezing of this water, when they fall and thus empty the pipes before the water in them can be frozen. The renewal of the glass tube when the weather moderates, costs but a trifle.

CUBAN ARTILLERY.—"The Cuban government has shown no little fertility of invention in producing such articles as were most necessary and could not be otherwise obtained. Their cannon are made from *raw hides*, which, incredible as it may seem, will, it is said, sustain fifteen or twenty pound discharges. In the manufacture of powder the Cubans have shown great ingenuity, having successfully used for this purpose the guano deposits in the caves frequented by bats. This process is the discovery of Senor Castello, a graduate of the Polytechnic College, of Philadelphia. From 150 to 200 pounds of serviceable powder are thus made per day."—*Iron Age, May 4th.*

CANAL BOAT PROPULSION.—The Legislature of New York has just passed a bill offering a reward of one hundred thousand dollars for the best device whereby "any motor other than animal power," may be profitably applied to the propulsion of canal boats. Commissioners have been appointed to test all inventions or devices offered during 1871-72. If the Commissioners grant only one certificate for a plan complying in all respects with the requirements of the bill, the owner of that certificate shall receive $50,000. If they grant two certificates, No. 1 gets $35,000, and No. 2 $15,000; if three, No. 1 gets $30,000, No. 2 $15,000, and No. 3 $5,000. After practical trials of the devices selected, upon the Erie Canal, a further sum of $50,000 will be paid Nov. 1st, 1873, to the successful ones, in the same proportion as above; making the sum total of one hundred thousand dollars.

BEST FORM OF RAIL.—In an article referring to Mr. Bessemer's late remarks at the Iron and Steel Institute upon a standard rail-section, the *American Railway Times* says: "A pretty good type of the rail which modern practice has found valuable may be seen in that adopted for A. T. Stewart's road on Long Island. This rail is 4½ inches depth of section, 2¼ inches width of head, 4¼ inches base, 9-16 inch stem, and weighs 63½ lbs. to the yard. The joints are two fish bars 17¾ inches in length, the pair weighing 16 lbs., and secured by four bolts and nuts. Something like this, with slight modifications, is the rail now in use on many roads with favorable results. A shallow rail cannot be well fished, and hereafter we hope to see no pattern adopted of less than four inches depth, while we believe four and one half and five inches are much better for trunk or other roads with large traffic. If we could get the united experience of some dozen or so of the best railway engineers and managers by an authoritative expression of their views upon this important matter, we might hope that in the course of a few years this rail question might be settled upon some sensible basis."

KRUPP AND RODMAN GUNS.—The *Artisan* is informed by Krupp's agent in New York that the largest Krupp guns used at the siege of Paris were 24-pounders, about six inches bore. The French forts were armed with the largest marine guns of the French fleet, but the accuracy of Krupp's twenty-four pounders soon dismounted them, piercing the casemates, and reducing Fort d'Issy to a heap of ruins. * * The penetrating power of a 15-inch Rodman gun, weighing 39,000 lbs., with 60 lbs. of powder, is equal to 26.80 foot-tons; while Krupp's 24-pounder gun, weighing only 8,000 lbs., and with only 15 lbs. of powder, is equal to 47.70 foot-tons. A ship armed with this light weapon would, it is asserted, be more than a match for any vessel with as many 15-inch guns on board as it could carry.

IMMENSE ENGINE.—The Southwark Foundry, Philadelphia, contains an enormous engine, the diameter of whose cylinder is 110 inches; stroke, ten feet; two fly-wheels of thirty feet diameter, and weighing each about ninety tons; main beam of four parts, each thirty-six feet from center to center of pins, and nine feet deep through center. Beam centers of wrought iron twenty-seven inches in diameter; main shaft twenty-seven inches in diameter. The total weight is estimated to be, without pumps, 1,500,000 pounds, and its capacity 15,000 gallons, or sixty tons pumped 300 feet high per minute. The beams and pins weigh about 210,000 pounds, and the other parts in proportion.—*Pittsburgh Iron World.*

LOCOMOTIVE REFORM.—This is the subject of a paper recently read by N. M. Forney, before the New York Society of Practical Engineering: "It therefore becomes a question whether it is cheaper to pay the interest on the difference of cost between the heavy and the light iron, or distribute the adhesive weight on more driving-wheels. Up to the present time, the great majority of American railroad engineers have decided that the former is the cheaper of the two. Coupling more than two pairs of wheels is very generally considered to be objectionable, and, with the exception of those roads whose grades would not admit of being worked in any other way, locomotives having six and eight wheels connected have, in this country, generally been abandoned."

## SCIENTIFIC PROGRESS.

REGIONAL ELEVATIONS AND SUBSIDENCES. Lieut. C. E. Dutton read a paper April 7th before the American Philosophical Society, upon the causes of change in regional elevation, in which he advanced certain views of his own in regard to the changes effected in rocks while undergoing metamorphism. Their specific gravity is undoubtedly changed; also their volume. If the volume is increased, there must be an expansion, and that can only take place in a vertical direction upwards. A decrease of volume would, similarly, occasion a subsidence. We quote from an abstract of the paper in the *U. S. Railroad Register* "If we were to assume a change in the specific gravity of 1,000 feet of rock to the extent of five per cent. we could account for a change of level of 50 feet, and a series of rocks as thick as the carboniferous in this State, would, with an equal amount of change, give an alteration of level equal to the average altitude of the North American Continent above the ocean. It is, of course, impossible to conjecture the depth to which metamorphic action may extend, though it is undoubtedly very great; at least eight or ten miles, and there might be no great improbability in supposing such changes to take place through a large portion of that depth at the same time. That the rocks far down below the surface take up under the influence of great pressure, aided no doubt by heat, large quantities of water, carbonic acid, sulphydric acid, &c., is manifest in the materials issuing from volcanoes and from thermal springs. Water and gaseous acids issue in such enormous quantities from volcanoes, as to constitute a large fraction of the entire mass delivered, indicating that the solid materials have become supersaturated with them, and the association is resolved as soon as they reach the surface of the earth, and are relieved of the pressure to which they have been subjected. The overflow of volcanoes would, it is suggested, be susceptible of a similar explanation. Let us suppose a stratum or two, situated a few miles below the surface, became softened or lightened by the combined agencies described, so as to be specifically lighter than the average mass of overlaying rock. If a vent or fissure could be found, such a plastic mass would inevitably follow the laws of the equilibrium of fluids, and would not only rise up into the chasm, but overflow. Putting the problem into another form, the heavier overlying mass would sink into the lighter semi-fluid beneath, and drive it upwards. It is a well-known fact that the lavas are all of small specific gravity. * * * In a similar manner Lieut. Dutton sought to explain the intrusion of traps, trachytes and basalts. These rocks were probably lighter than those which originally overlaid them, and forced their way through weak places to the surface. The traps, basalts and porphyries—at least such porphyries as may be called intrusive—though they are unquestionably altered sediments, are for the most part amorphous, and not crystalline. They were evidently altered at a comparatively low temperature, and at no very great depth. They do not appear to affect the strata into which they are intruded, and withal, are less highly metamorphic than gneiss or marble. Water seems to have been the chief agent in their transformation, and they may have been forced upward in a soft condition, and upon being relieved of the pressure, parted with the greater portion of this water. The traps and basalts also exhibit many planes of cleavage, with very perceptible interstices, and these interstices would seem to be much wider than could be accounted for by the contraction of cooling. He stated that he had often noted this fact, and was decidedly of the opinion that the contraction of these rocks by loss of heat, could by no means account for the entire width of such planes of cleavage, and believed that it was in great part due to the loss of water, which had once rendered them plastic.

SUBTERRANEAN ELECTRICAL DISTURBANCES.—The following is from *Nature* for April 20th:—"A few minutes before and after the earthquakes of the 17th March last powerful positive electrical currents were rushing toward England through the two Anglo-American telegraph cables, which are broken near Trinity Bay, Newfoundland. Mr. C. F. Varley C. E., who informed us of the fact, broaches the novel speculation that some earthquakes may be due to subterranean lightning. He imagines that as the hot centre of the earth is approached, a layer of hot dried rock may be found which is an insulator, while the red hot mass lower down is a conductor. If this conjecture be true—and there is plausibility in it—then the world itself is an enormous Leyden jar, which only requires charging to a very moderate degree to be equal to the production of terrific explosive discharges. The French Atlantic cable was disturbed at the same time, and so were many of the English land-lines, but the only observations as to the direction of the current were made by means of the Anglo-American telegraph cables. A number of Mr. Varley's charts about earth-currents were published in the Government Blue Book of 1859-60, showing that the direction of these currents across England was in a very notable degree determined by the contour of the coast, and that the same auroral discharges would often produce currents at right angles to each other in direction, in different parts of Britain."

PLANT REMAINS PRESERVED IN COAL.—We copy the following from a notice, in *Silliman's Journal* for May, of Mr. Lesquereux's chapter on coal plants in the report of the Illinois Geological Survey:—"We have here mention of the fact that plants are sometimes found in good preservation in the solid coal, as well as in the disintegrated form of mineral charcoal which often occurs between the layers of the denser coal. "This [former] case is especially observable in a kind of hard laminated flint coal, obtained in Mercer county by Mr. H. A. Green [of the Survey], which bears on the horizontal surface of its crystalline lamellæ, however thin they may be cut, the outline and nervation of leaves and branches of ferns and other vegetables of the coal; and these are so distinctly marked that the most delicate parts are as easily identified as those of plants preserved in shales. The great abundance of these remains shows that the whole mass of this coal, which is true coal and burns freely, is a compound of them. In shales, the leaves of ferns and other plants are sometimes finely preserved in the form of extremely thin layers of coal; while, in other cases, the carbonaceous matter has nearly disappeared, leaving barely enough to show the outlines of the fossil. In still other cases, we find larger or smaller fragments of the cuticle of plants, not completely altered to coal, of a reddish-brown color, and retaining considerable elasticity. "The shales, according to the amount of vegetable matter mixed in them, and the depth at which they have been formed under water [?], are of a more or less dark color; whitish or yellowish, when of fresh water origin, and with few remains of plants; black and generally more homogeneous when formed in deep water, and having, for a larger proportion of their compound, broken remains of organized beings."

FOSSIL SERPENTS FROM WYOMING.—In *Silliman's Journal* for May, Prof. Marsh describes specimens of reptilian fossils found by the Yale College party last summer, in the Green River Tertiary basin, west of the Rocky Mountains. Among them were the remains of several species of serpents, the first extinct Ophidians found in the interior of the continent, and with the exception of three species from the Eocene marl of New Jersey (sometime since mentioned in the PRESS), the only ones yet found in the country. Nearly all belonged to constricting serpents, closely related to the modern Boas of South America, although smaller and generically distinct. For the separate genus represented, Prof. Marsh proposes the name *Boavus*, "in allusion to the not improbable relationship of the two types."

MIVART ON DARWIN.—St. George Mivart thinks that the long-armed apes, or gibbons, are more probably the direct ancestors of man than the orangs or African forms of the anthropoid monkeys. He proceeds to give his reasons for this opinion in *Nature* for April 20th. But he closes with this remark:—"To prevent misconception. I may add that fully recognizing the truth of Mr. Darwin's appreciation of man's zoölogical position, which I have ever maintained and indeed labored to support, I none the less completely differ from him when I include the totality of man's being. So considered, Science convinces me that a monkey and a mushroom differ less from each other than do a monkey and a man."

# CORRESPONDENCE.

## Irrigation by Iron Pipes.

EDS. PRESS:—Serious as are the consequences to our State of another dry winter, it has certainly produced one good effect. It has thoroughly aroused our people, especially in the San Joaquin valley, to the vast importance of irrigation for our grain fields.

Of the many plans proposed and on foot for this praiseworthy purpose, all we have heard of up to this time are on the principle of a ditch, or canal, beginning at some suitable point on the Joaquin or its branches, and dug through the various portions of the valley where the water is to be distributed.

A different plan, which is in some respects peculiarly adapted to California, has been suggested to the writer by a friend, and appears to present certain advantages that make it worthy of examination and discussion, even if it should be considered, at first thought, too expensive to be tested practically. But we hope an accurate estimate of the expense of constructing such a system will be made by those who have the information necessary for that purpose, and that the scheme may prove to be entirely practicable, and if so, may at once be put in execution.

Here we shall merely give an outline of the plan proposed, that it may be examined by others, and approved or disapproved at their leisure.

Instead of a canal, with its ditches and sluices, this plan consists of a system of cast-iron pipes, similar to those used to supply our large cities with water. Let the main pipe be, say two feet in diameter, or larger, if necessary. Force the water into this pipe, as is usual in such cases, at some desirable point on the stream from which the supply is to be taken.

A steam engine and pump of sufficient capacity to lift the desired amount of water to the proper hight, would perhaps best accomplish this object. Now if this plan is not too expensive and can be readily put in practice, observe its advantages.

We must first remember that the amount of water in California with which we can irrigate our fields, is quite limited, in comparison with the inexhaustible supply for the superb system of irrigation which has been in use for centuries along the valley of the Po in Northern Italy. In the latter instance, where lofty mountains stand on each side of a long valley, almost exactly as is the case with the valley of the Sacramento and San Joaquin, there are, in the lower portions of the mountains, large lakes which form such immense reservoirs of water as we cannot control for the same purpose in our valley.

Consequently it is a matter of the first importance to avoid all waste of our limited supply of water. If a canal is used, how much water must our thirsty soil absorb? How much will our dry atmosphere evaporate? Iron tubes will prevent this waste. With them there is no absorption, no evaporation. They will convey all the water drawn from our rivers to the point where it is to be distributed.

Again, they will take up less room than a canal and ditches. For that matter, all the main pipes can be buried, if need be, and thus all the ground throngh which they pass can be cultivated. They would not interfere with roads, and no bridges would be necessary.

Another convenience of this system would be hydrants in our yards and houses. The durability of the tubes would be one of the advantages, and though the original expense might be greater than for the canal system, the expense for repairs would be comparatively light. The work once completed would be lasting.

Other advantages will present themselves upon a careful consideration of the subject. At all events, it recommends itself especially for our sandy soils. Though these pipes should convey a smaller amount of water than a canal, rules could be adopted to irrigate tracts in rotation, so that the supply would be ample for all practical purposes.

The next question is, would such a system pay? If the system of iron pipes in our mountain districts pays so well for mining purposes, why should they not pay when applied to the wants of agriculture. And if it pays to bring water to a city by such a system, to be consumed, why should it not pay when its supply is likely to double the yield, and more than double the profits per acre?

Will not some of your correspondents who is competent for the work, make an estimate of the expense of such a system of irrigation, and let us know, through your columns, whether the capitalists of our State would be justified in forming a company to inaugurate such a scheme? If practicable, an act of incorporation might be secured at the next session of the Legislature, and portions of our plains could be supplied with water by this means in the spring of '72. No doubt, all land owners and farmers of our valley would do everything in their power to secure the success of such a scheme, were it found to be practicable. Right of way for the main pipes could no doubt be easily obtained along the line of projected railroads. W. W.

Fair View District, Stanislaus Co.

## The Tea and Coffee Plant in California

EDITORS PRESS:—It may not be uninteresting to many of your readers to state that both tea and coffee are indigenous plants in California. The tea plant or bush grows in Sierra and Plumas in abundance, wild, from which the Chinese manufacture excellent tea, better than the imported. [?] This fact I have been cognizant of since 1854–55, and have partaken of it often. It is a bush about four or five feet high, having serrated, olive-shaped leaves, and delights to grow on mountain sides not far from some mountain stream, and is a hardy evergreen.

Coffee grows everywhere below the granite formation on a slate soil. It is distinguished by its lancelated leaves, and peculiar berry, first bright red, then purplish-black. It is much sought after for browse especially by sheep and goats, and has the same anti-soporific quality as its kindred of Tartary. The sheep who partake of it are extremely vigilant, especially the males. The berry is smaller and rounder than either Mocha, Rio, or Java coffee, and is vulgarly said to be, (I don't know upon what grounds), poisonous to human beings. The hull, when ripe, has a sickening sweetish taste, but as I was afraid to swallow it I have invariably spat it out. If this is of any interest to you, you are welcome to publish the information, and perhaps some of your readers may be induced to experiment upon it. It never grows upon soil having granite for a foundation or bed-rock.

THOS. R. STODDART.

The so-called "Coffee Plant," to which our correspondent refers, is the *Frangula Californica*, formerly known as a *Rhamnus*, of the Buck Thorn family. The berry is not poisonous as generally supposed. The plant grows in this city, on the hills back of the Mission. The true coffee of commerce belongs to the natural family *Rubiaceæ*, and is a very different plant from the one alluded to by our correspondent. The coffee tree of Arabia is an erect, conical-shaped, low tree with a light brown bark, and opposite, oblong, wavy, shining light-green leaves. The berries are first green, then red, and black when ripe. The beverage prepared from these berries is said to have been used in Ethiopia from time immemoral, and to have been introduced into Arabia from Persia in the 15th century, and into Europe soon afterwards.

What our correspondent says of the tea plant is correct with perhaps some qualification of the comparison which he makes between the indigenous article and that which is imported.

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LOCATION WANTED FOR A DAIRY.—A correspondent at Pescadero asks "What is the best part of the State for a man of limited means to settle in with the view of establishing a dairy ranch?" We suppose the object of our querist is to make butter and cheese. Perhaps there is no better time to look for such a location than the present, and inasmuch as green food is quite as an important desideratum in such a business, whatever locality will furnish such food through the present time of drouth, taking into proper account its accessibility to a market, is a desirable locality. There are many such places all along our coast hills, particularly to the north of this city. There is no better opening for farmers in this State than can be found in the dairy business.

## Facts About Irrigation.

Our correspondent "F. M. Shaw," San Diego, writes as follows:—"In some of the southern counties, irrigation will have to be generally resorted to for almost any crop except the small grains and some of the hardy grasses; and as the water from wells is not always just suited to the particular plant to be irrigated, an exposure for some length of time in open reservoirs might be beneficial, especially where the impurity is not of a saline or alkaline nature. I have noticed a marked difference in the effect of water from the same well, by an exposure of say a week or ten days. The difference is always in favor of the exposed, and against that of freshly pumped water. The reasons for that difference I am not able to give, but I suppose the most effective improving constituents, added by exposure, is oxygen and ammonia."

The improvement noticed in water that has been allowed to stand some time in reservoirs is probably due more to its increased temperature than anything else. It may absorb an inappreciable quantity of ammonia; but becomes oxygenated only in falling from the mouth of the pump or elevating tube into the reservoir, and in being again drawn off for use.

A fact connected with the experience of Herr Schnell, in his experiment with tea culture in El Dorado county, will be found interesting in this connection.

As soon as his plants began to suffer from the drouth he turned on water at intervals from a neighboring mining ditch. The whithering plants at first manifested a marked improvement from the effects of this irrigation; but in a short time they began to show evident indications of something wrong, and an increased amount of irrigation only added to the difficulty. The water, it seems had been allowed to run about and in contact with the stems of the plants, and a careful examination just below where they emerged from the ground, and where the contact of the water had continued longest, showed that a thin coating of oxide of iron, had formed completely around the stem, and so affected the bark as to almost entirely cut off the flow of sap between it and the wood—the plants were thus being strangled by this deposit from ditch water!

This circumstance is one which should be brought to the attention of our mountain farmers and gardeners, generally, as others may have suffered in the same way without knowing the cause or nature of the injury to the plants. The oxide is undoubtedly deposited from sulphate of iron held in solution by the water, and obtained from the mining operations on the streams above.

The remedy would be to keep the water away from contact with the plants, so that it will depost its iron on the surface of the ground where it will do no harm, but rather be a benefit. Holding it awhile in a reservoir would also free it to a considerable extent.

## Irrigating by Windmills.

In our issue of February 11th, we published a letter from Mr. F. M. Shaw, of San Diego, in which he spoke of a pump and windmill in that locality, costing, with the well, but $400, which raised to a hight of 120 feet, sufficient water to irrigate two acres. We have since received another letter from the same correspondent, called out by queries as to the statement then made, in which he writes:—"The pnmp referred to is in use upon the grounds of McDonald & Gale, in this place, and is of the Smith & Walmsly pattern, 3-inch barrel, double-acting, driven bv a 16-foot "Excelsior" mill. But at the depth of 80 feet, I consider it entirely practicable to raise water in large quantities; and with simpler machines.

In the first place it has been found that those mills intended to revolve both horizontally and vertically, are twice as expensive as one simply revolving one way; or, in other words, placed to only use the prevailing wind. By such means a longer arm can be used, and although the motion is not as rapid, it answers for all ordinary purposes. The pump most useful for such a mill, would be a simple tube (galvanized iron preferred), of from 4 to 8 inches in diameter, according to quantity of water required to be raised, with a plunger or rod running to within a few inches of the bottom.

The whole arrangement is simple; a wooden plug in the bottom with an old-fashioned leather valve with a block of wood or lead fastened to the leather, the plunger to contain a similar valve. The cost of this kind of mill and pump need not exceed $100 to raise water eighty feet with a 4-inch pump; of course, all but the tube would be home made.

There is no land known where vegetation thrives with as light a rain-fall as in this vicinity, whence one of the secrets of its healthfulness. The soil here has such an affinity for moisture that comparatively little rain is needed, and we thus enjoy a freedom from dampness, unattainable in any other place short of a desert. If people were willing to undergo a tithe of the preparatory labor in making a home here, that was required in some of the rugged and inhospitable places we know of, it would not be long until our whole southern area would be densely populated.

## Summer Ranges for Stock.

Under this caption the Sacramento *Union* of Tuesday last has a well-timed article, calling the attention of stock raisers in the already parched valleys of this State to the fact that there is an abundance of nutritive grasses growing on the upper bench land of the Sierra range. These elevated pastures are usually in good condition by the first of July, and afford most excellent feed until the 1st or middle of October. This year, however, cattle and sheep may be driven to the very summit of the main range as early as the 1st of June, or sooner. In fact, bunch grass has doubtless already taken the place of snow along the bench land running from Strawberry Valley on the Placerville road to Mount Gregory on the Middle Fork. Early in July, 1866—following a winter much more severe than that last past—we found green bunch grass from four to ten inches in length, covering hundreds of acres so densely that the ground could scarcely be seen, and reaching up nearly to the apex of the highest mountain peaks of the Sierra; while along the western slope particularly, about the head waters of the five forks of Silver Creek, were broad valleys of waving grass walled in by granite cliffs crowned with snow. These green pastures are above the timber lands, and reach an altitude of from 5,000 to 8,000 feet. Of course there is scattering timber and some small groves extending up to the summit, but the greater portion of the western slope from the South to the North Fork of the American river is exposed to the first warm rays of the spring sun, and the snow disappears even earlier than that deposited lower down on the mountain side where it is protected by the timber. Farmers engaged in stock raising on a small scale could club together and send their herds to these pastures at small expense, and at the end of even the dryest summer have them driven home as fat and sleek as if the valleys had been refreshed by weekly showers.

## From Petaluma to Healdsburg.

J. W. Cartier writes as follows, under date of May 7th:—Between Petaluma and Santa Rosa there is much pasture land; but whatever land I saw under cultivation looked very promising. Barley appears to be the principal crop in this county, particularly around Healdsburg where there will doubtless be a large crop. Some of the barley fields are a magnificent sight. The pasturage is very good. All along the road from Petaluma the hills are clad in green as far as the eye can discern; a greater contrast to the country around San José and Los Angeles cannot be imagined.

I was much pleased to see several very good orchards and vineyards between here and Petaluma; indeed there are quite a number. I think it rather strange every farmer does not see the importance of early planting a good orchard.

The railroad is completed a little beyond Mark West creek; there are about eight miles to build yet between there and Healdsburg. When that is done it will add greatly to the conveniences of traveling in the northern part of Sonoma county.

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THE taxable property of Grass Valley, as shown by the assessment roll, is $768,455.

## The Vineyard.

In our last article on this subject we had worked our vineyard through the second year's growth. Our efforts up to this step having been principally directed to securing a good growth of vine in a good form. We are now to commence operations for the

### Third Year.

As a general thing, in this State, the vines begin to bear on the third year from the cuttings. So that we not only are required to consider the continued growth and form of the vine but also the question of fruit. As the vine should not be allowed to bear but a small crop this year, the pruning should be done early in the fall; as we have before remarked that vines pruned early in the fall—we mean, of course, after the leaves have dropped and the sap has become still—will make a greater growth of wood the following season than those pruned later in the season.

This rule holds good not only with respect to grapes but to all other shrubs and plants. This year should particularly be devoted to forming a good head or top to each vine, and as near as possible of a uniform shape or form throughout the vineyard. The vineyardist must, to a great extent, exercise his own judgment in accomplishing this object, as it is impossible to lay down any rule applicable to all cases; our principal object in writing being to impress upon the operator the importance of the exercise of good judgment.

We will suppose the body of the vine to be erect, with from three to four canes branching out from ten to eighteen inches above the ground. These canes should now be cut back to within three buds from the body, and the bud nearest the body should be rubbed off, leaving but two buds on each cane. By this course you secure two objects:—First, a proper spreading of the top or head; and second, better fruit will grow from the second and third buds than from the first. This year we doubt the propriety of any summer pruning at all, as the small amount of fruit which the vines should be allowed to bear will be sufficiently shaded without it, as summer pruning, however little, checks the growth of the vine more or less. If, however, any summer pruning is considered better by the operator, no knife or shears should be used; the thumb and finger will be sufficient. After the new canes or shoots have grown to say twelve or fourteen inches above the highest fruit stem, the end may be pinched off say one half inch. This little pinching will not seem to check the growth much, but will cause the buds under the main leaves of the canes to start and form a more close top. The number of stems or bunches of grapes which it will be expedient to allow to grow on the vines the third year will depend on the strength; but unless the vine is very strong and luxuriant three or four will be plenty. The vine will be better in the future if not forced too much with fruit while young. In summer pruning we would caution against the use of the knife or shears at all, it is better to depend on the pinching-in process altogether. In the use of the knife the operator is apt to strike too low and to lop off too much of the cane and too many full grown leaves. This should be particularly avoided for two distinct and important reasons. First, if the cane is cut off back to where its wood is becoming hardened, the ascending sap will be forced into the latent buds near the base of the cane, and will break them and send out side shoots all along the cane cut off, and thus destroy the fruit buds, which should by all means be reserved for fruit the following year. We have seen vineyards almost ruined by a succession of this kind of summer pruning. The green leaves are the active lungs of the vine as well as the medium through which it secures a large portion of its nourishment, they also serve to shade or protect the fruit from the rays of the sun. They should therefore remain undisturbed. For the third year therefore we would recommend early fall pruning, and very little, if any, summer pruning. This course will prevent too great a tendency to fruiting and will secure a good growth of wood.

### The Fourth and After Years.

At four years of age the vineyard ought to be able to bear a good average crop of grapes, and the growth of wood need no longer be especially stimulated. Therefore the fall or winter pruning may be delayed, according as the tendency of the vines is to fruit freely or not. Early pruning secures wood and late pruning fruit. The operator must use his judgment in this respect, and should be acquainted with the habits of the vines that his judgment may be guided correctly. All the old dry wood, if any, should be carefully cut off in such a way as to induce the growing vine to heal up the wound. We would recommend the practice of leaving at least three buds in length on each cane intended for fruit-bearing, and that as a general thing the bud next the old wood be rubbed off, leaving the two outer buds for fruit. There are two points to be gained by this practice—first, the better spreading of the top or head of the tree so as to shade the ground about the roots; and second, the better separating of the fruit, so that the air will have a freer circulation.

### Grape Seed Making.

When the grape is about one-third grown, the seed, or the grape fruit proper, becomes hard. While this process is going on the grape does not seem to increase in size but very slowly, and yet the vine is at this time doing its most severe work at fruit making, and shows but little tendency to wood making. During this time it should be let entirely alone. The pinching in and all other modes of pruning should now be entirely suspended. When the grapes begin to grow again rapidly you may be certain that the seeds are hard and secure. Many complain that certain kinds of grapes in certain localities are apt to burst open or crack and the seed protrude. We have heard the White Muscat of Alexandria, on low, moist land, complained of in this respect. We are inclined to attribute this trouble to a great extent to the pruning while the seeds are hardening.

## The Vintage Prospect.

Parties thoroughly conversant with the wine interests of California, says the *Bulletin*, after receiving advices from all the large grape districts, are of the opinion that the prospect for the vintage is better this season than ever before. The number of new vines coming into bearing is very large, and the old ones everywhere are looking finely, the grapes having already "set" perfectly, and no damage having been done anywhere by frost or floods. In most localities the danger of damage by frost is entirely passed for the season, and there is no likelihood of injury to any considerable extent being done hereafter to any locality. The danger from frost is considered over by the 15th May in all parts of the State; and this being to some extent an exceptional season, late frosts are not looked for. The dry winter and dessicating winds which have recently been so disastrous to the growing grain crops, have not effected the vines in the least. Rains within the next two weeks might possibly slightly increase the size and quantity of the grapes, but would not increase the quality, as a dry season is rather favorable than otherwise to the development of saccharine matter and delicate flavor in the grape. Experts differ in their estimates of the coming vintage, the lowest named being 8,000,000 gallons, and the highest 12,000,000. There is reason to believe that the vintage of California in 1871 will not fall much under 10,000,000 gallons, and as prices promise to be remunerative shall thus in part, at least make up for the deficiency of our grain crop. Viniculture is now altogether one of our most prosperous and reliable industries.

The Worden's Seedling Grape is the name of a new vineyard candidate lately introduced at the East, and said to be a black grape, clusters and berries good size, seeds few and small, but little and very sweet pulp. Sprightly, rich, ripening with Hartford Prolific, and never mildews. It is said to be a seedling of the Concord, and "has a native aroma like its parent." It is said that "it never mildews," with regard to which claim Moore's *Rural New Yorker* says:—We regard it slightly presumptuous until it has been tested elsewhere than in Oswego county.

## The Orchard.

### The Management of Orchards.

A correspondent of the *Journal of Horticulture* says that almost all apples thrive on dwarf stocks, but he has found that some thus thrive *better* than others, among which he names the early Harvest, American Summer Pearmain, Summer Rose, Early Strawberry, Red Astrachan, Gravenstem, Porter, Summer Rambo, Duchess of Oldenburg, Maiden's Blush, Fall Harvey, Hubbardson's Nonesuch and Fallawater.

A very great error is often made in pruning fruit trees in cutting away to too great an extent the small branches near the center of the tree. It is right that enough should be cut away to let in the sun light and allow of a free circulation of air; but the fruit spurs should always be left, and, as a general thing, the water shoots or suckers only pruned out. When a tree is properly trimmed and the orchard not set too close the best fruit is generally grown nearest the center of the tree.

Fruit growers in California, where labor is high, and a general disposition manifested to avoid as much work as possible, are too apt to neglect their orchards, in the matter of cultivation, dressing and pruning. Whenever this is done it is at the cost of a much smaller and more inferior yield from that which might be derived from proper care.

Fertilizers of all kinds are scarce and high in California; hence the neglect on that score. But lime can almost always be had at a reasonable price, and it is generally considered a good fertilizer.

Gypsum is another useful application, the exact fertilizing properties of which are not very well understood; but enough is known to determine the fact that great benefit is derivable from it when applied to almost any crop. This fertilizer seems to be especially useful in California from its peculiar quality of rapidly absorbing moisture from the atmosphere, and giving it out moderately to the plants among which it is placed. It seems to act both as an irrigator and fertilizer also. The few experiments which have been made with it have been most eminently satisfactory. Its chief value as a fertilizer is due to its power of absorbing ammonia and giving out that highly fertilizing element again to the plant. It would be well if our farmers would experiment more generally with this fertilizer, and report the results of such experiment for the benefit of others. There is no time when it can be made more useful than in a dry season like the present.

There is much more profit in raising good fruit than poor, and the former costs but a trifle more, and that chiefly in care and attention, a kind of labor which ought to be a pleasure to every fruit grower. Those who are raising fruit for the Eastern market, in particular, should heed this suggestion.

New Varieties of Apples Called For. The Cincinnati *Gazette* insists that the old varieties of apples are failing, and that we must seek for new, and suggests that if orchardists would permit a few seedling apple trees to grow on their farms, it is altogether probable that new and superior varieties would be obtained. The Pacific Rural Press has several times alluded to this important matter, and pointed out the best manner of proceeding to obtain desirable seedlings.

### Variety in Fruit Culture.

In order to make fruit growing satisfactorily profitable, pomologists must cultivate varieties that will ripen in succession, in order to avoid the disadvantage of having on hand at one time, a supply so large that the fruit cannot be disposed of as it should be. It is not good policy to cultivate a larger crop than can be handled successfully and secure remunerative prices; and it is especially poor policy to risk all the labor and expense of season upon a single kind of fruit. A mixed husbandry is as much safer and more profitable to the pomologist as to the grain grower. The strawberry crop may be destroyed by drouth; and yet the raspberry crop, which follows it, may, by proper management, compensate all loss on the strawberries. Early currants and gooseberries always bring large prices when in good shape. In some markets the earliest do not bring as large a return as the very latest So careful is this feature of marketing studied by experienced culturists, that the season for each of the small fruits have been largely extended, aided by a difference in latitude. But this extension of the season with the same fruit is due, not only to difference in latitude and isothermal locations, but to the care with which large cultivators have selected varieties with a view to secure a succession, and not only prolong the season, but the better enable them to control the market, divide their labor and save themselves from loss by being forced to put their crop all in the market at once. Successful pomologists will select varieties and soils, with a view to getting their crop to market at a time when the fruit will command the largest price.

### Pear Culture.

The pear which seems to be fast dying out in many localities at the East, is the healthiest of all fruits in California, the longest lived, and the most productive, and the fruit, as compared with the pears of other States, is superior in quantity. Some of the older trees in California yield more than half a ton of fruit each, on an average every year. The most profitable pears are the Glout Morceau, Bartlett, Easter Beurre, Vicar of Wakefield, and the Winter Nellis. The Bartlett is the most profitable for mountain cultivation, because it ripens after the valley pears are gone in the San Francisco market, and then bring from five to ten cents per pound.

An experienced pear culturist says that he has examined thousands of dwarf pear trees in the grounds of others, and has never seen good, healthy, vigorous trees where annual pruning has been omitted. Near his orchard which contains 2,000 healthy, thrifty, dwarf pear trees, a neighbor planted trees at the same time, obtained from the same source and of the same age as his. This neighbor pruned a little in the first and second years, but last year his trees being full of blossom buds, he allowed them to bear and left them unpruned. The season was a very dry one, the fruit did not fully mature, and now from one-half to two-thirds of the trees are dead.

Food for Fruit Trees.—It must be apparent to every reflecting person that the material round about a fruit tree, which renders important aid in the production of fine fruit of any kind, must be more or less exhausted after a vine, bush or tree has produced abundant crops for several successively seasons. For example, a large pear tree or apple tree will yield from ten to fifteen bushels of fruit or more annually. Many trees have produced more than twice these quantities at one crop. After a few seasons the material that the roots must be supplied with, in order to develop fruit, will be more or less exhausted. For this reason fruit begins to fail, and the failure is all attributed to an east wind, or some mysterious atmospheric influence when in reality the sole cause is starvation arising from an impoverished soil. It is evident that fruit trees cannot produce fine fruit out of nothing, or out of such material as may not be desirable for any other purpose.

Iron for Dressing in Orchards.—At a recent meeting of the American Institute Farmers' Club Mr. Wagner, who lives on Long Island Sound, about fifty miles east of New York, exhibited some prunings from his orchard to illustrate the effect of putting iron around trees. He took an old place with twenty trees in the orchard, full of dead limbs with yellow leaves, and the crotches oozing thick gum. He gave the earth a good top dressing of iron, breaking up old plows and scattering the fragments. The effect has been marvelous. The trees have renewed their youth, and now look strong and thrifty. The bark is tight and leaves are green, and the borer has disappeared. He thinks the slag of iron furnaces, ground up and spread on orchards will prove a valuable fertilizer for fruit trees of all kinds.

Saving Mutilated Trees.—Fruit trees shade trees and ornamental shrubs are sometimes broken by cattle and other kinds of live stock and also by high wind. In many cases the damage may be repaired by setting the broken limbs or trunks, matching the parts nicely together, and then binding on mud mixed with cow dung to keep it from cracking. A correspondent of the Cincinnati *Gazette* says he had a very nice May cherry tree in his yard. A horse got in and broke the top off a little above the first limb. There was a splinter of wood and a little bark at one side. He set it up and matched the broken parts as well as he could, bandaged the fracture, and tied the tree to a stake, spreading on grafting wax as far as the bark was broken. The tree grew as well as ever.

# AGRICULTURAL NOTES.

## CALIFORNIA.

THE FOOT HILLS.—Good reports from the crops in the foot hills still continue to reach us, and there is every reason to believe that the crops there will come fully up to the average of our prosperous years. We append a few extracts from our mountain exchanges :—

LARGE ARRIVAL OF SHEEP.—The *William Taber* brought up from the Southern Coast 8,000 sheep, which were landed direct from the vessel at Saucelito.

DROUTH AND THE CATTLE.—It is now evident that the rains which may fall after this date will not help the grain crops materially, although the pastures would be freshened, and there would be some augmentation of the hay crop. A large number of cattle and sheep have been driven off to the mountains, and we hear that a great uumber are still moving in the direction of Nevada. These will be saved, and will augment the resources of our meat markets. But thousands of cattle will be left to take their chances on the dry plains, where even now there is hardly enough feed to keep them from starvation. These, without other care, will die before the next rainy season. A great many cattle now iu tolerable condition will be sold for slaughter, which in good season, would have been kept over. There will be a material reduction in the number of horned stock in this State during the present year. Next spring look out for high-priced cattle, Hay and feed will command high prices, and the extra cost of keeping cattle and horses will then swell the figures. The hay crop in the coast counties, although less than usual, will be increased by the short grain fields which will be cut for hay; and two or three heavy showers during the present month would add materially to the bulk of hay and feed. When the hay harvest is over, we shall find probably a larger yield than is now predicted; but partly at the expense of the grain crop. Those who predicted that California would again be overrun with cattle, will find that they have missed the mark. Next spring the stock of cattle in California will be less by some hundreds of thousands than it was a year ago.—*Bulletin.*

THE HAY CROP.—The *Bulletin* in alluding to the fact that the hay harvest has just commenced says that the extreme prices which have been maintained for some time will soon give way. A farmer in Alameda county offered last week to deliver good baled hay of the incoming crop, at $15 a ton, which is at least $10 under the prices which have been running for some time. The hay panic will subside within ten days. In the Bay counties the hay crop will probably be an average one. A considerable quantity of short grain will be cut for hay, and this will materially swell the bulk of this crop. It is certain that there is to be no hay famine in this region, and that buyers will be surprised at the quantity which will be put on the market during the next three months.

THE GRAIN CROP.—The heaviest wheat buyer in the State, in company with other intelligent observers, made an extended tour of observation through the principal wheat-growing regions of the interior, during last week and furnished to the *Commercial Herald* the following data:

"Following is a concise statement of the growing wheat crop, furnished us by the parties refered to:—Sacramento, San Joaquin, Contra Costa, Santa Clara, Alameda, and San Mateo counties will produce enough for their own bread and seed; Colusa, Sutter, Yuba, Yolo, and Solano counties, seed, and bread, and 10,000 tons surplus for export; Napa, Sonoma and Lake counties, seed and bread, with 30,000 tons surplus; Pajaro and Salinas valleys, bread, and seed, with 20,000 tons surplus. Thus we find a total surplus of 90,000 tons breadstuff for export. This is the present outlook, says our informant, and there is no man in the State better posted than he. With an inch of rain in May, the surplus will be increased to 100,000 tons for export. Finally, in any probable contingency, we will have flour and wheat enough for bread and seed, and a surplus of 50,000 tons for export. This, too, without drawing upon Oregon for any part of her surplus. This exhibit is safe to act upon, and may be considered as reliable. Now, as for the crop of barley, the impression is general that we will have as much as last year, while the oat crop, being chiefly raised in the coast counties, is promising, and, with the help of Oregon, we will have considerable surplus."

It should be born in mind that the above comes from parties interested in buying, and who would, of course make out as strong a case as possible against the necessity of the present high prices, which are based upon a short supply for our own consumption, allowing nothing for export. There is no question but that the amount of surplus for export is put altogether too high. The probability is that we shall not have much, if any more, than one-half of the named amount for export. But there is no question whatever but that we shall have an abundance for home consumption, and that there is no reason whatever for the present price of wheat. It cannot be sustained for any great length of time. The Liverpool rates will still continue to rule the price here as formerly, as soon as the present flurry if over.

THE WOOL PURCHASERS AMONG THE GROWERS.—We condense the following from the Colusa *Sun*:—At the commencement of the wool season several large wool manufacturers came out to make purchases here. Failing to make satisfactory arrangements with the commission merchants in this city, several returned to the East; but Messrs. Orcutt and Payne went into Colusa county, where they were enabled to make satisfactory terms with the wool-growers direct. They accordingly put up a press at Colusa and commenced making purchases of the neighboring growers. They purchased and packed in all 250,000 pounds, at an average price of 27½ cents. Their purchases in other parts of the State have been 150,000 pounds. By packing at Colusa they save one-quarter of a cent per pound, besides a reduction in freight. This all indirectly goes to the benefit of the grower. They say they never dealt with a people who acted fairer and squarer than the wool-growers of this county. They engaged wool of quite a number at rates below the ruling rate at the time of the delivery, but in each instance the whole clip was promptly delivered, nothwithstanding they were offered more by other parties. By their present purchases, they have just learned the grade of wool each grower has, and next year they will come among us with a full understanding of what he can offer each one.

BLOODED STOCK FOR COLORADO.—The people of Colorado have organized an Association for the purpose of obtaining concert of action in the transportation of blooded stock of all kinds; to determine and control the time of running at large of bulls, etc.; to encourage men of small means, by establishing co-operative herds; to prevent the straying of stock, and when strayed to insure its return to owners; to detect and punish stock thieves, etc.

CROPS IN SAN BERNARDINO.—The *Guardian* of April 29th, says that the crop prospects in that county are very encouraging. They have greatly improved from the expectations of a week or two previous.

CROPS IN TEHAMA.—Favorable reports for the crops of this county still continue to reach us. The Red Bluff sentinel says:—Mr. G. Messersmith, one of the oldest residents of Tehama, has been traveling all over the county during the last ten days, and says, he never saw such a flattering prospect for the farmer, as is now presented. He says it seems to him that there can be nothing to prevent a tremendous crop in Tehama county, the present season.

ESMERALDA.—The farmers of Esmeralda county are putting in unusually large crops, in anticipation of good prices for produce consequent upon the partial failure of crops in California. All the agricultural land of Esmeralda county is irrigated from living springs, and rain or no rain the crops do well.

AMADOR.—The Amador *Ledger* says that Mr. Frank Hoffman has, adjoining the town on the West, sixty acres of ground in grain which is looking splendid—averaging four feet in hight all over. That portion which was Summer-fallowed stands five and six feet high and beautifully headed. This field is not an exception, as the same might be said of the grain crop all through our hills.

PLACER COUNTY.—The *Stars and Stripes* of Auburn says:—In the plains and lower foot hill portion of Placer county, the present appearance and condition of the grain crop is said to be more flourishing and promising than at the same period in any former year. As a general rule there is a good "stand," fine rich color and thrifty appearance. We are informed that many of the farmers could cut three tons of hay to the acre. With a liberal shower within two or three weeks, it is confidently believed that a generous crop would be insured. But without more rain within the longer period named there seems great danger of a short crop, though we hear of no fears of an absolute failure, nor even in the worst case that can be apprehended, do we hear prognostications of less than half an average crop. In grapes, berries and other fruits the prospects were never before as good. In this line there is every promise of an abundant crop.

NEVADA.—The *Transcript*, speaks well of the crop in that vicinity; while the prospects of the fruit never were better. One gentleman reports 1,000 clusters of grapes on a single vine in his vineyard. Trees and vines are loaded with blossoms, and from present indications one half the fruit will have to be removed or the trees will not be able to sustain the loads.

KERN COUNTY IRRIGATION.—The Kern county *Courier* says: Crops here look as well as nature can make them. We depend here entirely upon irrigation, and as far as the farming interest is concerned, we are independent of rain, and fearless of drying winds, or any other of the usual contingencies affecting the growth of crops as far as moisture is concerned. Our crops are always abundant—more so, perhaps in dry seasons than in wet. The soil is rich the climate warm, and water plentiful. Failure here never enters the calculation of the farmers, unless it is so far as it may result from the depredations of wild cattle, a nuisance we do not propose to suffer much longer.

FINE WHEAT.—The Marysville *Appeal*, has seen some samples from a field of wheat growing near Yuba City which are reported to be an average of the crop of about forty acres of the bearded Chile variety, and gives promise of a good crop without further rain. The proprietor estimates a yield of from thirty to forty bushels per acre. This variety of wheat is highly prized by the grain growers of Sutter, and is known as the Johnson wheat. It brought three cents a pound for seed last Fall.

## OREGON.

WE clip the following items from the Walla Walla *Union*:

THE FRUIT CROP in this valley still promises to be the most abundant ever raised here. The light frosts have done no damage that we have heard of, and there is now very little probability that the fruit will be injured by frost this year.

THE number of sheep in Umatilla county, at from thirty to forty thousand, mostly of fine breeds, and all looking well. There is about the same number in Walla Walla county. The climate east of the Cascades seems to be as well adapted to the raising of sheep, as it is to the well being of all other domestic animals. There has been some considerable talk lately about the erection of a woolen mill at some point in the county.

CATTLE.—Two large droves of stock cattle passed through town this week for the country beyond Snake river. The country between Snake and Spokane rivers seems now to be the favorite region with stock raisers, and the valleys that skirt the small streams in that section are fast filling up with this class of settlers. We are told that not less than five thousand head of cattle have been taken across Snake river at the different ferries since last fall.

ORNAMENTING GROUNDS.—The spirit for ornamenting grounds is increasing. In some instances we see the door-yards filled with cotton wood and poplar trees; these are better and preferable to no shade at all, but we think it better to combine the useful with the ornamental by planting fruit trees of different kinds. As to shade we can see no difference between forest trees that cast their leaves yearly, and any kind of fruit trees, and the cost is but a trifle more.

A WOOLY HORSE.—A farmer, residing but a few miles from town, informs us that upon his place he has a genuine wooly horse, whose fleece is much longer and finer than is generally found on ordinary sheep. The animal is three years old, and rather large for his age. The owner of this curiosity proposes to take the animal to Oregon and California for exhibition.—*Walla Walla Statesman.*

EASTERN OREGON.—The *Mountaineer* of April 29th says: "The weather for the past week has been exceedingly pleasant. From all directions of our country and that of Grant we receive cheering news of the condition of the growing grain and grass. A little more rain is needed, and the chances are much in favor of receiving all we need. The fruit trees are loaded with young fruit and the indications are that we are going to be blessed with an abundance.

## Labor for the Unemployed and Unfortunate.

Many of the farmers of this State are just now in a most unfortunate and trying situation—we refer to those who are located in regions where the drouth has been most severe. Many are greatly in debt, without the means to pay, and many others, still more unfortunate, have not the means to support their families even through the long period that awaits the planting and incoming of another crop. A large opportunity is here presented on the part of creditors and others to show a spirit of liberality in this season of want and necessity.

There are many who have horses and tools and a little means left, and what is better than all, a will to do whatever presents, that will enable them and their families to live until they can again find employment in their own fields. The *Alta* has made a good suggestion for this last class as follows:—

The best chance for employment seems to be in the reclaimed tule land, of which there are probably 100,000 acres in the State in a fit condition for cultivation. These districts are perfectly secure against overflow for the present season; they are dry enough to plow, and in many places there are facilities for irrigation, or irrigation can be supplied without difficulty at a few weeks notice. The total area in the tule districts already reclaimed is more than 200,000 acres, but portions are too wet, too dry, already under cultivation, reserved for pasture or otherwise withdrawn from, or unfit for tilling this year. The remaining 100,000 acres—we think we do not overestimate the area—would furnish profitable employment in forty acre, or smaller tracts to the man, to many of our unfortunate farmers who have still time to break the land and grow crops of kitchen vegetables castor beans, and perhaps wheat, barley or maize.

For any enterprise of this kind, adds the *Alta*, no time is to be lost, and we shall try this week to ascertain the conditions upon which farmers can get the use of unbroken reclaimed tule land. Most of the available land of this class belongs to wealthy companies, the Tide Land Reclamation Company, which owns several large islands near the junction of the Sacramento and San Joaquin rivers, and the Sacramento Valley Reclamation Company, which has recently reclaimed 120,000 acres on the west bank of the Sacramento between Knight's Landing and Colusa. Of the former company G. D. Roberts is the chief manager, and of the latter Wm. Blanding, both of this city. Our opinion is that either company could afford to let any person cultivate for this year all the tule he would break up well. The breaking will require labor which the poorest can afford to give, and it will prepare the soil for use next year. In many cases, we suspect that the farmers would be so well pleased with the tule lands that they would not wish to run the risk of cultivating the dry plains again.

If any persons have plans for assisting farmers threatened, or already afflicted with bankruptcy, and in want of employment for their barns, tools and personal skill and labor, this is the time to make themselves heard. It is not simply a question of charity, but also of State interest. We cannot afford to let the most valuable class of our population suffer demoralization or serious discouragement. Irrigation ditches should now be built and every assurance possible should be given to these men, who are the main basis of our present production, and the nucleus for future development, that they will never again see California suffer so much by drouth as it has this year. Clear Lake, Tahoe, the Blue Lakes, and all the large streams of the Sierra, should be carried by ditches over the fertile plains now desolate because the clouds have furnished only half the average supply of rain.

We have already made suggestions similar to the above, and rejoice to see that special efforts are being made to carry out the idea. We shall communicate to our readers whatever of interest may be presented or shall transpire in this behalf.

## Artificial Limbs.

Simplicity of construction in all things is at once the greatest beauty and the best recommendation. In nothing is this more applicable than to the substitutes for lost limbs. That this is one of the great objects of the inventions here illustrated, is seen by an examination of the drawings, while it is also evident that utility, comfort and durability are likewise obtained.

The engravings represent artificial limbs which have novel features not heretofore obtained in them. India rubber is largely used in their construction, the feet and hands particularly being constructed of this substance.

Fig. 1 presents a full-length leg standing erect, to be applied in all cases where amputation occurs above the knee joint. Fig. 2 represents a leg to be applied where the leg has been amputated below the knee joint, and the stump is flexible enough and sufficiently long to enable the wearer to use it in walking. It also represents the leg with the heel compressed, and in its position after taking the step, and when firmly planted on the ground. Fig. 3 is termed a knee-bearing leg. It is to be applied where amputation takes place below the knee, and where the stump is too short or contracted at right angles, so that the knee joint cannot be used in walking. This figure represents the leg slightly bent at the knee, and bearing well upon the toe, as in the act of lifting it to take the next advance step.

Fig. 4 is a view of the india-rubber foot before being applied to the leg. This rubber foot constitutes the main feature in the legs shown in the figures. It is made mostly of india rubber of a very spongy, light and elastic character. A piece of willow wood, nearly filling the rubber heel at the top, or surface, where the leg rests, runs down about one-fourth of the distance towards the lower part of the heel; also forward and downwards to the joint at the ball of the foot, as shown by the dotted line. This piece of wood is the base upon which the foot is built, and is also the medium whereby the foot is joined firmly to the leg. The leg itself is made of light, tough willow in all cases, except the thigh piece shown in Fig. 2, and the front part of the thigh piece in Fig. 3, which are both made of leather. The entire leg and foot in all cases is covered with fine buckskin, neatly coated with a life-like, waterproof finish, making it both light and strong. It will be seen that there are no movable ankle-joints in these limbs, the necessity for these being entirely obviated by the elastic rubber foot, which gives all the motion required in walking, and also the ease, firmness, elasticity, and reliance, absolutely necessary in a perfect artificial leg.

It would seem at first sight that no one could walk well on any artificial leg, without the moving, flapping ankle-joint, but practice proves this to be erroneous. The rubber foot also gives all the required lateral motion to the foot when stepping upon sidling or uneven ground. This leg dispenses with all machinery of whatever character, and has been in use for a number of years, giving great satisfaction.

Fig. 5 gives a rear view of the knee-joint of the long leg (Fig. 1). The T joint is fastened to the upper part or thigh piece of the leg, and the gudgeons of the T are held in adjustable, oblique boxes, which are easily set at any time by the screws passing through the caps into the main leg, so as to keep the joint to work tight and still, yet free and perfectly flexible, the small projecting bar attached to the T with the button-shaped ball operating upon the spiral spring, so as to throw the foot forward when bent in walking, and so as to hold the foot under when bent at right angles in a sitting position.

Fig. 6 shows a rubber hand, made same as the foot, of which there cannot be as much said, as of the other inventions. It corresponds, however, with the others in its characteristic features of simplicity and durability, and wholly dispenses with machinery, giving a softness to the feeling and an elasticity which is very desirable. It is as useful as any hand yet invented, which is not probably saying much in its favor, as no art yet shown, if it ever will, can compare with nature's handiwork.

These inventions have caused a great change for the better in the appearances, as well as usefulness to those who have lost natural limbs, and must give great relief to the maimed. In dispensing with so much machinery, they reduce the expenses of repairs very greatly, as there is no complicated gearing to get so often out of order. You see no part of the cuts representing the inside working of the leg, because there is none there to be exhibited, except the lower part of the knee spring, operating as described in Fig. 5. The limbs are, of course, hollow in all cases, to render them light, as well as adaptable to covering and supporting the stumps they enclose and sustain.

These limbs, which are protected by patents, are very popular and in great demand. Information concerning them may be obtained by addressing the manufacturer, A. A. Marks, 575 Broadway, New York City.

Fig. I.

Fig. II.

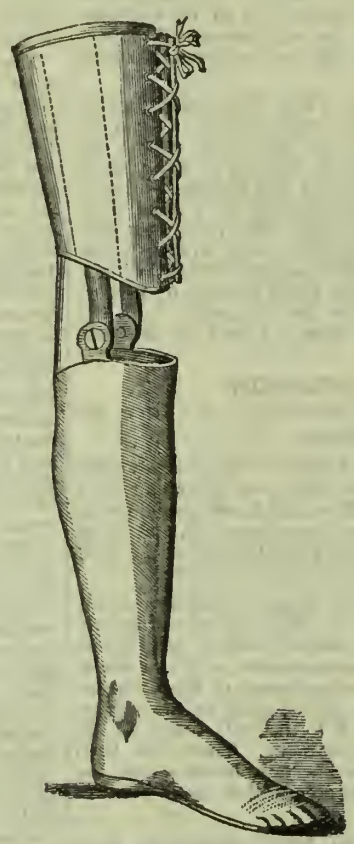


Fig. III.

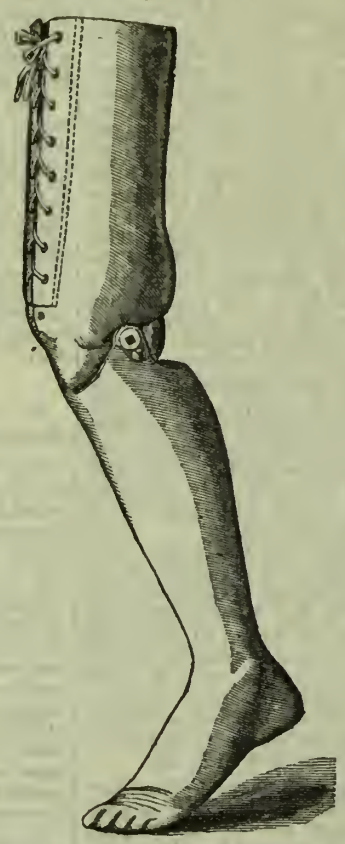


Fig. IV.

Fig. V.

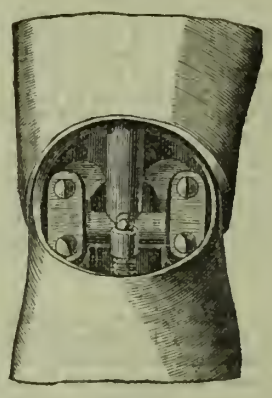
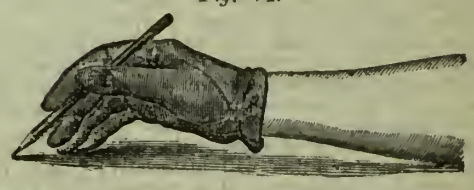


Fig. VI.



MARKS' PATENT ARTIFICIAL LIMBS, WITH INDIA RUBBER HANDS AND FEET.

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The *Builder* announces that *chignons*, plaits and curls can be and have been made of spun glass, which, for cleanliness and other reasons, are preferable to human hair, hitherto used for that purpose.

## California Immigrant Union.

The reports of the officers of the California Immigrant Union for the year ending April 30th, 1871, have appeared, and show that the society has been active in its work. During the past year, 774 letters have been received from the United States, Canada, Europe and Australia, asking for information concerning California. The general agent has received personal applications from 1,266 Americans and 466 foreigners making enquiries relative to securing lands in this State. Documents to the number of nearly forty-nine thousand have been distributed throughout the United States, Canada, Mexico, Europe and Australia. These documents were as follows:

| | |
|---|---|
| Pamphlet (English), All About California | 15,757 |
| German do | 4,016 |
| Hittell's Essay, Cal. a Home for the Emigrant | 7,903 |
| Resources of California | 4,096 |
| State Surveyor Gen. Report | 1,452 |
| U. S. Surveyor Gen. Report | 138 |
| Fahair's Essay, Farming Lands of Cal | 789 |
| Scientific Press Supplement | 326 |
| Common Sense Ideas on Immigration | 9,340 |
| Sundries | 4,016 |
| | 48,933 |

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The Action of Carbonic Acid.—According to Dr. Latheby, carbonic acid acts as a preservative agent in the following ways: First—It coagulates albuminous substances, and gives stability to the constituents of the cellulose of the young wood. Second—It absorbs and appropriates the oxygen which is within the pores of the wood, and so checks, or rather prevents, the slow oxidation of the ligneous tissue. Third—It resinifies within the pores of the wood, and in this way shuts out both air and moisture. Fourth—It acts as a positive poison to the lower forms of animal and vegetable life, and so protects the wood from the attacks of fungi, acari and other parasites.

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Leather from Alligator Skins.—It illustrates the enterprise of the North and South to note that quite a lively trade exists in alligator skins. The animals are caught in Florida and Louisiana, and their hides make a very good leather. But the leather is not made on the spot, though in great demand. The skins are sent to Massachusetts to be tanned, though there is no reason at all why they may not be done on the spot.

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Steamboat Springs, Nevada.—The *Territorial Enterprise*, of April 30th, states that, according to information received, a surprising change had occurred at Steamboat Springs. The springs had suddenly dried up, and no steam or water was issuing as before. The statement, if true, is most interesting and important.

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Only one-fifth of the population of the city of Naples can read and write.

## An Ancient Patent.

The first patent ever granted in England for the preservation of food, reads as follows:

"A. D. 1691, 7, No. 278."

"Porter Thomas, and White John.—A grant unto them of the sole use, exercise, and benefit of their new invencon of keeping and preserving by liquors or otherwise all sorts of flesh, fowle, and flesh, and many other things, either in pieces or in whole bodyes, at a cheaper rate, for many years in all clymates, without changing the nature, quality, taste, smell, or colour thereof, as good, palatable, and wholesome, to be eaten and made use of for any intent and purpose whatsoever, as when first killed or put into such liquor; to hold and enjoy the same for 14 years, according to the statue."

Can any modern patent beat this?

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A Gourmand.—A Mr. Rolgtono died some years since in London, who, in ten years, literally ate up a fortune of one hundred and fifty thousand pounds sterling. This singular person traversed all Europe for the sake of gratifying his appetite. In 1849 he actually allured the cook of Prince Potemkin, in Russia, from his service. He had agents in China, Mexico and Canada, to supply him with the rarest delicacies. A single dish sometimes cost him fifty pounds sterling. A rival of Apicius, but wiser than the Roman, he waited till all his patrimony was consumed before he quitted life. On the 15th of April, nothing was left him but a solitary guinea, a shirt, and a battered hat. He bought a woodcock with the guinea, which he had served up in the highest style of the culinary art. He gave himself two hours of rest for an easy digestion, and then jumped into the Thames from Westminster bridge.

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Velocity of Storms.—It is a singular fact, that notwithstanding the great velocity of the wind in the most destructive storms, the onward progress of the storms themselves is comparatively slow. Buchan, in his work on meteorology, states that a West Indian hurricane moves forward at a rate of only fifteen miles an hour, and that the highest speed of European storms is but forty-five miles an hour.

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Blue Lake Water Company.—The Calaveras *Chronicle*, of April 29th, stated that work was to be commenced by Mr. W. V. Clark in about two weeks, and that the project would be carried out, irrespective of San Francisco aid.

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The wealthiest people in the world are the Osages. The tribe numbers 3,000, and have, after all expenses are paid, 160 acres of choice land per capita, and $6,000,000 in money.

# POPULAR LECTURES.

## The Study of Modern Languages.

[Prof. Paul Pioda before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Fifth Series. Reported expressly for the PRESS.]

LECT. I. May 13. Prof. Pioda, in commencing his lecture, remarked on the varied aspects under which language could be considered. It is the vehicle of thought, allowing of the communication and expression of ideas and facts. But in addition to its connection with the present, it is also connected with the past, with the whole history of the human race; it is a link joining together every tribe and nation; it shows the relations between the most distant peoples. The study of the languages, of their changos and variations, of the similarity and dissimilarity of one with another, has enabled us to discover many new facts in the history of former nations, and has cleared up many obscure points; has opened up many new avenues of knowledge and has, through the recent works on philology, been raised to the dignity of a science.

Prof. Kellogg had pointed out, in previous lectures, the connection of the classics with the modern languages, and it was the province of the speaker to-night to dwell on the affinity of the chief modern tongues, and to show some of the advantages to be derived from their study. The practical benefits arising therefrom were, perhaps, nowhere better or more forcibly illustrated than in this cosmopolitan city of San Francisco.

This study is an excellent means of expanding the mind, is the only one, it has been said, which developes all the faculties at once. It is not merely the study of words, but also of thoughts, of facts and histories. Every idiom is a system of philology. We learn thereby of the present and of the past, and can form some judgment of the future. The study should be commenced early in life when the lingual organs are yet pliable; but on this necessity of early training in the modern languages, the Professor would dwell at length at a future time.

This study gives us a better knowledge of English, and is an indispensable auxiliary to a general education. The Professor remarked on the similarity of many modern languages which have the same origin to a great extent, but vary in the termination of words. He gave examples of this similarity and also of the positive identity of words in English and in other tongues. Languages, like men, are imperfect, and need the assistance of one another to complete themselves. Hence many words and quotations are transferred from one to another, being required to fill gaps, to express precise meanings, to denote particular objects, or for the sake of euphony. Many examples were given of this. In this connection the Professor compared the musical geographical names taken from the Spanish in our State, as San Francisco, San Mateo, Santa Cruz, Santa Clara, etc., with our rough, harsh American names, as Dogtown, Red Dog, Hangtown, Shirt Tail Cañon, etc.

That language which is subject to the greatest number of changes of inflection is the best for analytical study. Now the English is very poor in this respect. A regular verb, for instance, has six, and an irregular verb seven changes; while in the Spanish and Italian, a verb can be conjugated throughout without a personal pronoun, the termination denoting all that is necessary. For example, "love" may be the 1st, 2d, or 3d person, the singular or the plural number, etc., while "amo" can be only one certain person, number or tense. The English is very deficient throughout in inflectional changes. It is, indeed, the only language which can be learned mechanically—without understanding its principles and theories. The Professor dwelt on these points, comparing English with other languages, and then remarked also on some of the superior points of our language.

The Latin and Greek are, perhaps, the best media to show the theory of grammar. The revival of their study did more than anything else to free the minds of men from the chains of the dark ages in Europe. They enter into many living languages and are without question of the highest importance. Their study, however, demands more time than can be given by the many, and belongs rather to a higher intellectual course than the multitude can afford to take. The modern languages, however, show a more evident practical bearing, are found in general more interesting, especially to the young, and are excellent for training the mental faculties and expanding one's ideas. The Professor spoke fully on the importance of their study, showing how a knowledge of a new language teaches a new history, explains facts, gives a new point from which to view some of the important features of the world, enables us to judge more clearly of the character of a foreign nation, etc., etc. The works of such a man as Shakespeare, for instance, cannot be translated, but must be read, to be fully understood, in the original. Attention was called to the fact that the study of languages opened a field for women, for which they seem to have a peculiar aptitude. A language spoken by a woman is modified and smoothed down in its tones and sounds, and rendered more musical.

In concluding his lecture, which was well written and very interesting in its treatment of the subject, the Professor remarked that the lower the position a man holds, the greater is the practical advantage to him of knowing other tongues than his own. To the rich man it is more a means of finishing off his education and increasing the refinement of his mind, but to the people it presents special inducement swhich can be turned to practical every-day benefit.

## An Immense Aquarium.

A company was lately formed in London, with a capital of $60,000, to make at the northen end of the Crystal Palace (partly burnt down in 1868) an aquarium of large size, which is nearly finshed. It contains all the successive improvements which experience has suggested since 1846. The aquarium is 312 feet long, and 20 feet high, and in width 53 feet in some places, and 35 in others. The public portions of the building consist of three rooms — a saloon, 184x16½ feet; a south room, 30 feet by 8½ feet; and a north room, 14 feet by 8½ feet. Besides these, there are a work room, a steam engine and boiler room, an apartment to contain the heating apparatus, two store rooms; an attendants' gallery running from end to end of the entire building, and an office.

There are 150,000 gallons of sea water, weighing 700 tons, of which 130,000 gallons are in a reservoir below the saloon, and 20,000 gallons are distributed among 60 tanks containing the animals. These tanks are of various dimensions and proportions, varying from 75 gallons to 4,000 gallons each, and ranging in depth from 6 inches to 6 feet of water, and therefore they will suit the requirements of a great number and large variety of creatures from sponges to fishes. The sea water is raised into these tanks from the reservoir below the saloon; and it flows through and among them, falling down a succession of levels, so that in its progress it may do as much work as possible, until it enters the reservoir from whence it came, and from which it is again and again pumped by steam-power, at the rate of from 5,000 to 10,000 gallons an hour, continuously day and night; and by means of this aerating motion, coupled with the oxygenation derived from growing plants, no change of water will be needed, and the quantity (brought from Brighton by Mr. Hudson) will be used year after year indefinitely, the loss of fresh water by evaporation being supplied weekly by the addition of an equal quantity of water distilled on the premises.

One novel feature in the undertaking is that most of the part of it are in duplicate. Thus, there are two steam engines, each of three horse-power, and especially arranged for continuous and economical action, two steam engine boilers, two pumps, and two distinct sets of receptacles for animals; tanks 1 to 38 being for the public exhibition of animals, and tanks 39 to 60 being not publicly exhibited, but intended to contain collections of creatures purchased when they are cheap, or at seasons when their transport by rail is easy. The use of this power in reserve in the machinery is so that if any accident happens to one part of it, the other portion is ready to take its place, and thus the uninterrupted motion of the sea will be so far represented.—*Iron Age.*

HOTEL CHANGE.—The Orleans Hotel, on Post street, this city, having passed into the hands of Mr. B. R. Boynton, is to be known hereafter as the Morton House.

COLORADO PAPER.—A late issue of the Colorado *Herald* was printed on paper manufactured at the Central City Paper Mill.

# GOOD HEALTH.

## Climates for Invalids.

The great advantage often derived by invalids from a change of climate is so apparent that a large amount of attention and research has been expended by Eastern writers on hygiene, to decide upon the best localities for invalids to resort to. A work upon this subject has recently been published by Wood & Holbrook, of New York, entitled "Climates for Invalids," which is very highly spoken of, both for the instruction it affords to invalids, and also for the general information it contains with regard to the surroundings and climatic conditions of the various localities recommended as a resort for invalids. According to the notices we have read of it, for we have not seen the work itself, it describes quite fully the various advantages possessed by differeat sections of the Atlantic and Missisippi States, and central portions of this continent; but makes no allusion to the Pacific Coast, which probably possesses more advantages in this respect than all other localities combined. east of the Rocky Mountains Will not some one "write a book" showing the advantages of the various localities on this coast as a resort for invalids?

We have already, in previous issues, alluded to some of the advantages possessed by Los Angeles, Santa Cruz, and some other counties in this State, and it may not be out of place to give, in this connection, the following, which we clip from a late number of the *Alta*:—

### Santa Barbara as a Sanitarium.

Dr. Brinkerhoff says that in eighteen years practice he has not known one case of diptheria or scarlet fever. He has known three cases of dysentry of a mild type and an equal number of cases of membranous croup. He never heard of fever and ague originating in Santa Barbara. Sometimes patients came there with the disease. In all cases their cure is rapid and permanent. Santa Barbara has a singular immunity from small-pox when it prevails almost everywhere else. The doctor has seen three cases of small-pox, at wide intervals, which were cured with unusual dispatch. But the most marked exemption from disease is among children. They escape most of the complaints so fatal elsewhere. To account for this healthful record, the doctor refers to the presence of petroleum so extensively in the ground and in the springs which gush from the earth and cover the sea for many square miles with an iridescent oil of pungent odor. This mineral oil so taints the waters of that county that there is very little good drinking water to be obtained in wells. So volatile is this mineral oil that the air is everywhere imbued with it; and, like carbolic acid, it disinfects all miasmatic exhalations, while its own effluvium appears to be innocuous.

It may be mentioned that land thereabouts is held so far above the views of buyers as to invite few settlers.

WALK ERECT.—Walking erectly not only adds to manliness of appearance, but develops the chest, and promotes the general health in a high degree, because the lungs, being relieved of the pressure made by having the head downward and bending the chest in, admit the air freely and fully down to their very botton. An erect position should be obtained by a effort of the will. The use of braces to hold up the body is necessarily pernicious; for there can be no brace which does not press upon some part of the person more than is natural, hence cannot fail to impede injuriously the circulation of that part.

PRESERVED MEAT.—Dr. Stein, of Dresden, while lecturing lately on the preservation of food, opened a tin canister of meat, preserved by what is known as Apert's method, and prepared by him in 1851. The meat, on examination, it is said, was found to be as fresh, and of as good a flavor, as when placed in the canister nineteen years previously.

LEMONS AND BILIOUSNESS.—As a general rule lemons are good for billiousness. Sometimes, however, the stomach is not in a condition to bear so strong an acid. In cases of biliousness the acid and sub-acid fruits should constitute a large part of every meal. There is nothing better.

## Is it Air, or Something Else.

The entrance of air into a wound is the dread of the surgeon. When an abscess is opened he must prevent the air from mingling with the blood-clots if he would avoid putrefaction and its teaming accompaniment of animalcule life. Some eminent London surgeons inform me that they never squeeze an abscess, lest when the pressure is relaxed the air should be sucked in. Now, whence this dreaded power? Is it the air itself that causes putrefaction, or is it something carried mechanically by the air? A follower of Guy-Lussac would affirm the former; a heterogenist would refer the animalcules to "spontaneous generation;" a holder of the germ theory would ascribe the putrefaction to seeds or eggs floating in the atmosphere, and which, when sown upon the wound, sprout into this crop of minute organisms. Do any *data* exist which will enable us to say, with certainty, which party is right? I think so.—*T. H. Huxley.*

Professor Huxley takes the latter view of the subject, and believes air is poisonous to wounds because of the germs in it which grow. How much injury these germs do to the air-passages is not known, but no doubt these passages are not so susceptible of injury as fresh wounds. They are used to their presence to a certain extent, still they must do harm in the lungs, and who can tell how much?

BONES INFLUENCED BY FOOD.—M. Passillon, who has experimented on pigeons and rats with a view to determine the change in the composition of the bones, when fed on different kinds of food, reports to the French Academy that on analyzing the bones of the pigeons that had been fed with the strontia, there was found in a hundred parts of the ash of the bones:

| | |
|---|---|
| Lime | 46.70 |
| Strontia | 8.45 |
| Phosphoric Acid | 41 80 |
| Phosphate of Magnesia | 1.80 |
| Residue | 1.10 |
| | 99.80 |

The ash of the bones of the rats that were fed with the alumina gave:

| | |
|---|---|
| Lime | 41.15 |
| Alumina | 6.95 |
| Phosphoric Acid, etc | 51.95 |
| | 100.00 |

While in the bones of those fed with magnesia were found:

| | |
|---|---|
| Lime | 46.15 |
| Magnesia | 3.56 |
| Phosphoric Acid | 50.29 |
| | 100.00 |

A CURE FOR LOW SPIRITS.—Exercise for the body, occupation for the mind; these are the grand constituents of health and happiness, the cardinal points upon which everything turns. Low spirits cannot exist in an atmosphere of bodily and mental activity.

CAUSE OF POOR TEETH.—"What is the principal cause of the almost universally defective condition of the teeth of the American people? There is no country on the globe where the people suffer so much from poor teeth, and where dentists are so common as here. Among some nations, indeed, unsound teeth and dentists are unknown."

There are many causes which aid in destroying the teeth; as using very hot drinks and food, the use of saleratus, uncleanliness, etc., but the principal cause is the feeding of children upon fine flour bread, fat, sugar, and other carbonaceous articles, to the exclusion of food that contains lime, phosphorous, silex, and other minerals in an organized form, which are necessary to the proper development of the teeth, and especially the outer covering or enamel. The system can not make something out of nothing, neither can it make sound, healthy teeth unless it has the necessary material supplied in the food. Fine flour does not contain the required material, while unbolted wheat meal does, and children who have plenty of the latter to eat will have good sound teeth.—*Herald of Health.*

CLIMATES FOR WEAK LUNGS.—In a great majority of cases a dry mountain atmosphere is best for weak lungs. The water should be pure and soft, and the temperature as nearly uniform as possible. The eastern slope of the Rocky Mountains—Montana, Wyoming, and Colorado—also Minnesota and Dakota, supply these conditions, and are the most desirable places for persons with weak lungs to spend the summer months.—*Herald of Health.*

PACIFIC RURAL PRESS

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SAN FRANCISCO:

Saturday, May 20, 1871.

## Our Weekly Crop.

Our stock ranch is in fine condition, and we have some fine specimens of Ayrshire Cows for the inspection of our friends, which we present with remarks on Stock Raising.

We look through the library of Mechanical and Scientific Progress, preparatory to investigating the matter of Irrigation, where we learn a number of interesting facts and receive several valuable suggestions. We then examine the Tea and the Coffee Plant of California and look at Summer Ranges for Stock. We next visit the Vineyard, get directions for cultivating the vine in addition to those previously given, and see what the Vintage Prospect is. We go to the Orchard, and receive hints for its management. We then read over the Agricultural Notes of the Coast, and say a few words to the Unfortunate Unemployed, pointing out a way in which they may get work.

Should any one be unfortunate enough to lose a hand or leg, he can see how Artificial Limbs can be supplied. The Professor will lighten his convalescent hours by remarks on the Study of Modern Languages, and the doctor will tell him of the advantages of our Climate for Invalids, and otherwise instruct him in the matter of Good Health.

But we leave our supposititious sick man, to look up the matter of Importation of Blooded Sheep, and to call on the Eastern Visitors at our State Fair, with whom we converse on Cotton Growing and Manufacturing in California, and whom we take to see Col. Strong's Cotton Enterprise. We show them also some of our late Inventions, and accompany them a short distance on their Trip Eastward, pointing out scenes of natural beauty on the way.

Of course, we do not omit our usual visit to the ladies of the Home Circle, who are prepared to receive us with story and song, and with hints on Domestic Economy, after we have had a Talk with the Boys.

We leave the ladies, to have a short interview with Mr. Gough, and then visit a Great Irrigation Scheme in the San Joaquin Valley, and to enquire into the Consumption and Price of Breadstuffs. Then we find and send to our lady friends an Improvement for their Sewing Machines, as we separate until the next week.

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A SLIGHT SHOWER visited most sections of the State on Monday last; but not sufficiently copious to be of much benefit anywhere. It seems more than probable that the severity of the drouth is to be continued through this month also. In 1865 it rained six days, giving 1.46 inches in May; in 1864, .63; in 1860, 1 inch; in 1859, 2.86 inches; in 1858, 1.55 inches; in 1854, 1.58 inches. Any repetition of those quantities would be of service now.

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THE CALIFORNIA WOOL CROP, for this season, will bring a large amount of wealth into the State. If the crop reaches 25,000,000 pounds, as some estimate, it will aggregate a value of $7,000,000, and the extra surplus will go far to meet the deficiency in our foreign exchange caused by the decrease in our flour exports.

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THE STRAWBERRY MARKET is now in its prime. The choicest berries are jobbing here at five and six cents per box. The aggregate yield this year will be unprecedently large.

## Cotton Growing and Manufacturing in California.

The experience of the present season is operating to impress still deeper than ever on the minds of the agriculturists of this State the importance of introducing a greater diversity in the products of our soil. Of all the uses to which land can be put, the lesat profitable to the grower and, with perhaps the exception of tobacco, the most exhaustive to the soil is the cultivation of wheat for export; hence we hail with pleasure any efforts that promised to turn the attention of our farmers from that leading specialty. In the light of the experience which we already have of the advantages which California presents to cotton culture, we have strong hopes that the growth of this staple will ere long occupy an important position among our domestic products. The interest in this product is not confined altogether to the agriculture of the State; but dwells largely upon the prospect which it promises in forming a most important addition to our manufacturing industry. The experience of the Eastern States is largely in favor of manufacturing this staple upon the ground where it is produced; so much so that some of the largest New England manufacturers are thinking seriously of establishing factories in the Southern States, where, in fact, they are already growing up by the aggregations and investment of local capital.

How many of our citizens have taken the pains to learn the number of millions of dollars that California might retain at home by manufacturing her own cottons? Most people will be astonished to learn that we are paying annually some *eight millions of dollars* for cotton fabrics, nearly all of which might with positive advantage be produced by our own people. About the same amount is paid out for silk goods, the most of which might likewise be furnished by our own industry. Hundreds of thousands of people, might be added to our industrious population, if we could make up our minds to produce these things at home instead of going abroad for them.

The drain upon the general productive industry of the State, to settle "the balance of trade" kept so largely against us by the importations of cotton and silk fabrics, is keeping us all poor, and greatly retarding that emigration which is so much needed to people and build up the State. We have been led into these reflections at this time by reading the prospectus of

**The California Cotton Growers and Manufacturing Association**

Which has recently been incorporated in this city, the object of which is to enter upon the growing and manufacturing of cotton on a sort of co-operative plan, very similar to that adopted by the San Jose Silk Growers and Manufacturing Association. The company proposes to form a sort of industrial colony where cotton growing forms the specialty, while a portion of the lands and labor will be devoted to raising whatever grain and provisions may be needed to supply the wants of the colony. A manufactory will also be erected to convert the raw material into fabrics on the spot.

The enterprise will involve the employment of a great number of men and horses, and a large amount of active capital. It will be embarassed by none of the various charges of freight, insurance, interest, etc., which usually go to enhance the price of the raw material to the manufacturers of cotton. It will aim to inaugurate a movement, which must soon gather such force as will transfer manufacturing enterprises to the fields of production, ignoring the abnormal and absurd condition of placing thousands of miles of land and water carriage between the place of the product of the raw material and that of its manufacture.

The enterprise is an extensive one, embracing a capital of $500,000 which is divided into shares of $20 each. It provides for an excellent management under an approved disciplinary code. Money, lands, machinery, tools, horses, harness, and any value that can be made available for the benefit of the enterprise, will be acceptable for the paid up certificates of the stock of the association.

The experiments already made and in progress go to show that California presents decided advantages for the production of the ordinary grades of cotton over the Atlantic and Gulf States, and there is very little ground for doubt but that the enterprise now inaugurated will prove a complete success, and add largely to the aggregate of our desirable and wealth-creating home industries.

The success of this enterprise will be sure to call into existence numerous others of a similar kind for which the field is large and practically inexhaustible. Taken in connection with the irrigation schemes, now in progress in the San Joaquin valley, where the soil appears to be peculiarly adapted to cotton culture, we can but think this movement in connection with its sister silk enterprise the most feasible and practical plan yet devised for building up an industry which will soonest and most effectually develop the resources of that valley. With the largest area of arable land of any valley in the State, unequalled in fertility by no other, when properly irrigated, we see no reason why it may not become the garden spot of the Pacific coast, and be made to teem with as dense a population as is found even upon the plains of Italy.

We trust our moneyed men, and men of small means also, will look into this matter, and study it well. The experiment is certainly worth trying, and in the event of its success will open up a field of labor and enterprise which will stand second to none on the Pacific coast. The names of the officers and general managers of the enterprise will be found in another column. Among them will be found some of the best and most influential men in the State, whose connection with the enterprise will be a sufficient guarantee that its business will be managed with honesty, intelligence and energy.

## Eastern Visitors to Our State Fair.

The number of visitors from the Eastern States to our State Fair this fall is likely to be very large. Numerous inquiries are being made of the Secretary of the Board of Agriculture in regard to a reduction of fare on the railroads for such visitors. Upon application to the officers of the Central Pacific road they have authorized the publication of the following liberal terms or rates of fare from Omaha to Sacramento and return. In companies of twenty-five the round trip will be $170 each. In companies of fifty the round trip will be $130 each. In companies of any larger number the prices will be reduced in the same ratio. Applications for tickets for such excursions upon the above named terms to be made at the office of the railroad at Omaha. The above rates will be payable in currency. All articles or animals to be exhibited at the State Fair the Central Pacific Road will transport to and from the Fair free of charge. These terms will enable the people in the States and Territories east of the Rocky Mountains to be represented both as to themselves and their products at our Fair with but little expense, and we shall expect to see a large representation.

It stands our own people in hand to see that the reputation of California is fully maintained by a full exhibition of the products of all her industries. Many portions of the State, on account of the drouth, will necessarily be unable to make a good show of the cereals, but other portions can do so, and, under the circumstances, they should not fail to do it.

## Importations of Full Blooded Sheep.

It will be seen by the advertisement of Robert Beck, Recording Secretary of the State Board of Agriculture that we are this year going to receive large and important additions to our stocks of full blooded sheep in this State. The importations are coming from the best flocks in the Eastern States and Europe, and comprise selected samples of the best breeds known in the world. The Silesian sheep are from the flock of William Chamberlain of Red Hook, Dutchess county, New York. This flock is descended from the full blooded Merino sheep of Ferdinand Fisher of Wircherbatt in Silesia, Prussia who imported them in 1811 from Spain, having carefully selected them from the best flocks there. They have been bred from that time to the present, in the most scientific manner until they have gained the reputation of being the "Electoral" flock.

In 1851-3-4-6-7 & 8, one hundred and sixty sheep were carefully selected from the Fisher flock, and one hundred and twenty-five to cross the blood properly from the flock of F. Wiedebuch of Beitzsch, Count A Fries, Czernahora which are descendents of the very superior breed imported by the Empress Maria Theresa and the Emperor Joseph II in 1775 and 1782. The quality most sought for are fine fleeces covering every part of the sheep with an even quality of wool and good strong constitutions. The weight of the fleeces of these crops is for rams from 12 to 20 pounds and for ewes from eight to fourteen pounds of unwashed wool. Sheep from this flock have been exhibited at the various state and national fairs since 1854 and have taken the first premium in the fine wool classes.

Mr. Beck is also receiving from W. T. Wilson, who is now in Europe, consignments of full blooded Cotswolds and Southdown rams and ewes, carefully selected by that gentleman, especially for this coast. We have already some very fine sheep of all these breeds in this State, but we want many more for the improvement of our flocks and we are glad to see that they are coming. It costs no more to keep good sheep than poor ones and as to the profits, whether the fleece or the carcass is looked to for these, there is no comparison. The crossing of our own full bloods with those from other countries, or with fresh importations is also a good idea, as the tendency is to improve the constitution and vigor of the flocks.

## Col. Strong's Cotton Enterprise.

Col. J. M. Strong commenced planting his cotton, on the ranch of the Buckley Bros., at Hopeton, Merced county, on the 2d inst. He will put in 200 acres, which will be an experiment sufficiently large to test the business beyond any possibility of question. We learn by conversation with Mr. Buckley that the land is well selected, with natural moisture near enough to the surface to mature the crop with little or no rain. The soil is chiefly a black, sandy loam, although the tract varies sufficiently to embrace several varieties. The ground was plowed five inches deep some three or four months ago, and plowed a second time as the seed was planted. About eight and a half tons of Dixon cotton seed has been used as preferable to that of any other variety.

The mode of planting is described by the Stockton *Independent*, as follows: Two one-horse plows are kept going to mark the ground, and two others to cover the seed. One man follows each plow and deposits the seed as regularly as possible in the furrow; the rows being planted four feet apart. Some of the seed has already sprouted, showing sprouts two or three inches long. The Buckley's are interested with the Colonel in the enterprise, and are very sanguine of success. As two acres of cotton raised last year, in the immediate vicinity, yielded largely, there can scarcely be a doubt as to entire success this season. Other parties are also planting cotton extensively in the southern part of the State.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports to DEWEY & CO., U. S. and Foreign Patent Agents, and Publishers of the Scientific Press.]

**For the Week Ending April 25th.**

Grain Separator.—Daniel Best, Yuba, Cal.

Washing Machine.—Henry A. Gaston, San Francisco.

Earth-Auger.—Thomas Orchard, Sacramento, Cal.

Refining Sugar.—August F. W. Partz, Oakland, Cal. Antedated April 22, 1871.

Lubricator. — William Eaton Phillips, Silver City, Idaho Ter.

Railway-Switch Chair. —Geo. H. Scougale, Carson City, Nev.

Store-Truck. — Andrew V. Smith, San Francisco.

Fire-Kindling. — John W. Still, San Francisco.

Blasting-Fuse.—Richard Uren, Santa Cruz, Cal.

**For the Week Ending May 2d.**

Carbureter for Air and Gas.—Louis Marks, San Francisco, Cal.

Sand-Cap for Hubs of Vehicles.—George H. Nevens, Livermore, Cal., assignor to himself and R. N. Caughell, same place.

Hydraulic Apparatus.—Phineas Franklin Powers, Genoa, Nev.

Garden-Sprinkler.—John I. Spear, San Francisco. Antedated April 27, 1871.

Roller-Skate.—Peter. R. Borein, San Leandro, Cal.

Division Plate for Cooking-Stoves.—S. C. Ewing, Hill's Ferry, Cal.

Securing Dental Fillings.—Charles H. Mack, Portland, Oregon.

Washing Fluid.—Edward Henry Neill, San Francisco, Cal., assignor to himself and Emlen Painter, same place.

Ore-Concentrator.—William C. Stiles, Nevada City, Cal. Antedated April 22, 1871.

Tea.—C. Adolphe Low & Co., San Francisco, Cal.

REISSUES.

Piston-Packing.—Orrin Collier, Sacramento, Cal. Patent No. 98,-232, dated December 28, 1869.

## Notices of Recent Patents.

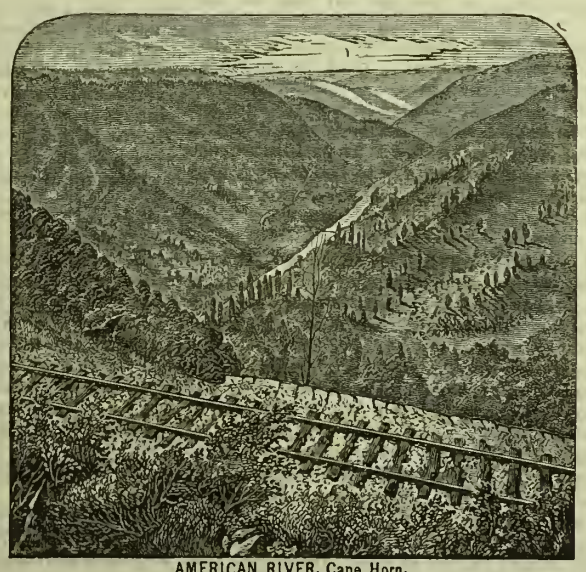
Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of mention:

Grain-Separator.--D. Best, Yuba, Cal. This invention consists in a series of peculiarly shaped screens, to separate and clean the various qualities of grain, and in the use of feeding and returning elevators, by which the grain can be fed to the hopper with very little labor, and by which it can be returned to the hopper for a second cleaning, if required. The discharge spout for the second quality of grain is so arranged that it will either discharge the material immediately or return it to the returning elevators. The first quality is allowed to fall upon a screen which has a peculiar tossing motion and throws the grain into the discharge spout, or (by reversing the driving pulley) retains it as long as desired. A set of angular plates is introduced between the screens, and by their action and the shape of the screens the blast is directed upward instead of backward.

Lubricator.—W. E. Phillips, Silve City, Idaho Territory. Among the new lubricators offered the public, this one from Idaho appears to be worthy of a high place. The lower part of the cup is so arranged that the oil must drop from it through an open space, allowing the feed to be easily seen. The feed pipe has a spiral or other suitable shape, with its center in a line with the center of the shaft, and takes oil from the cup at that point. Its outer end connects with the crank pin so as to lead the oil to the interior of the pin, whence it passes through small holes (or is led in other suitable manner) to the journal of the box at the crank end of the pitman or connecting rod. Thus the oiling of the crank pin is effected without danger or trouble or stopping the engine, by the centrifugal force imparted by its revolution.

BLOOMER CUT.
172 miles from San Francisco—Altitude 1,252 feet.

Railway Switch Chair.—G. H. Scougale, Carson City, Nevada. This invention consists in the use of a series of blocks of different lengths, which are shaped like a section of a rail, and so fitted in the chair that different lengths may be obtained, and by this means an adjustment can always be had to accommodate the expansion and contraction of the rails, or the creeping of a line of rails when placed on a grade, so that it will not be necessary to cut the rails frequently, as is now the case.



AMERICAN RIVER, Cape Horn.
198 miles from San Francisco—Altitude 3,500 feet.

Store Truck.—A. V. Smith, S. F. Mr. Smith's invention relates to the improved construction of the trucks which are used about stores and wharves. It is an ingenious arrangement by which the truck is held firm and prevented from rolling back when the front is depressed to receive a load; and, moreover, the parts are so arranged that the truck can be easily stopped and held on an incline.

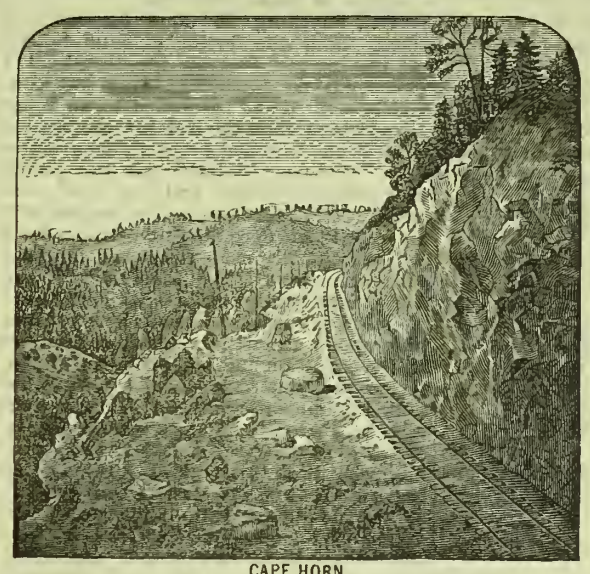
Fire-Kindler.—J. W. Still, S. F. Of this fire-kindler, called Coco Pino, we have already spoken at length.

## Editorial Notes Eastward.—2.

### Sacramento to Dutch Flat.

Leaving spunky little Sacramento, we are fairly started on our trans-continental journey. We pass the workshops of the Central Pacific Railroad, where busy industry holds sway, the hospital of the company, founded on a wise benevolence worthy of wide emulation, and cross the long bridge over the American River whose waters we shall again see under the most varying conditions of natural wonder and beauty.

It is not long before we get in among the mountains and ravines and around sharp curves and up steep grades.



CAPE HORN.
197 miles from San Francisco—Altitude 3,500 feet.

Ninety-four miles from Sacramento, we are passing through a deep cut, the so-called Bloomer Cut, at an elevation of over twelve hundred feet. Up we go, past villages and towns, and over bridges, with doubled engines, until we suddenly meet an apparently impassible barrier, a deep, wide abyss in which rushes the American River. Yet we must somehow or other reach that opposite hill, and while we are thinking of the possibility or impossibility, the train has been curving along one side of the abyss, and crossing a high bridge, and, turning on itself, clambering up the other side, until we are at a dizzy hight on the famous Cape Horn.

HYDRAULIC MINING, Gold Run.
202 miles from San Francisco.

We just realize that we are clinging to the almost vertical mountain side, 2,000 feet above the slender, winding thread of a stream which glistens below; we catch a glimpse of a black streak of a bridge over the silver thread; we feel that we are in the grandest of mountain scenery, surveying it from a place thought inaccessible to human beings a few years previous; when we are whirled away to new scenes. The few moments granted us, as we ride on, are insufficient to fully appreciate the wondrous grandeur of the spot, where we might stay for days and weeks without danger of satiety. Yet we really see more than we are aware of, for afterwards we collect the stray fragments of the scene in memory, and find the picture more complete than we thought in our first moments of dazzled rapture.

Nevertheless, the more we memorize on the view, the stronger grows our desire to return to the place when we find a "convenient opportunity," an opportunity which there is too much danger of never coming.

But a few moments elapse, and we are among the scenes of mining industry. We have previously seen evidences of like operations on the road,—ditches coiling around the hillsides, and large piles of gravel. At Gold Run and Dutch Flat we see more of this. The deep wounds in the earth gape at us, and present no beauty, except perhaps to the very practical mind. It is pleasing to think of the vast treasures lying in the earth, yet to be taken out by man, and of the riches already accumulated. Still a picture of the work is more sightly than the reality.

The orchards and gardens which exist at these places, many of them really fine, lend no slight adornment, and suggest the idea of how much more can be done in this way to improve our mining towns.

D.

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Narrow Gauge Railroads.—We have received a copy of the report of the Joint Committee of the Massachusetts House of Representatives on narrow gauge railroads. We have previously given extracts therefrom. We here condense a few items about narrow gauge roads which have been built. Festiniog road, Wales,—gauge, 1 ft. 11½ inches; 30 lb. rails. Another road in Wales has 2 ft. 6 in. gauge and is eight miles long. Bröilthal road, connecting with the Cologne and Giessen R. R., Prussia,—gauge, 2 ft. 7 in.; 22 to 26 lb. rails. The Thondghan Railway, in Norway,—built in 1864; gauge, 3 ft. 6 in. Other roads have been built in Norway, Russia, Queensland and South America. Unaio Valenciana Railway,—15 miles long; 40-lb. rail. In the mining districts of Pennsylvania are several 2 ft. 6 in. roads. In Canada, 400 miles of 3 ft. 6 in. road are projected, of which 150 miles are under contract and about 15 miles in operation. In Australia, 250 miles are built and 250 more projected, of this gauge. On these roads the curves occur up to 255 feet radius, and grades up to 169 feet to the mile. The engines vary in weight from 7 to 15 tons. The Report says in conclusion:—So well satisfied is your Committee of the value of this improvement in railroad science, that they feel obliged to go a step farther with their report, than merely to present the facts upon which their conviction rests. They feel it their duty to propose, even at the expense of a partial deviation from legislative usage, enactments, even if of only a provisional character, which shall be sufficient to enable communities to avail themselves of the improvement during the present year.

BY OUR LADY EDITORS.

## The Bunch of Lilacs; or How Thorvald Found a Father.

BY NELL VAN.

[Written for the PRESS.]

"Mister will you give me a flower?" said the timid voice of a child at my gate, one afternoon, when I was at work in the garden. Looking up I beheld the diminutive figure of a boy, barefooted and ragged, who looked wistfully at a large lilac bush in full bloom at my side. Gathering a handful of the fragrant blossoms, I called the child in and asked him if he was sure he needed a flower more than food or clothes. He looked up with a tearful eye and said, "I want the flowers for my mother, who is sick, I heard her say when the fever was on, that she was going to pick a handful of fresh sweet lilacs down in her mother's garden, and when she woke up she asked what I had done with her beautiful flowers. Oh, sir, she is very sick, and I havn't any father. If she should die what would become of me!" And the little fellow burst into tears.

There is to me no more pitiful sight than the despairing grief of childhood! Choking back a suffocating feeling in my throat, I took him by the hand and tried to comfort him by diverting his attention. "Tell me your name, my good lad, and how long you have lived hereabouts." "My name," said the child, "is Thorvald, and we only came to this town last week sir, for my mother thought she might find some work to do here; but she fell sick and so." "Was you named after your father, my boy?" enquired I. "No sir," answered he promptly "my father's name was John and they named me after some schoolmate whom mother thought a great deal of, who went to the war and was never heard of again; but please let me go now for mother might wake up and want me." "Tell me first where your mother lives, so that I may try to send her some aid." "We live in Mrs. Martin's cottage, down by the blacksmith's shop. The doctor comes every day and leaves powders for her to take. He says she needs rest, and I heard him tell Mrs. Martin that he feared she was going to a long rest very soon. Good bye sir, I thank you for these beautiful flowers." And he was gone.

How unequally are blessings distributed on this earth, thought I. Here am I, a bachelor. Returned from the war to find myself sole possessor of a comfortable estate. But alas! I have no kindred. No one to share the joys and pleasures of this life. I have long resolved to find a child to be my companion and such a one as this I could love and cherish with delight. If Mary had but known what my feelings towards her were—but, poor child, she was so young. I must know more of this lad for I seem strangely drawn towards him. Thorvald is his name. 'Tis strange, for it is also mine, and is so rarely found among this people. Perhaps I feel attracted towards the child on account of this coincidence.

Down in Widow Martin's cottage he said his mother was. I wonder if she will die and leave her boy to the cold charities of the world. Poor, sick, friendless and widowed! What sorrowful conditions for tender woman to have thrust upon her! While such thoughts as these flitted through my mind I unconsciously passed through the garden gate and down towards the village in the direction of the blacksmith's shop near which lived a good old soul, known in the neighborhood as the "Widow Martin," who it seems had given shelter to my young friend and his sick mother. Stepping to the cottage door I enquired of the good woman who stood there if I might speak to the sick lady in regard to her boy, for whom I had conceived a sudden affection;

"Indeed sir," said Mrs. Martin, "he is the very best and thoughtfulest child I ever saw. Do you know she called for flowers in her delirium this morning, and when she slept what does he do but slip away and find a bunch of the finest lilacs I ever see and brought to her. And when she waked up said she "did Thorvald send me these?" "He brought them to you ma'am," said I. "But she went on in her wild way about a dream she had of seeing some one talking to her boy in a beautiful garden, asking him his name and if he was called after his father. Then he gave him a bunch of lilacs from a bush in full bloom, to take to his mother, it was her favorite flower, she said, such as they had picked together years ago in her mother's garden." "Ah sir it is sorrowful indeed to hear her go on. But come in and see them, there, the mother and boy, a picture of tender devotion."

"Can anything be done for her?" I asked, "does the doctor give no hope," and placing my foot on the threshold I waited for no further bidding but cautiously entered and proceeded to an inner room, where upon the bed lay the wasted form of one who had evidently seen better days. Her wavy Auburn hair was parted from her snowy brow and her eyes were brilliant and expressive. The boy sat with his back to the door playing with her hand and occasionally smoothing her forehead with tenderness. "Tell me Thorvald" said she caressing the child—but perceiving me in the doorway she fixed her penetrating eyes on me with a pleading look of half recognition and suddenly exclaiming, "Thorvald, you have come at last!" she sank into unconsciousness. It was some minutes before she was sufficiently restored to again speak, and then I made the discovery that this wasted form was all that remained of the MARY I had loved in my boyhood; my little playmate in the village of B., where we lived side by side, We had grown up like brother and sister, had read the same books and wandered together through the woods in search of wild flowers and acorns. I had been sent away to school and afterwards enlisted in the army; never returning to my former home till many years had elapsed. I had been killed in battle, it was supposed, and father and mother were both gone to their rest, while Mary had married and gone to a distant State.

Thus again we met under such trying circumstances. As she grew calm she spoke freely of her condition and knew that she had not long to live. But now she could die content, since she had found a friend to whose care she could leave her darling. "And oh, Thorvald" said she, "I know you would come. I saw you in the garden giving my boy the bunch of lilacs to bring to me. And I knew you when you came to the door, though when we parted your face was beardless. When I am gone plant a lilac bush over my grave, and love my boy for his own sake as well as for mine. He was named for you, and if he is as faithful to you as he has been to me, you will never want a friend."

And so the gentle, suffering one died, and was carefully laid in a sunny spot in the village graveyard with a lilac bush placed beside her. Many are the tears shed over that hallowed spot, and young Thorvald is loved as my own son.

Together we are journeying through life's varied scenes, and we often pause to think of the bunch of lilacs which first brought us together and by means of which Thorvald found a father.

## Old Footpaths.

Nature abhors straight lines, it is said, and she has certainly managed her land scenery so that we have to make a good many curves to get through. There is a great deal of poetry in a footpath, and Mr. T. W. Higginson is not the only one that thinks so. He asks:

Who cares whither a footpath leads? The charm is in the path itself, its promise of something that the high-road cannot yield. Away from habitations, you know that the fisherman, the geologist, the botanist have been driving home, and that somewhere there are bars and a milk-pail. Even in the midst of houses, the path suggests school children with their luncheon-baskets, or workmen seeking eagerly the noonday interval or the twilight rest.

A footpath cannot be quite spoiled, so long as it remains such. You can make a road a mere avenue for fast horses or showy women, but this humbler track keeps its simplicity and if a queen comes walking through it, she comes but a vilage maid. Roads become picturesque only when they are called lanes and make believe that they are but paths.

## "My Little Ones Pray."

Three little heads each night bow down,
One black, one golden, and one brown;
Six little hands, so soft and fair,
Are clasp'd each night in evening prayer,
And the swetest hour of all the day
Is the hour I hear my little ones pray.

Three pairs of eyes, so wondrous bright,
Like brown birds, fold their wings each night;
The day is flown when the light is gone,
And I wait in darkness till the morn
Has called them back to this world of care,
To bless me again with an evening prayer.

Three tiny mouths, so soft and red,
Are kisse'd, as oc'r the little bed
I gather up their last "Good night,"
To cherish till the morning light
Has broken their dreams into smiles most rare,
And promised another evening prayer.

A golden step in each little prayer,
Forming a bright and radiant stair,
And often at night when the lights burn low
I watch the angels come and go,
And the sweetest hour of all the day
Is the hour I hear my little ones pray.

## Female Delicacy.

The following is going the rounds for woman, but we can see no reason why it is not equally applicable for man:

Above all other features which adorn the female character, delicacy stands foremost within the province of good taste. Not the delicacy which is perpetually in quest of something to be ashamed of; which makes merit a blush, and simpers at the false construction her own ingenuity has put upon an innocent remark; this spurious kind of delicacy is far removed from good sense, — but the high-minded delicacy which mantains its pure, undeviated walk alike among women and the society of men; which shrinks from no uncessary duty, and can speak, when required, with a seriousness of things on which it would be ashamed to smile or blush; that delicacy which knows how to confer a benefit without wounding the feelings of another—which can give alms without assumption, and pains not the most susceptible in creation.

## Mothers, Speak Kindly.

Children catch cross words quicker than parrots, and it is a much more mischievous habit. When mothers set the example, you will scarcely hear a pleasant word among the children in their plays with each other. Yet the discipline of such a family is always weak and irregular. The children expect just so much scolding before they do anything they are told, while in many a home, where the low, firm tone of the mother, or the decided look of her steady eye is law, they never think of disobedience, either in or out of sight. O, mothers, it is worth a great deal to cultivate that "excellent thing in woman," a low, sweet voice. If you are ever so much tired by the mischievous or wilful prank of the little ones, speak low. It will be a great help to you to even try to be patient and cheerful, if it cannot succeed. Anger makes you wretched and your children also.

A SMILE.—A beautiful smile is to the female countenance what the sunbeam is to the landscape. It embellishes an inferior face and redeems an ugly one. A smile, however, should not become habitual—insipidity is the result; nor should the mouth break into a smile on one side, the other remaining passive and unmoved, for this imparts an air of deceit and grotesqueness to the face. A disagreeble smile distorts the line of beauty, and is more repulsive than a frown. There are many kinds of smiles, each having a distinctive character, some announce goodness and sweetness; others betray sarcasm, bitterness and pride; some soften the countenance by their languishing tenderness; others brighten it by brilliant and spiritual vitality. Gazing and pouting before a mirror cannot aid in acquiring beautiful smiles half so well as to turn the gaze inward, watch that the heart keeps unsullied from reflection of evil, and illumined and beautified by sweet thonghts.

GREEN KIDS.—A lady in Poughkeepsie, N. Y., had her hands badly poisoned lately by wearing green kid gloves.

MODESTY in a woman is like color on her cheek—decidedly becoming, if not put on.

A LITTLE girl five years of age, on being asked, what is faith, artlessly replied:—"It is doing just what God wants us to do, and asking no questions about it." This covers the whole field; perfect trust, combined with implicit obedience.

# YOUNG FOLKS' COLUMN.

## Talk with the Boys.—No. 4.

In our last talk, I made a suggestion that you should study, not only the habits of those insects which injure plants, but also those which may please and instruct.

Those of you who have read the RURAL PRESS, especially the issue two weeks ago, will be ready to class the silkworm among the insects which afford instruction and pleasure, and may be, also, profit. Some of you may have an opportunity of studying the nature and habits of the silkworm this month. Hundreds of others would like to have the chance, but it is too late for them to *make it* this year, unless they can visit the cocoonery of some neighbor during the feeding season.

But by next year, you may each have the pleasure, if you are really in earnest about it. You can contrive some plan by which you can have a dozen or more mulberry trees, and a few silkworm eggs.

The RURAL PRESS gives you, this year, very full instructions. You can save the papers and study them. Have your own little cocoonery, and you will find much pleasure in studying the habits of these tiny spinners of the world's richest dresses. I would not advise any of my boys to go into the silk business just now; but I do earnestly advise all who have a taste for the study of nature, to procure a few trees and study the habits of the silkworm.

In two or three years you will have learned a few things:—First—Will the tree and the worms do well on your soil and in your climate?

Second.—Have you really the taste, the patience, and the industry necessary to success in such a business?

Third.—Does the general result of silk culture in California, still favor the hope that it will *pay* to make silk in this country?

This last question is quite important. I believe it will pay rich men to grow trees and eggs for a few years, while the fever of speculation lasts; but if it will ever be profitable for families of small means to go into the business, you will be all the better prepared to do it successfully.

Now I think I have said about as much with regard to insect nature and such studies, as the RURAL PRESS will find room for at this time. If I talk to you again soon, I must think of something else to talk about. Good bye.

JEIGH ARRH.

LAZY.—We once heard a stout, grown-up boy, with a famous great pair of hands, say that "he had tried hard and couldn't find any way to support himself?" What he meant was, that he couldn't find a place behind a counter to sell lace and ribbon, or corsets and hoop skirts. Aspiring youth! He could put those great fists of his to the spade, or the ax, or the plane; he wanted to keep them *white!*

A BABY STEAMBOAT.—Nettie was watching the departure of one of the large Mississippi steamers, when she saw a small stern wheeler following it. "O mamma!" said she, "there is a baby boat going after its big mamma." She looked at them eagerly till the large boat passed out of sight, while the small boat was still a little way behind, then turned with a sad face to her mother, saying, "The poor baby can't catch its mamma. Isn't it too bad?"

## Counting Baby's Toes.

Dear little bare feet, dimpled and white,
In your long white night-gown wrapped for the night,
Come let me count all your queer little toes,
Pink as the heart of a shell or a rose.

One is a lady that sits in the sun:
Two is a baby, and three is a nun;
Four is a lily, with innocent breast;
Five is a birdie asle p in its nest.

AN ITEM FOR THE BOYS.—A little boy twelve years old once stopped at a country tavern and paid for his lodging and breakfast by sawing wood, instead of asking it as a gift. Fifty years later, the same boy passed the same little tavern as George Peabody, the banker.

SAID our little three year old, "Mamma, won't you give me some more cake?" Upon receiving a negative reply, she looked very sorrowful and said slowly, "When I'm a big lady, and you are my little baby girl, I'll give you lots and lots of cake."

THE beauty of youth is its willingness to learn of age. Let all our young friends remember this, whenever their elders would give instruction.

## Domestic Economy.

Pork Unclean.—The Divine declaration to the Jews:—"Swine is unclean, and of it ye shall not eat, neither you in your day, nor your posterity forever," undoubtedly had reference to the unfitness of such meat for the human stomach. *Scrofa*, from whence our word *Scrofula*, is the Latin for "an old sow;" and hence this terrible disease, even in the early Roman age, received its appropriate name from the belief that it was in some way connected with the hog. Lugol, in his essay on scrofula and its origin, tells us that it was originally derived from "sleeping with the hog!"

It is held by most that the command to abstain from pork was because it was in some peculiar way, at that time, a *Gentile* beast, and that the command has never been binding on Christian or Jew, since God told Peter, when he objected to eating all manner of meats (including swine), "What I have cleansed, that call thou not unclean."

But if we ignore that understanding altogether, it is certain that the cases of *trichinae*, which have recently become so common, ought to be of themselves sufficient reason to cause us to be extremely cautious how we partake of that kind of meat.

A Substitute for Oil on Salad.—For people who dislike oil, the following preparation forms a very desirable and palatable substitute. The yolk of two hard-boiled eggs are rubbed very fine with a spoon; to these add a dessert spoonful of mixed mustard, mix the two thoroughly, then stir in a tablespoonful of melted butter, and half a teacupful of thick cream—salt. A dash of cayenne, anchovy or Worcestershire sauce will improve the mixture for some. Last of all, add, little by little, vinegar enough to make the whole a smooth creamy mass, and pour it on the lettuce just before serving.

How to Cook Asparagus.—Mr. Boots, of Alviso, furnishes the Santa Clara *Agriculturist* the following excellent receipt for cooking asparagus: In the vessel filled with nice unbleached "grass," he adds one-third full of water, and boils until it begins to get soft. He then turns off the water, which has absorbed all the rank green taste, and adds about half as much more water and boils until thoroughly cooked tender. He then adds cream or butter, and pepper to the taste. He has ready some dry toasted bread, a layer of which he places in the bottom of a pan, and covers with a layer of asparagus, then more toast and asparagus again until the dish is full—or completed.

Chocolate—How to Make and Use It. Take an ounce of chocolate for one person; scrape it and boil it about five minutes with about four tablespoonfuls of water. When smooth, add about a pint of new milk; let it boil, stirring it well. Buttered toast is the proper accompaniment of chocolate, or a light cake, made thus: Half a cupful of butter; one egg; two spoonfuls of cream of tartar, stirred with the butter and egg to a cream; one small cupful of *sour* milk added to this; three cupfuls the same size, of flour, sifted and well beaten into the liquid; and one small spoonful of soda, dissolved in hot water, and mix in the cake just before putting it in the oven, which must be hot enough to bake it in ten minutes. Bake in narrow cake-pans, filling them three inches deep.

Poisonous Confectionery.—The official chemist of Dublin has recently made a report of 123 specimens of confectionery purchased at thirteen establishments in that city. Those manufactured at three establishments were pure, and those obtained at the other ten shops contained poisonous pigments and other impurities. Out of forty articles tinted yellow, only two were colored with saffron, all the others containing chromate of lead. Some of the specimens contained sulphide of mercury, or vermillion. There seems to be no doubt, it is stated, that these mineral colors act as slow poisons.

### How I Wash my Dishes.

Of course, I make sure before breakfast or dinner that there is plenty of water in the boiler, and also in the tea-kettle. After the table is cleared, the table-cloth brushed off and neatly folded away, and the dining-room disposed of, I proceed with my dishes. First, I take my large dish-pan, put into it a piece of soap, and pour over the soap three or four dippersful of hot water from the boiler. Then I add two or three dippersful of cold rain water. Then my dish-cloth. The water should now be so cool as not to turn the hands red when put into it. Take the dish-cloth and rub from the soap the melted surface, and put the remainder away. Wash a dish at a time and pass it to another pan; a milk-pan is generally used. When all are done, or the pan is full, take the tea-kettle and pour over enough hot water to thoroughly rinse and heat them. Now take them from the water, one at a time, and place them bottom-side up upn a tray or pan to dry. If they have been properly washed, this hot rinsing water will run off or evaporate in a minute, leaving the dishes nearly dry. However, they should now be wiped with a clean dry towel, and put away. Dishes must be washed in soft water. Especially is this necessary where soap is used. And soap is really indispensable in washing dishes properly. The dishes should be scraped free from greese, crumbs, bones, etc., before commencing to wash them. A neat housekeeper will have the same dish-cloth in use until it is worn out, when it should be put in the rag-bag. Never allow the dish-cloth to be used for anything else but washing dishes.—*Mrs. W. T., in Agriculturist.*

### Instruction in Cooking.

The New Bedford (Mass.), *Mercury* contains the following suggestive notice:—

"Instruction in Cooking.—Ruth Russell is prepared to receive scholars for instruction in cooking. Special attention to be given to bread-making and pure yeast. Persons in service can receive instruction in one or all of the various branches of cooking on favorable terms."

Persons who have endured dyspepsia, with its varied agonies; long-suffering husbands, who have bought marketable provisions only to have them spoiled; dinners-out, who have become martyrs in the pursuit of their noble profession; all who think that the function of eating ought to be cared for, and that good digestion should wait on appetite, will read the above advertisement with the belief that no lady could undertake a better business.

The Use of Buttermilk.—Persons who have not been in the habit of drinking buttermilk consider it disagreeable, because it is slightly acid. There is not much nourishment in buttermilk, but the presence of the lactic acid assists the digestion of any food taken with it. Buttermilk is an excellent substitute for fruit in winter, and is also very good in the spring toward keeping off that unpleasant complaint generally known as spring sickness. The Welsh peasants almost live upon oat-cake and buttermilk. Invalids suffering from indigestion will do well to drink buttermilk at meal times.

How to Eat Strawberries.—This is so perfect a fruit, so exquisite in flavor, so excellent in quality that cooking, or manipulation of any kind, rather impairs than improves it. A little white sugar and cream is the only addition that can be made, and even this is a concession to our unnaturally sweetened and perverted palates, rather than to the necessities of the case. As for strawberry pie, dumplin, pudding and the whole range of dishes in which strawberries are *cooked*, they should be stricken out of every housekeeper's list with a single reservation in favor of "strawberry cake," in which, however, the strawberries are *not* cooked, and which is so great a favorite with all that we dare not say a word against it.

Milking Pails should always be washed with a cloth and wiped dry with the cloth wrung out of hot water. Lay them on the side to dry. If turned bottom up, the steam cannot escape, and they will get yellow and sour, which will taint the butter. If they get yellow, scour with clean water and sand.

To Keep Bedsteads from Squeaking.—Sprinkle fine sand or ashes in the joints and under the bearings of the slats.

### Domestic Receipts.

Puffs for Tea.—One quart of sweet milk; one quart of sifted wheat flour; four eggs well beaten; two tablespoonsful of melted butter; two tablepoonsful of sifted sugar; half a teaspoon of salt. Bake in brown-ware cups, from twenty-five minutes to half an hour, in a brisk oven.

Cheap Sponge Cake.—Break two eggs in a teacup; beat slightly; fill up with thick, sweet cream; then add one cup of white sugar; one cup of flour; one teaspoonful of cream tartar; one-half a teaspoonful of soda. Flavor with lemon.

Sugar Jumbles. — Six cups of wheat flour sifted; two of sugar ditto; one of butter warmed; one of sour milk; one teaspoon of saleratus stirred into milk. Roll out with flour enough to make thin; cut a hole in the centre, and sift sugar all over the cakes. Bake on flat tins, from twenty minutes to half an hour.

German Flummery.—Don't pass this by before trying it: Half a pint of milk, two ounces of Oswego flour, two ounces of sugar, boil together till moderately thickened, add a few drops of essence of vanilla or lemon, and mix with the whites of four eggs, beaten to a white snow; turn the whole into a wet jelly mold; set, to get firm, in a cool place, and serve with dip.

Chocolate Cream.—Chocolate, scraped fine, half an ounce; thick cream one pint; sugar, three ounces; heat it nearly to boiling, then remove from the fire, and mill it well. When cold, add the whites of four or five eggs; whisk rapidly, and take up the froth on a sieve; serve the cream in glasses, and pile up the froth on the top of them.

To Bleach Beeswax.—The best way is to make it in thin sheets and passing a string through them, hang them in a window exposed to the light and sun; and when sufficiently whitened they can be melted and made into any form desired.

To Cleanse Blankets.—Put two large tablespoonfuls of borax and a pint bowl of soft soap into a tub of cold water. When disolved, put in a pair of blankets and let them remain over night. Next day rub and drain them out, and rinse thoroughly in two waters and hang them to dry. Do not ring them.

Rice Pudding.—Boil a quarter of a pound of rice in water till it is soft, then drain in a sieve, and pound in a mortar; and five well beaten yolks of eggs, a quarter of a pound of butter, the same quantity of sugar, a small nutmeg, and half the rind of a melon grated; work well together for twenty minutes, and add a pound of clean currants; mix well, and boil in a pudding cloth for an hour and a half. Serve with wine sauce.

Pop Overs.—Batter two cups of milk with two cups of flour, add the yolks of two eggs, a little salt, lastly the whites; bake in small tins.

### Mechanical Hints.

Sanding Paint Whitewash.—The simplest way of sanding is to dust it over the second coat of paint a sufficient quantity of which will adhere to the fresh paint to form a uniform surface. A thin third coat is sometimes applied over this to cause more firm adhesion, but it is not necessary on the rough cottage siding.

A cheap outside application is made of the best and purest lime wash, of the consistence of thick whitewash, to which, after the lime is fully dissolved and intermixed, one-twentieth of the lime is added in white vitriol (sulphate of zinc), which will cause the whole to adhere, and become more durable than lime alone. Its brilliant whiteness may be softeued to a cream color, by adding a fifteenth of the lime in yellow ochre, or to a fawn color by the same quantity of a mixture of 8 quarts of number 8 of Indian red, and 1 of lampblack.

Hard Cement.—A cement which becomes excessively hard in time may be prepared by mixing 2 parts of silica, 1 part of silicate of alumina, and 9 or 10 parts of carbonate of lime, all in powder, and then roasting in a puddling furnace. The remaining mass is then to be ground and again roasted with 2 or three parts of carbonate of baryta. In practice, very pure sand will answer for the silica and chalk for the carbonate of lime, the remaining ingredients being supplied by mineral witherite or natural carbonate of baryta.

The following rules for the care of furniture are from an article in the *Technologist*: "Keep water away from every thing porus, alcohol from varnish, and acids from marble."

## Life Thoughts.

A good way to expand the chest—carry a big heart in it.

The best way to patch up a quarrel is to split the difference.

He who suppresses a moment's anger may prevent days of sorrow.

Say little, and to the purpose, and you will pass for somebody.

Whosoever is afraid of submitting any question, civil or religious, to the test of free discussion, is more in love with his own opinion than with truth.

Little local noises deaden the loudest distant ones; so it is that this world shuts out the voice of Almighty God.

We often omit the good we might do in consequence of thinking about that which is out of our power to do.

Deal gently with those who stray. Draw back by love and persuasion. A kiss is worth a thousand kicks. A kind word is more valuable than a mine of gold.

Moralizing.—It is one thing to moralize another thing to act. There are men who can utter the most refined and elevated sentiments and at the same time be guilty of crimes of the deepest dye. These are the most dangerous of mankind.

Belief.—The real test of belief is action. If a man tell us he believes a certain course to be right to adopt but in his own case acts as if he believed the contrary, we justly consider him destitute of the belief he professes.

### Bright Sundays.

Let it rain every other day in the week, so that it be pleasant on Sunday. Then let the sky be blue, and the sea. Then let the birds sing, and the little children. Then let the green fields be full of blossoms, and let no ascetic say it is "wicked" to pluck them. Then let the sunlight into your houses, place flowers on your table, have an extra sweet morsel for little mouths, and a pleasant word to everybody. I had almost said do anything but make the day one of gloom. Do anything that a man or woman may do, and look the pure stars in the face, but don't groan; don't set back the chairs against the wall; don't bring out dry theological books, for young folks to read, written by library men, who never so much as peeped into the windows of a warm human heart. Don't fold your hands over you Sunday suit, and look the ceiling out of countenance. Don't bribe your children to read six chapters in the Bible; don't frown if they smile; don't let your young people long for the going down of the Sabbath sun, counting the tardy minutes, like a restless prisoner, waiting his release. Oh, anything but that; as you love truth above hypocrisy; as you love honor and obedience beyond secret license; as you dread the shadow of moral death on those bright young faces, which I am sure you love.—*Fanny Fern.*

A Tender Conscience is like the apple of a man's eye; the least dust that gathers in it affects it. There is no surer and better way to know whether our consciences are dead and stupid than observe what impression small sins make upon us. If we are not very careful to avoid all appearance of evil, and to shun whatever looks like sin if we are not so much troubled at the vanity of our thoughts and word, at the rising up of sinful desires, as we have been formerly, we may then conclude that our hearts hardened, and our consciences stupefying for a tender conscience will no more allow of small sins than of great ones.

The Will of Providence.—There is sometimes a kind of blind submission to what is termed the will of Providence that savors strongly of indolence. The truth is, we can never know what that will is until our own duties in the matter, as far as we can discover them, are accomplished. Then, and only then, are we justified in awaiting the result in patient resignation, and then only will strength of will in endurance be as heroic as strength of will in action.

Hypocrisy.—To be perfect in hypocrisy, it is not only necessary to assume a virtue though you have it not, but also to hide your real character. The latter is a rare accomplishment, and only those well versed in deceit of every kind are capable of it.

A Christian should never plead spirituality for being a sloven. If he be a shoe cleaner, he should be the best in the parish.

## John B. Gough.

This distinguished speaker is now on a visit to California, at the invitation of the Young Men's Christian Association of this city. He spoke at the Pavilion on Tuesday and Wednesday, at Sacramento last evening, and will speak again in San Francisco this evening. Next week, we believe, he takes a trip to Yosemite. We presume he will visit and speak at other points. His movements are under the direction of the Association in whose interest he is here. Mr. Gough has his family with him and will remain in the State only about three weeks. Of course he is greeted here as elsewhere with large audiences.

Much has been said about Mr. Gough's oratory; but no pen can describe it. He is a school of his own—he is one of Nature's own orators. Daniel Webster once said of him, that he was the greatest natural orator that ever lived. Few men, living or dead, have stood before more people than has Mr. Gough—perhaps no one. Old age is evidently creeping prematurely upon him. He has overworked himself—is still overworking. He is entitled and should receive at least three months relief from labors to recruit his energies in the health-giving atmosphere of California, instead of spending only three weeks here—and those mostly of toil.

Advancing age has deprived Mr. Gough's voice of some of its clearness and early ring, but the flash and fire of his eloquence has not in the least abated. He is still as able as ever, to hold his vast audiences to the closest attention—now inspiring them with the fervor of his eloquence—now melting to tears by his pathos and again convulsing them with laughter by his happy and unique style of illustration or description.

It is among the most pleasant memories connected with the early life of the editor of this paper, that he was among the first to extend an encouraging hand and voice in his early efforts at usefulness as a public speaker. We well recollect the time when he persisted in his inability to go before a large audience in Roxbury, Mass., or to speak in the same place twice on two successive evenings. We insisted, however, and he made the effort. It was a perfect triumph. Then, as now, he never made any special preparation for his addresses; but relied mainly on the inspiration of the moment. Of course he never failed or faltered.

Mr. Gough is a power in aid of any cause in which he may engage, and it is fitting and proper that he should close his life labors in the interest of the great movement inaugurated by the Young Men's Christian Associations of the United States. In 1868, if we are not mistaken, he entered into an arrangement with an agent of these Associations to give 80 lectures a year for the period of 10 years, in their interest. He is here in fulfillment of that contract. He can hardly expect to enter upon any other engagement after this is consummated.

## Important Railroad Enterprise.

It has been whispered, for some time, and now is stated aloud, that the Union Pacific Railroad will connect with the California Pacific by a line from the neighborhood of Ogden, running to the north of the Central Pacific. The requisite capital is said to be secured, and the matter on the very point of action.

Such a road, if built, would result in the extension of the Central Pacific, and would thus give us two new through lines of railroad. It would thus be a matter of the greatest importance to our coast. The measure is undoubtedly due to the energy of the new management of the California Pacific, a road which the Central Pacific has come near purchasing several times, if former rumors are to believed, but which now proves its most formidable rival.

## An Important Irrigation Enterprise.

We last week made a brief reference to an extensive system of irrigation to be undertaken in the San Joaquin valley, whereby that large and rich agricultural region is to be placed in comparative independence of any probable drouth which can ever visit this coast. To-day we are enabled to give a full record of the various canals proposed, as taken from the certificate of incorporation, which has been filed at the office of the county clerk in this city. The objects of the company in the construction of these canals is not only to provide water for irrigation, when and where needed; but also to afford means for transporting passengers and freight, and to furnish water power for farm and manufacturing purposes.

To accomplish this end, feeders will be cut from mountain lakes and streams to supply more directly and fully, water to the small lakes in the southern part of the valley, which will thus become immense reservoirs for supplying a portion of the proposed canals during the long, dry summers. Canals will also be run along the principal divides between the streams flowing down from the Sierras, which will be conveyed down into the main valley, whence, by branches, water can be carried to almost every quarter section throughout the entire eastern portion of the great San Joaquin and Kern river valleys.

To provide irrigation for the western portion of these valleys an immense main watercourse or canal will be opened from Buena Vista Lake in the southern portion of Kern county, skirting northwardly along the foot-hills of the Coast Range, as high above the valley as practicable, and passing through its entire length, until it reaches the San Joaquin at or near Antioch. The length of this main trunk will be some 230 miles, making reasonable allowances for the necessary sinuosities. From this main trunk (which will also be used as a canal for transportation) lateral ditches will be constructed to convey water for irrigating the valley below. These ditches, when they leave the foot-hills will also furnish a large amount of water power before the water will be required for irrigation.

The scheme here presented is one of magnificent proportions; but none too great for the region of country which it is proposed to benefit. The capital stock is set down at five millions of dollars. Of course it is not expected that the whole scheme will be put through at once; but it is to be hoped that a commencement may be made this season, and that the work will be pushed forward as fast as practicable to its full completion. Its completion would create values equal to many times its cost in the appreciation of the land which it would benefit; as it would render possible a population in those valleys of from one hundred and fifty to two hundred thousand people.

We append hereto a more particular reference to the several canals proposed, as copied from the certificate of incorporation. Its perusal will enable any person having a good map of the State before him to trace out the lines of the canals, and form a very fair conception of the magnitude and completeness of the work proposed.

1. A canal leading from Kern river, at or near its westerly intersection with the north line of township 29 south, Range 28 east from Mount Diablo base, and meridian to Kern, Buena Vista and Tulare Lakes.

2. A canal leading from Buena Vista Lake, in Kern county, with a feeder from Summit Lake in Fresno county, and running along the west side of the San Joaquin valley to a point at or near Antioch, in Contra Costa county.

3. A canal leading from a point on King's river in Township 13 south, Range 33 east, Mount Diablo base and meridian, at or near the point where water is now taken out of said river for irrigating purposes, to Summit Lake.

4. A canal leading from a point on the south side of the San Joaquin river, at or near Millerton, to Summit Lake.

5. A canal leading from the north side of San Joaquin river, nearly opposite Millerton, along and near the base of the foothills as possible, to Bear Creek; the same to be conveyed by flumes, where necessary, across the intervening streams, and to have branches between each two of said streams running westerly, for irrigating purposes.

6. A canal leading from the south side of Merced river, at or near the falls of said river, westerly, to the San Joaquin river.

7. A canal leading from the Tuolumne river, on its south side, at or near Lagrange, westerly to the San Joaquin river.

8. A canal leading from the Stanislaus river on its south side at or near Knight's Ferry, westerly to the San Joaquin river.

All the canals to be constructed with all the lateral canals and branches necessary for the purposes specified, particularly for irrigating.

Capital stock of five million dollars divided into 50,000 shares of $100 each. Trustees:—J. D. Walker, T. Parrott, Adam Grant, F. D. Atherton, T. H. Selby, Milton S. Latham, Wm. S. Chapman, J. Friedlander, Alfred Godeffroy.

## Consumption and Price of Breadstuffs.

The *Alta* in an article on "crops and the price of food" remarks as follows:—"A little reflection will show that prices even now are higher than the circumstances will warrant. Although breadstuffs are the most imperative want of the people, a very small deficit in the quantity necessary for food, carrying the prices to an exorbitant point, yet a very small excess over the quantity absolutely required will sink the price to a low point. The question of price, therefore, turns on that of supply for local wants. If there is enough to eat, the price of any surplus depends upon that of England, which is the only customer for the surplus. Now as to actual wants. The population of California and Nevada is, together, according to the Federal Census of 1870, 592,264.

The usual estimated consumption of wheat per head is five bushels, or three sacks. This will give 1,776,792 sacks wanted for food. There will be required 600,000 sacks for seed; more or less will be distilled, according to price. There will be required altogether then, 2,376,792 sacks. The old wheat now in the State is quite equal to the consumption up to August. The crop of Oregon is large, and she has sent us in the last two years 1,000,000 sacks wheat. At the prices now ruling, she will doubtless send 600,000 sacks for the coming year. There will remain, then 2,000,000 sacks to be supplied from California fields. During the last five years the crop in the State has averaged 11,700,000 bushels, or 7,000,000 sacks. The surplus exported in 1870 was 5,000,000 sacks California grain. Thus far this year 3,500,000 sacks have been exported at a very considerable advance in prices, consequent upon the French war. That war and its anticipated effects induced great enterprise in wheat planting, and a breadth of land has been sown which, with fair seasons, would have netted 9,000,000 sacks. Consequent upon the experience of past years a good deal of that land shows improved culture; deep plowing and irrigation have been resorted to as a remedy for drouth and have been effectual in preserving much grain this year, which unfortunately, in many sections has failed, but not in all. Now to reduce the wheat supply below the food point, there must have been a loss of 7,000,000 sacks by the drouth; but there is no evidence whatever of any such extreme disaster.

On the other hand, many sections have comparatively a good yield; for instance, Lake county has had nearly as much rain as last year, and with Sonoma and Napa, according to the carefully prepared estimates of an eminent grain exporting house, will give together 900,000 sacks surplus. Colusa, Sutter, Yuba, Yolo and Solano may have, in the aggregate, 200,000 sacks over. Tehama and Butte are estimated at 650,000 sacks surplus; Pajaro and Salinas 450,000 sacks, making altogether 3,000,000 sacks over and above all local wants, but 5,000,000 sacks below what a good year would have witnessed. Now without any export demand such a yield, being double the food wants, would involve very low prices, less than those of last year, when wheat was selling at $1.40. But there is a foreign demand, which is expressed to-day in a Liverpool price of 12s. 3d. per sack for wheat, or $2.96, which, deducting freight 44c. and other charges 20c., leaves $2.32 as the equivalent here for the surplus grain which the State has to sell. A famine price for local use cannot be sustained in face of a surplus double the local wants.

## The Silkworm in California.

There must be traceable causes for our difficulties with the silkworm. The French annuals make the best cocoons when they live through the process; but too often they die in the first attempt to spin.

The Italians who have been taking our cocooneries on lease, avow their main purpose to be for the supply of eggs to Italy. They prefer the worms mentioned, and they tell us why we are not successful.

The eggs should not be hatched in our cocooneries, but in a separate room having a fire-place. They require a certain temperature which should not vary during the term of incubation. When hatched, the worms may go to the cocoonery to be fed. Before being hatched, an eye-glass, made for the purpose, should be passed over the eggs and such as have the germ of disease can be detected and destroyed; for the worm disease is contagious.

Our trees are mostly multicaulus, exactly the wrong kind. Their leaf should be fed sparingly. They say that it is deficient in gummy material to cement the silk. This we are free to question. But that the Alba and Moretti makes superior silk, and better health we think not improbable.

Our cocooneries they pronounce defective in ventilation, and in means of protection from changes of temperature. They want two draft chimneys to remedy both defects. But nothing can be worse than buildings of board and unceiled roofs. No doubt, adobe or gravel walls would best serve the purpose of equalizing the temperature between day and night. Mr. Hoag tried a packing of marsh tule, encasing the frame building on all sides except the east, and covering the roof. His success proves that the suggestion is of the highest value.

It is remarked by the Italians that crowding is particularly to be avoided; and that it is requisite to speedily remove all verdure and waste leaves, because the worms are sensitive and liable to be diseased by uncleanliness. We solicit from all silk men, information of similar bearing, gathered from their own experience.

## Sewing Machine Improvement.

A great objection has been urged against the use of sewing machines from the fact of their use being very detrimental to the health of the operators. It is for this reason that such persistent efforts have been made to devise some ready mode of operating these machines by the use of some other means than foot-power.

The Mill's Adjustable Treadle has recently been devised and applied to the Howe Sewing Machine, which is said to remedy the evil complained of by a simple modification in the manner of constructing and adjusting that portion of the machine. This invention has been brought to the attention of a large number of physicians, who appear to be unanimous in the opinion that what is claimed for it has been secured.

The peculiar feature of the new treadle consists in making the foot-board so adjustable, both vertically and longitudinally, that whatever the size of the foot or shoe, the true center of motion of the foot may also be brought to coincide with the center of motion of the treadle, and so held in place—thus permitting the feet to move on their natural centers, without having to overcome the weight and inertia of the heavier limbs. In another column will be found a certificate from no less than fifteen of the leading physicians of this city, expressing their opinion that the use of a sewing machine, with this treadle attached, so far from being prejudicial to the health of the operator, will be not only harmless, but positively beneficial as a physical exercise tending to develop the muscles of the lower limbs, strengthen the ankle and impart elasticity to the foot.

The authority referred to is the best that can be obtained—all, indeed, that could be be asked, and if this improvement accomplishes the ends certified to the inventor, it ought to receive the warmest thanks of the community and a fortune besides. This improvement may be seen and examined at the Howe Sewing Machine office, No. 113 Kearny street, in this city.

## Meteorological Observations in Tulare County.

[Reported expressly for the PRESS, by ISAAC B. RUMFORD, of Orange Grove.]

| APRIL, 1871. | Ther. | | | Barometer. | | | Ins of R'n | Remarks. |
|---|---|---|---|---|---|---|---|---|
| | S* | 1½ | S† | S* | 1½ | S† | | |
| Sat. 1 | 53 | 78 | 64 | 29.36 | 29.18 | 29.17 | | Clear. |
| Sun. 2 | 56 | 80 | 70 | .17 | .06 | .00 | | Variable. |
| Mon. 3 | 54 | 73 | 70 | .06 | .09 | .12 | | Cloudy. |
| Tu. 4 | 54 | 83 | 74 | .22 | .10 | .04 | | Fair. |
| We. 5 | 62 | 75 | 57 | .13 | .01 | .08 | | Variable—blustery. |
| Th. 6 | 48 | 57 | 50 | .12 | .16 | .15 | .75 | Showery to-day. |
| Fri. 7 | 42 | 59 | 54 | .25 | .24 | .10 | | Variable—threat sbr. |
| Sat. 8 | 46 | 55 | 56 | .16 | .09 | .06 | .03 | Variable—threat shr. |
| Sun. 9 | 43 | 65 | 63 | .16 | .15 | .17 | | Fair. |
| Mon. 10 | 48 | 68 | 63 | .27 | .21 | .14 | | Fair. |
| Tu. 11 | 47 | 69 | 64 | .18 | .13 | .08 | | Variable. |
| We. 12 | 52 | 75 | 72 | .19 | .12 | .10 | | Variable—threat'ing. |
| Th. 13 | 53 | 74 | 68 | .29 | .24 | .18 | | Fair. |
| Fri. 14 | 51 | 73 | 69 | .30 | .22 | .12 | | Fair. |
| Sat. 15 | 55 | 77 | 71 | .14 | 28.99 | 28.90 | | Fair. |
| Sun. 16 | 47 | 62 | 59 | 28.95 | 28.87 | .84 | | Variable. |
| Mon. 17 | 46 | 51 | 48 | .94 | 29.01 | 29.06 | 2.00 | Stormy Verysevere. |
| Tu. 18 | 43 | 59 | 55 | 29.37 | .45 | .43 | .10 | Clear. |
| We. 19 | 47 | 65 | 60 | .47 | .43 | .34 | | Clear. |
| Th. 20 | 52 | 72 | 68 | .38 | .31 | .22 | | Clear. |
| Fri. 21 | 57 | 79 | 71 | .28 | .16 | .07 | | Fair. |
| Sat. 22 | 59 | 82 | 71 | .10 | 28.94 | 28 92 | | Fair. |
| Sun. 23 | 57 | 71 | 64 | 28.96 | .83 | .91 | | Cloudy. |
| Mon. 24 | 51 | 74 | 68 | 29.01 | 29.09 | 29.08 | | Fair. |
| Tu. 25 | 55 | 80 | 75 | .25 | .18 | .14 | | Fair. |
| We. 26 | 56 | 83 | 75 | .22 | .14 | .07 | | Clear. |
| Th. 27 | 55 | 83 | 77 | .18 | .05 | 28 99 | | Clear. |
| Fri. 28 | 55 | 76 | 71 | .17 | .12 | 29.06 | | Clear. |
| Sat. 29 | 52 | 70 | 70 | .13 | .09 | .00 | | Clear. |
| Sun. 30 | 51 | 74 | 71 | .14 | .08 | .03 | | Variable. |

* Sunrise. † Sunset.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., May 18th.

FLOUR—The market still continues quiet and without further advance. Its upward tendency has doubtless been checked. There has been a fair jobbing trade, but no demand for export.

Transactions embrace 4,000 bbls. California extra, 3,000 bbls. Oregon extra, and 10,000 qr. sks. California superfine at current rates.

We quote superfine, $7.25@7.75; extra, $8.25@8.50. Standard brands Oregon extra $8.25@$8.50.

WHEAT—Has slightly depriciated during the week, and we quote to day 15 cents lower than our last figures. The market is quiet, under this decline. Sales include 12,000 sks. fair to choice at $2.90@3.10. At the close we quote good to choice at $2.80@2.95 ₱ 100 lbs.

The Liverpool market has advanced one penny, to 12s. 4d. New York rates are given at $1.65.

BARLEY—The market has become quiet again, under a decline of 20@25 cts. Sales of 10,000 sacks are reported at $2.25@2.40 from fair to choice. At the close we quote at $2.10@2.25.

OATS—The market is weaker but presents a fair demand at $2.15@2.30;

CORN—Is quotable at $2.70@2.72½ per cental.

CORNMEAL—Is quotable at $2.50@3.25.

BUCKWHEAT—Still quotable at $3@$3.25.

RYE—Nominal at $2.50 for choice.

FEED—We note but little change, and quote: STRAW, $9@10; BRAN, $37.50; MIDDLINGS, 42.50@45.00; OIL CAKE MEAL has still further advanced to $40.

HAY—Under the pressure of large receipts has declined. We quote ordinary to choice at $15.00@$21.00 ₱ ton.

HONEY—But little in market and quotations nominal.

POTATOES—The stock of old has nearly run out, and prices have advanced. We quote them to-day at $2,20@$2,50. New Mission are selling at $2,20@$2,75.

HOPS—Demand light—prices nominal at 8@12½c. for California crop of 1870.

HIDES—We quote Dry, slaughterer's stock, 17@18 c; Salted, 8@8½c. Sales during the week 2,019 Cal. dry, and 1,024 salted.

WOOL.—Sales for the week have aggregated about 550,000 lbs. at from 27@31c. The receipts continue heavy. Desirable lots are active, while inferior grades are slow. Stocks are accumulating. Invoice of 50 bales has been received this week from Australia. New York telegrams report choice California wools in fair demand. Boston telegrams note sales of choice northern California in that market at 42½@45c.

TALLOW—The extremes may be quoted from 8@8½c. Sales of 30,000 lbs. are reported for the week.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 16@17c; Oregon, 16@16½; Chicago 17c; California Hams 13½@14½; Oregon do, 16@17c; California Sugar-cured Hams, 18@19c; Oregon do, 18@22c; Eastern do, 22@24½c; California Smoked Beef, 13@14c. A sale of 25 tierces of Duffields Chicago Hams is reported at 22½ cts.

BEANS.—Are weak and irregular in price, and owning to a limited demand have declined. We quote Bayo, $2.75@$3.00; Butter, $2,75@3.00; small White, $3.00; Red, $3.75; Pea, $2.75; Pink, $2.75@$3.00 ₱ cwt.

NUTS—California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 6@7c; Hickory and Walnuts, 12½c; Pecan, 23@25c ₱ lb, Cocoanuts $12@15 per hundred.

FRESH MEAT—We quote prices from slaughterers to dealers with small change.

BEEF—American, 1st quality, 9@10c ₱ lb.
Do 2d do 7@ c8 ₱ lb.
Do 3d do 6@ 7c ₱ lb.

VEAL—Extremes, 7@10c.

MUTTON—Declined to 4½@5c ₱ lb.

LAMB—May be quoted at from 7@8c ₱ lb.

PORK—Undressed is quotable at 5@7½c. dressed, 10@11.

POULTRY, ETC.—The Market very dull—Hens $6½@7¼; Roosters $6½@7¼; Ducks, tame, $6@7 ₱ doz; geese, tame, $1.85@2.00 ₱ pair; live turkeys, 18@19c ₱ lb.

WILD GAME—Hare, $1.50@$2.00; Rabbits, $1.25@1.50; No Ducks or Geese in the market.

DAIRY PRODUCTS—California Butter, fresh, in rolls, still remains at 27@32½c; California firkin butter, 26½@30c. Fancy brands Cal. new are held at from 2½ to 4 cts. advance.

CHEESE—In fair supply, California new, 10@14c., Eastern, 16@17c. for new.

EGGS—California fresh, 26@27c;

LARD—California Lard, 11-lb tins, 15@16c; Oregon, 16@17c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Oregon Apples, per box, $2.50@$4.00; Tahiti oranges $30 per 1,000; Los Angeles oranges, $30@$40 per M.; Malaga Lemons, per box, $15@16; Cal. Lemons, $3@4 per 100; Strawberries, 5@6c; Rhubarb, 4@5c; Asparagus, 4@8c.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Dealers report a better enquiry than has been ruling of late for reasonable goods. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand still continues light. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds, 25c; Figs, Smyrna, 15@20c; Prunes, German, 12c ₱ lb; Raisins, layer, $3.50@4.25 per box; Currants, Zante, 10½@11½c.; 50c.

### TABLE OF MISCELLANEOUS.

| | | | |
|---|---|---|---|
| Sugar, crsh'd, lb. | $ 14½@$ 15 | Hemp Seed, lb, | $ 7 @ 9 |
| Hawaiian, do. | 9 @ 12 | Castor Beans, lb. | 4 @ 4½ |
| Coffee, Cos. R, lb | 15½ @ 16 | Castor Oil, gal. | 1 75 @2 00 |
| Rio, do | 16 @ | Linseed Oil, gal | 1 05 @1 10 |
| Tea, Japan, ₱ lb. | 50 @ 90 | Broom Corn, ₱ lb | 3 @ 5 |
| Green, do | 50 @1 00 | Beeswax, ₱ lb | 27 @ 30 |
| Rice, Haw'n, ₱ lb | 8½@ 9 | Peanuts, ₱ lb | 5 @ 7 |
| China, do | 6 @ 7½ | Corn Meal, cwt. | 2 50 @4 00 |
| Coal Oil, ₱ gal. | 50 @ 60 | Onions, cwt. | 1 50 @3 50 |
| Candles, ₱ lb | 15 @ 18 | | |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, May 18.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

City Tanned Leather, ₱ lb ..... 26@30
Santa Cruz Leather, ₱ lb ..... 26@30
Country Leather, ₱ lb ..... 25@28

French Calf and Kip Skins still continue firm, with a slight advance in Jodot Calf and the best brands of Kips. Domestic Skins rule the same.

| | |
|---|---|
| Jodot, 11 to 19 Kil., per doz | $82 00@ 96 00 |
| Cornellian, 16 Kil., per doz | 72 00@ |
| Ogerau Calf, ₱ doz | 54 00@ |
| Mercier Calf, 16 Kil., per doz | 65 00@ |
| Jodot, second choice 11 to 15 Kil. ₱ doz | 68 00@ 88 00 |
| Common French Calf Skins, ₱ doz | 35 00@ 75 00 |
| French Kips, ₱ lb | 1 10@ 1 30 |
| California Kip, ₱ doz | 60 00@ 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ 1 25 |
| Eastern Calf for Backs, ₱ lb | 1 15@ 1 25 |
| Sheep Roans for Topping, all colors, ₱ doz | 8 50@ 13 00 |
| Sheep Roans for Linings, ₱ doz | 5 50@ 10 50 |
| California Russett Sheep Linings | 1 75@ 5 50 |
| Best Jodot Ca f Boot Legs, ₱ pair | 5 25 |
| Good French Calf Boot Legs, ₱ pair | 4 50@ 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 |
| Harness Leather, ₱ lb | 30@ 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ 72 00 |
| Skirting Leather, ₱ lb | 34@ 37½ |
| Welt Leather, ₱ doz | 30 00@ 50 00 |
| Buff Leather, ₱ foot | 22@ 25 |

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, May 19, 1871.

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 ₱ ton; Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb | | |
| Scotch and English Pig Iron, ₱ ton | $32 50 | @$33 50 |
| White Pig, ₱ ton | 40 00 | @ — — |
| Refined Bar, had assortment, ₱ lb | — 03 | @ — — |
| Refined Bar, good assortment, ₱ lb | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | |
| Sheathing, ₱ lb | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | — 22 |
| Composition Bolts | — 21 | — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX ₱ box | 12 00 | — — |
| Plates, I C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 10 00 | 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | — 42 |
| STEEL.—English Cast Steel, ₱ lb | — 15 | — 15½ |
| QUICKSILVER.—₱ lb | — — | — 80 |
| LEAD.—Pig, ₱ lb | — 06 | — 07 |
| Sheet | — 09 | — |
| Pipe | — 10 | — 11 |
| Bar | — 08 | — 09 |
| ZINC.—Sheets, ₱ lb | — 10½ | — 11 |
| BORAX.—Refined | — 25 | — 30 |
| Borax, crude | — 5 | — — |

## San Francisco Retail Market Rates.

FRIDAY, May 19, 1871

MISCELLANEOUS.

| | | | |
|---|---|---|---|
| Butter, Cal fr. lb | 35 @ 45 | Wool Sacks, new | 40 @ 90 |
| Pickled, Cal. lb | 35 @ | Second-hnd do | 67½@ 70 |
| do Oregon, lb | @ | Wheat-sks, 22x36 | 13½@ 14 |
| Honey, ₱ lb | 25 @ 30 | Potato G'y Bags. | 23 @ |
| Cheese, ₱ lb | 20 @ 25 | Second-hnd do | 16 @ |
| Eggs, per doz | 30 @ 35 | Deer Skins, ₱ lb. | 15 @ 22 |
| Lard, ₱ lb | 18 @ 20 | Sheep sks, wl on | 50 @ 75 |
| Sugar, cr., 6½ lb. | 1 00 @ | Sheep sks, plain. | 12½@ 25 |
| Brown, do, ₱ lb | 10 @ 13 | Goat skins, each. | 25 @ 65 |
| Beet, do, 7 lb | 1 00 @ | Dry Cal. Hides | Weak |
| Sugar, Map. lb. | 20 @ 25 | Salted do | Dull |
| Plums, dried, lb. | 15 @ 30 | Dry Mex. Hides. | 15 @ |
| Peaches, dried, * | 15 @ 30 | Salted do | 9 @ |

PRODUCE, ETC.

| | | | |
|---|---|---|---|
| Codfish, dry, lb | 6 00 @ 12½ | Barley, cwt | 2 35 @2 40 |
| Flour, ex, ₱ bbl. | 8 75 @9 00 | Beans, cwt | 3 00 @3 50 |
| Superfine, do. | 5 50 @6 00 | Potatoes, cwt | 2 25 @3 00 |
| Corn Meal, 100 lb. | 3 50 @4 50 | Potatoes, new | 2 75 @ |
| Wheat, ₱ 100 lbs. | 2 95 @3 10 | Hay, ₱ ton | 18 00 @24 00 |
| Oats, ₱ 100 lbs | 2 30 @2 50 | Live Oak Wood. | 10 00 @12 00 |

FRUITS, VEGETABLES, ETC.

| | | | |
|---|---|---|---|
| Pine Apples, † | 5 00 @9 00 | Garlics | 5 @ 8 |
| Bananas, ₱ lb | 3 00@5 00 | Green Peas, ₱ lb | @ 6 |
| Cal. Walnuts, lb. | @ 20 | Green Corn, doz. | @ |
| Cranberries, ₱ g | 75 @1 00 | Sugar Peas, ₱ lb | @ |
| Cranberries, O, ¶ | @1 00 | Lettuce, ₱ doz | 12 @ 25 |
| Apples, No. 1, lb. | 4 @ 5 | Mushrooms, ₱ lb | 25 @ 50 |
| Pears, table, ₱ lb | @ 12½ | Horseradish, ₱ lb | @ 20 |
| Oranges, ₱ doz | 50 @ 75 | Okra, dried, ₱ lb | @ 50 |
| Lemons, ₱ doz | 75 @1 00 | Okra, green, ₱ lb | @ |
| Figs, dried, ₱ lb | 15 @ 20 | Pumpkins, ₱ lb | 3 @ 4 |
| Asparagus, wh.* | 12 @ 15 | Parsnips, † hnchs | @ 25 |
| | | Parsley | @ 25 |
| Artichokes, doz. | 50 @ 75 | Pickles, ₱ gal | 50 @ 75 |
| Brussel's sprts, * | @ 15 | Rhubarb, ₱ lb | 8 @ |
| Beets, ₱ doz | 20 @ 25 | Radishes, † huns | @ 25 |
| Potatoes, ₱ lb | 2 @ 3 | Green Peppers, * | |
| Potatoes, sweet, * | @ | Red, do | @ 25 |
| Potatoes. new | 4 @ | Summer Squash | 8 |
| Tomatoes, ₱ lb | | Marrowfat, do. | 4 @ 6 |
| Broccoli, ₱ doz. | 1 50 @2 00 | Hubbard, do | @ 5 |
| Cauliflower, † | 2 50 @1 25 | String Beans, lb. | 8 @ |
| Cabbage, ₱ doz. | 3 00 @1 50 | Dry Lima, sbl | @ 8 |
| Carots, ₱ doz | 10 @ 25 | Spinage, ₱ hskt. | 25 @ 50 |
| Celery, ₱ doz | 75 @1 00 | Salsify, ₱ bunch | 12 @ 25 |
| Cress, ₱ doz bun | 20 @ 25 | Turnips, ₱ doz | @ 25 |
| Dried Herbs, h'b | 25 @ 50 | Asparagras | 8 @ 12½ |
| Egg Plant | @ | | |

POULTRY, GAME, MEATS, ETC.

| | | | |
|---|---|---|---|
| Chickens, apiece | 75 @1 00 | Tongues, pig, ea | @ 15 |
| Turkeys, ₱ lb | 20 @ 25 | Bacon, Cal., ₱ lb | 18 @ 20 |
| Ducks, wild, ₱ p | | Oregon, do | 18 @ 20 |
| Tame, do | 1 50 @ | Hams, Cal, ₱ lb. | 18 @ 20 |
| Teal, ₱ doz | | Hams, Cross' s c | @ 25 |
| Geese, wild, each | 37½@ 50 | Choice D'field | @ 25 |
| Tame, ₱ pair | 2 50 @3 00 | Whittaker's | @ 25 |
| From Chicago. | @ | Johnson's Or. | @ 25 |
| Hens, each | 75 @1 00 | Salmon, ₱ lb | 6 @ 8 |
| Snipe, ₱ doz | 1 25 @1 50 | Smoked, new,* | 10 @ 12 |
| English, do | 2 50 @3 00 | Pickled, ₱ lb | 6 @ 8 |
| Venison, ₱ lb | @ | Rock Cod, ₱ lb | 10 @ 12 |
| Quails, ₱ doz | | Kingfish, ₱ lb | 25 @ |
| Pigeons, dom. do | 3 00 @3 50 | Perch, s water, lb | 10 @ 12½ |
| Wild, do | 1 50 @2 00 | Lake Big. Trout* | @ 25 |
| Hares, each | 40 @ 50 | Smelts, ₱ lb | 6 @ 8 |
| Rabbits, tame | 50 @1 00 | Herring, fresh | |
| Wild, do, ₱ dz. | 1 75 @2 00 | Sm'kd, per 100 | @1 00 |
| Squirrel, ₱ pair. | 25 @ 38 | Tomcod, ₱ lb | @ 20 |
| Beef, tend, ₱ lb. | 20 @ 25 | Terrapin, ₱ doz. | 4 00 @ |
| Sirloin and rib | 18 @ 20 | Mackerel, p'k, ea | |
| Corned, ₱ lb | 10 @ 12 | Fresh, do | |
| Smoked, ₱ lb | 15 @ 18 | Sea Bass, ₱ lb | @ |
| Pork, rib, etc., lb | 12½@ 15 | Halibut | 62 @ 75 |
| Chops, do, ₱ lb | 12 @ 15 | Sturgeon, ₱ lb | 4 @ 5 |
| Veal, ₱ lb | 15 @ 20 | Oysters, ₱ 100 | 1 00 @1 25 |
| Cutlet, do | @ 20 | Chesp. ₱ doz | @1 00 |
| Mutton chops,* | 12½@ 15 | Turbot | @ 40 |
| Leg, ₱ lb | 12½@ | Crabs ₱ doz | @1 00 |
| Lamb, ₱ lb | @ 12½ | Soft Shell | 37 @ 50 |
| Tongues, beef, ea | @ 75 | Shrimps | 10 @ 12 |

—— * Per lb. † Per dozen. ¶ Per gallon.

## Wool Prices in New York.

BROWN'S CIRCULAR, May, 1871.

DOMESTIC FLEECES.

NEW YORK, MICHIGAN, INDIANA AND WISCONSIN.

| | | | |
|---|---|---|---|
| Choice Sct'd Saxony Fl. | @ | Quarter-bld Fleece | 46@50 |
| Saxony Fleece | 50@53 | Common Fleece | 44@47 |
| ¾ and Full-bld Merino. | 47@50 | Combing Fleece | 55@58 |
| Half-hld Fleece | 48@52 | | |

OHIO, PENNSYLVANIA AND VIRGINIA.

| | | | |
|---|---|---|---|
| Choice Sct'd Saxony Fl. | 62@70 | Quarter-bld Fleece | 50@53 |
| Saxony Fleece | 55@60 | Common Fleece | 47@50 |
| ¾ and Full-bld Merino. | 52@55 | Combing Fleece | 55@58 |
| Half-hld Fleece | 52@55 | | |

IOWA, VERMONT AND ILLINOIS

| | | | |
|---|---|---|---|
| ¾ and Full-hld Merino. | 47@50 | Quarter-hld Fleece | 45@48 |
| Half-bld Fleece | 47@50 | Combing Fleece | 52@55 |

MISSOURI, KENTUCKY AND TENNESSEE.

| | | | |
|---|---|---|---|
| Washed Fleece | 46@50 | Unwashed Combing | 43@46 |
| Unwashed Fleece | 36@40 | Canada Fleece | 48@60 |

TUB-WASHED WOOL.

| | | | |
|---|---|---|---|
| Choice | 60@63 | Inferior and Burry | 45@50 |
| Fair | 55@58 | | |

PULLED WOOL.

| | | | |
|---|---|---|---|
| N. Y. City extra Pulled | 44@47 | Country extra Pulled | 50@55 |
| N. Y. City super Pulled | 45@49 | Country super Pulled | 50@55 |
| N. Y. City No. 1 Pulled | 28@32 | Country No. 1 Pulled | 33@37 |
| Lambs' Wool | @ | Canada Pulled | 45@50 |
| Western super and ext | 42@47 | | |

CALIFORNIA.

| | | | |
|---|---|---|---|
| Spring Clip, fine | 34@38 | Fall Clip, lw gds & h'ry | 20@26 |
| Spring Clip, medium | 34@38 | Extra Pulled | 38@44 |
| Spring Clip, lw gds & hr. | 27@34 | Super Pulled | 38@44 |
| Fall Clip, A 1 | 26@30 | Low Pulled | 32@37 |

TEXAS.

| | | | |
|---|---|---|---|
| Fine | 34@38 | Inferior | 23@28 |
| Medium | 33@37 | Very Burry | 17@23 |
| Low | 27@32 | | |

FOREIGN WOOLS.

| | | | |
|---|---|---|---|
| Cape of Good Hope | 34@37½ | Buenos Ayres Merino | 33@37 |
| Mestiza Pulled, X & XX. | 60@70 | Buenos Ayres Mestiza | 31@35 |
| Mestiza Pulled, low gds. | 48@57 | | |

**Send us Communications.**—They will be respected. If you have not time or the experience to write finished articles, send us facts brief and plain. We will take care of them. Remember that writers improve themselves with others by use of the pen. Officers of societies, clubs and meetings, please report.

**Go to the Best.**—Young and middle-aged men should remember that the PACIFIC BUSINESS COLLEGE is the oldest and most popular and successful Business Training School on this coast. Upwards of Three Thousand Students have attended during the past six years, many of whom now hold prominent positions in the first banking and mercantile houses of this city. This is the MODEL TRAINING SCHOOL FOR BUSINESS on the coast, having the greatest corps of Professors and Teachers, and the greatest number of students in attendance, of any institution of the kind. Young men flock to this College from all parts of the Pacific States and Territories, British Columbia, Mexico, Sandwich Islands and South America. We shall be pleased to send our College Circular, giving full information, to all who send us their address. When you write, mention that you saw this notice in the PACIFIC RURAL PRESS.
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PACIFIC RURAL PRESS is in quarto form, printed on excellent paper and type, and is a first-class agricultural paper. Its merit entitles it to a large circulation, which we apprehend it will speedily obtain.—[S. F. Elevator.

THE PACIFIC RURAL is only four dollars per annum. The paper is especially intended for the farmer, the gardener, and the country gentleman, but will be a useful paper, in other respects, to every man having a family. It will be devoted to spreading information, to advance farming, gardening, stock-raising and fruit-growing interests of the Pacific slope, and as we in this country cannot find, owing to the difference of climate here, and at the East, the requisite information in our Eastern papers, we think that here is a chance to buy what we want, home to us, and we recommend the papers to all.—[Nev. Gazette.

THIS is a most excellent paper and well worthy of support. The farmers and Agriculturists of the State, generally, should sustain and support it. In the publication of the "Rural Press" the farmers of the State are now supplied with a journal long needed by them. The lack of a farmer's paper in California had been frequently noticed, and the issuance of the "Press" has filled the void.—[Spirit of the Times.

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M. B. STARR—Pacific Coast.
THOS. POYZER—California.
WM. J. CLARK—California.
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E. P. HICKS—California.
A. C. KNOX, City Soliciting and Collecting Agent.

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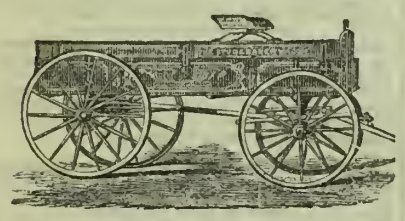

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**The Best Thimble Skein and Iron Axle WAGONS,**

Sold for $100 to $175.

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General Agents for the Pacific Coast.

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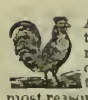
To Lovers of Choice Fowls,



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FORTY LIGHT BRAHMAS,
"Duke of York" Strain;
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"Boyle's" Strain;
SIXTY BUFF COCHINS,
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And THREE TRIOS each of Partridge, Black and White Cochins, Houdans, Gevecœurs, White Leghorns and Silver Spangled Hamburgs.

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This device is just what its name indicates. As a KITCHEN TOOL it is indispensible. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

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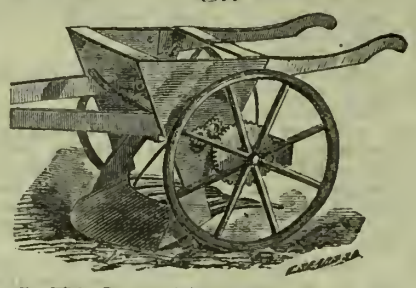

We ask special attention to this practical and useful invention. Nearly every farmer has felt the want of a machine to dig potatoes. This new invention fully supplies that want. The machine being made entirely of iron and steel, will last longer than the farmer who buys it. It is operated by a man and one or two horses, and digs one row at a time. The shovel part of the digger enters under the potatoes and raises them on to the fingers in the rear, where the dirt falls through and the potatoes roll back on to the surface of the ground. The machine is prevented from clogging by a reel which revolves above the fingers and carries through the potato vines, weeds, etc. A complete model or full sized machine can be seen in our office. Full particulars in regard to Machines or Rights furnished on application.

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**SAVE YOUR MONEY!**

BY USING THE

**Patent Wood Horse Collars and Hames Combined,**

Which has many advantages over the Leather Stuffed with Straw.

1st. DURABILITY, lasting at least ten times as long.
2d. CONVENIENCE. Opening below, can be laid on and off the Horse, having one fastening in place of two or three.
3d. Is one-third lighter than leather collar and hame.
4th. Can be easily fitted, as it is so constructed that the length and width can be changed in a few minutes.
5th. As there are no stitches to break, or stuffing to press out, IT NEVER LOSES ITS SHAPE, always bearing upon the muscular part of the shoulder, near the neck—the proper place for draft.
6th. Its smooth, hard surface, giving equal pressure on the whole line of draft, NEVER SWEATS OR RUBS OFF THE HAIR.
7th. It has an important advantage in the stationary curved arch, keeping THE COLLAR FROM SETTING TIGHT AROUND THE TOP OF THE NECK when heavy tongues have to be carried (as in some machines), THUS KEEPING THE NECK COOL, AND FREE FROM SORES IN THE HOTTEST WEATHER. Leather Collars WILL TIGHTEN over the top of the neck, and heat and gall the animal.
8th. Wood being a non-conductor of heat the soreness caused by Leather Collars becoming wet by perspiration is avoided. It has many other advantages which cannot be known without a trial. This Collar is WARRANTED to Cure Horses with Sore Shoulders in Three Weeks, Working Every Day. Give them a trial.

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ROSES,
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Our stock of Vines, Plants, Shrubs, Flowers, etc., is much the Largest and Best ever offered by this well known establishment.

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maII-3m Successors to J. KNOX, Pittsburgh, Pa.

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Our business being exclusively Commission, we have no interests that will conflict with that of the producer.
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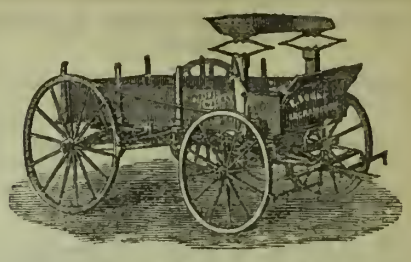

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**Patented May 17, 1870.**

Has taken the premium at all the State Fairs East of the Rocky Mountains.

**The Greatest Labor Saving Machine of the Age**

☞ *Warranted to make Butter in from Three to Five Minutes.* ☜

It is self-cleaning, requires no scrubbing.

**100 JUST RECEIVED.**

For sale by **J. L. HUNT,**
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ALEX McBEAN, Proprietor.

THE LARGEST AND

**Best Furnished House in this city.**

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**LYON & BARNES,**

Successors to LYON & SON, dealers in Produce Vegetables, Butter, Eggs, Green and Dried Fruits, Cheese Poultry, Honey, Beans, etc., etc.
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# DASH CHURN.

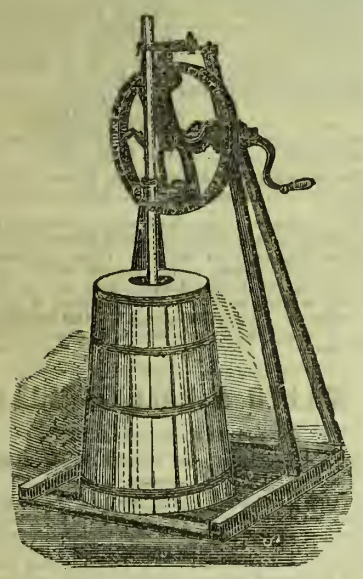
**Making Butter in from 6 to 10 Minutes.**

**The only really useful and practical**

**CHURN**

**Ever Offered to the Public.**

The old style of DASHER CHURN always had the preference over all others, and with this simple and



practical attachment, now stands WITHOUT A RIVAL. At the East it is rapidly taking the place of the

**Thermometer and Cylinder Churn,**

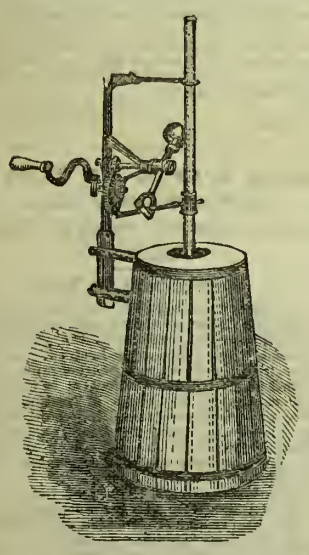
and its sales are enormous. Having bought the

**Right for this Coast,**

we are now prepared to furnish either large or small

**CHURNS AND CASTINGS**

as may be desired. We manufacture six different sizes of churns and the small casting can be applied to the three smaller sizes, and the large one with the frame and balance wheel to the three larger ones.



## WE CHALLENGE COMPETITION

in this churn and invite any one needing a GOOD churn to examine and try this one before purchasing elsewhere.

The gearing is all simple, leaving nothing to get out of order; the dasher is easily removed by simply opening or removing the guide holding it in its place, leaving the churn

ENTIRELY CLEAR OF ANY OBSTACLE.

In fact, it is the only churn that ever has been offered which IS ENTIRELY

**FREE FROM ANY OBJECTION,**

and we offer it as the

## Best Churn in Existence.

No. 1 Churn holds 2 gallons;
2 do do 3 do
3 do do 6 do
4 do do 8 do
5 do do 13 do
6 do do 22 do

**E. K. HOWES & CO.**

Nos. 118, 120 and 122 Front Street, San Francisco, Cal.

v1-eow3mr

# WALTHAM WATCHES.

In soliciting anew the public patronage of WATCHES of domestic production, the AMERICAN WATCH COMPANY respectfully represent:

That no fact in the history of manufactures is more completely demonstrated than that the best system of making Watches is the one first established by them at Waltham. That system always had the warrant of reason and common sense, and now the test of time in the trial of the Watches themselves cannot be denied to have been ample and satisfactory. It is admitted on every hand—the evidence of daily observation and common repute—that the Watches not only keep correct time, but that as machines they ENDURE. It should seem that nothing more is needed, but that their sizes, shapes and appearance should suit the tastes of the people. As to all these conditions the American Watch Co. are now fully prepared to answer the exactions of the market. They confidently assert there is no longer any need for such reasons to import watches of any description whatever. Every size in ordinary demand, every shape and every variety of finish and decoration, may now be had. And as to price, the recent reductions leave no room for doubt that the Waltham system of Watch-making is

**The Most Economical as well as the Most Reliable,**

And that the Waltham Watch is the Cheapest as well as the Best.

Many new varieties of movements have been added during the last year, all of which display the Latest Improvements in design and finish, and evince the rapid progress the Company is making toward perfection in the art. Among these the new small size Watch, for Boys and young gentlemen, is to be specially noted. A very low price has been made for this Watch because it is a boy's watch, and with the object of bringing it within the means of boys of all classes. Price being considered,

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**The Company Challenges all Manufacturers of all Countries**

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**"American Watch Co., Crescent Street."**

Counting on such destination for this variety of their manufacture, the company devote the greatest care to its construction, employ upon it only their best men and best machinery, and issue it with their reputation at stake upon its success.

For sale by all leading jewelers. No Watches retailed by the Company. For all other facts address

## ROBBINS & APPLETON,

General Agents for American Watch Company, 182 Broadway, New York.

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**STEVENS BROS'**

## Patent Egg Boxes.

We would respectfully call the attention of all persons who ship or handle Eggs, to the advantage to be derived from using Stevens' Bros. Patent Egg Cases.

These cases hold thirty dozen Eggs each, self counting, and can be packed with ease and facility. Eggs shipped in the above cases sell quicker and give more satisfaction to buyers than any other package in use, as the contents are not damaged, and buyers subjected to no trouble as regards the count.

**NO BROKEN EGGS! NO HEATED EGGS! NO PACKING REQUIRED!**

**To the Trade.**

We offer these Egg Cases at the following rates:

SCALE OF PRICES:

100 cases or over, cash price..... $3 00 each
50 cases or under, cash price..... 3 50 each

CAUTION!

STEVENS' PATENT EGG BOXES, patented Feb. 26, 1867.

All persons are hereby cautioned against manufacturing, selling and using any cases for packing and transporting eggs, constructed with compartments, by placing a separate diaphragm horizontally between each tier, from the bottom to the top of each case, and any and all infringements upon said patent, either for manufacturing, selling or using without authority from the undersigned, will be prosecuted. Parties desiring information will apply to the owners.

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**A Few Pigs from Pure Stock, Imported from THE PENS OF ADAM RANKIN, ESQ.,**

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**For Level Land and Side Hill.**

8 Sizes. WON THE HIGHEST PRIZE at N.Y. State Trial, 1870, for Plowing Sod & Stubble

Send Stamp for Circular.

They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow-slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting hinged steel Cutters. Changeable Mould-boards for sod and stubble, and cast steel edged Shears, when desired.

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is the only Masonic Publication on the Pacific Coast. The Second Volume is published weekly, in the popular and beautiful form of a

**QUARTO-MEDIUM SIXTEEN PAGE PAPER**

AND IS A FIRST CLASS

**Literary and Family Newspaper,**

AS WELL AS THE

**Organ of the Masonic Fraternity on the Pacific Coast.**

ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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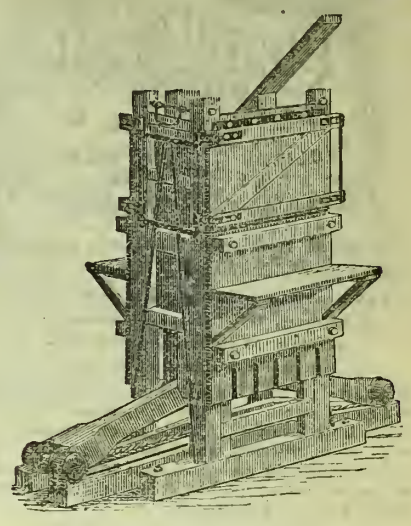

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THE INVENTION OF J. A. McGILLIVRAY, OF ILLINOIS, TO WHOM LETTERS PATENT WERE ISSUED JANUARY 10TH, 1865, AND JULY 24TH, 1866.

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Three men with one horse can bale from Ten to Fifteen Tons per Day, each bale weighing 250 to 300 lbs. It obviates all necessity by heating the hay before pressing. On account of its great power it is well adapted for pressing Hydes, Rags, Wool or Cotton. When a bale is pressed and fastened, the follower runs down of its own weight, and the bales can be taken out on either side.

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**DEWEY & Co.,**

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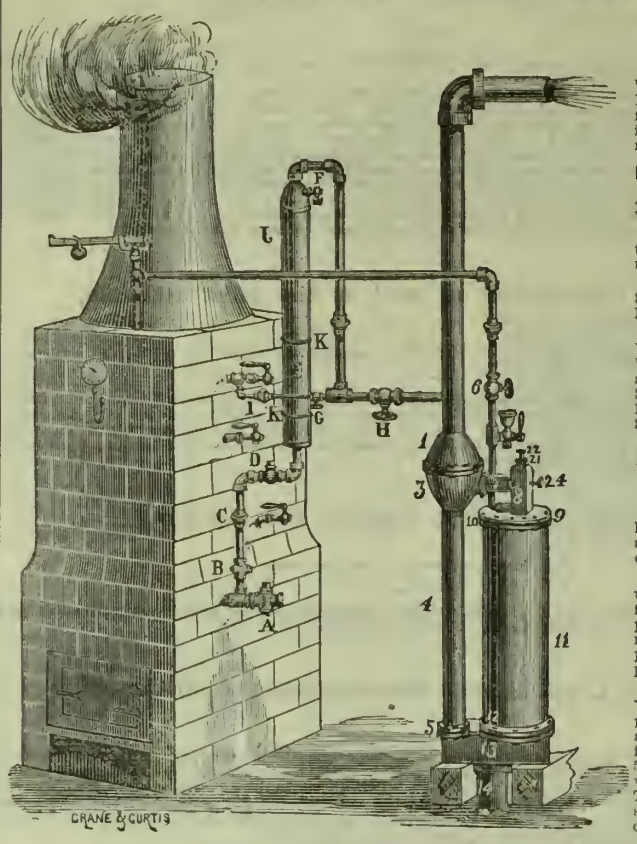


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### Steam Pump

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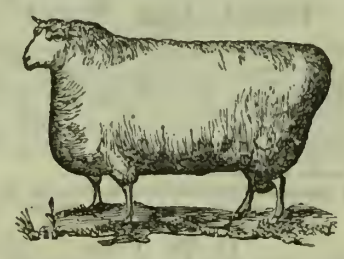

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Below, find statement of wool scoured by me for the New York State Sheep Breeders and Wool Growers' Association, of wool sheared at the meeting in this place, in May, 1867.

Truly, WM. HAYDEN,
Woolen Manufacturer.

| Owners' Names. | Lot. | Ram. | Breed. | Sheared. | Scoured. |
|---|---|---|---|---|---|
| S. W. Crandall | 1 | 2 | Merino. | 19 2½ | 8.4½ |
| Chamberlain | 2 | 2 | " | 8.10½ | 4 ⅛ |
| A. H. Clapp | 3 | 4 | " | 10.3½ | 5.6 |
| McMullen | 4 | | " | 16.3½ | 6 4½ |
| W. Cole | 5 | 1 | " | 13 7½ | 5 2½ |
| W. H. Holmes | 6 | 2 | " | 18 7 | 7 13½ |
| Q. Bonan | 7 | 2 | " | 16 6 | 6.9 |
| J. D. Wing | 8 | 1 | Cotswold. | 18 9 | 11.37 |
| D. H Barnes | 9 | 4 | " | 11 12 | 8.7 |
| J. D. Wing | 10 | 2 | " | 19.4½ | 10 6 |

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PACIFIC RURAL PRESS

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## Small Fruits.

### The Blackberry.

Blackberries are among the most profitable of the fruit crops. They are easy of culture, not particular as to soil and exposure, hardy and always productive. They need but one planting, and never grow old, as the bushes renew themselves annually. All they require is to have the old wood taken away, and to be occasionally supplied with dressing. We have said they were productive. In the older States an acre of land will yield from 40 to 50 per cent. more in bulk of blackberries than of corn. An average of 70 bushels per acre is nothing unusual for large plantations. The medicinal qualities of this berry are also highly important, and it matures at the season of the year when its peculiar properties are especially necessary to healthy digestion. It is probably the best antidote known for the common complaints of warm weather. Its roots, also possess the medicinal properties adapted to the indisposition peculiar to the latter part of summer. We have no statistics by us of the usual yield in California, but presume that it must greatly exceed that of the East.

Of all fruits that grow wild there is none that is more perfect in its production by nature than the blackberry; and it has been remarked as very singular that in this age of horticultural progress so little attention has been given to this fruit, and particularly to the fact that no seedlings have been produced superior to those growing wild in the fields, without care or culture. Hitherto, we have depended almost entirely upon the wild briar for our supplies of this fruit, instead of following the usual course of obtaining new and improved varieties from planting the seeds.

Even the variety which we herewith present was taken originally from a field at New Rochelle, N. Y., and replanted in several gardens of that town. One of the parties, Mr. William Lawton, took particular pains in its cultivation and improvement, and it was from the roots produced and improved by him, that this particular berry has been so widely disseminated over the country. The berry is by some called after the town where it was discovered, by others after the man who first took pains to improve and introduce it. We prefer the latter title as most appropriate.

The drawing from which our engraving was prepared was taken from an early cluster of the berries as raised by Mr. Lawton. The natural size and shape is carefully preserved in the picture. The fruit, it will be seen, is but little larger or plumper than the ordinary wild blackberry, but has been much improved since this drawing was made. The thorns also are more prominent on the improved berry than are here represented, or were found in the original fruit at New Rochelle.

There seems to be a curious fact about the thorns of the blackberry. Attempts have been made to suppress them, by careful cultivation, and produce a thornless bush. To some extent this effort has been successful, and some canes have been produced almost free from them. This result created quite a sensation, at first, and the plants sold readily for $5 each, until it began to be noticed that the fruit appeared to deteriorate at about the same rate as the thorns. We believe it is also a fact that the Lawton bush has developed an *increase* in thorns, in proportion as its fruit has been improved by cultivation.

THE LAWTON, OR NEW ROCHELLE BLACKBERRY.

Efforts have also been made in the way of varying the colors of this berry, and various shades of white, red and purple have been brought out; but of no practical value except as novelties out of which the growers have succeeded in making money.

#### The Best Varieties for Cultivation.

One of the most extensive and intelligent cultivators in the Eastern States, Mr. William Perry of New Jersey, after carefully cultivating 26 varieties of this berry in addition to producing a large number of seedlings, (none of which latter, however, were any better than the parent stock) has retained the four which he considers the most valuable for field cultivation for market. At the head of the list he places the *Wilson's Early*, as the largest known, one of the earliest to ripen, and which thus comes in at a time when a large price can be received. There is one field exclusively of this variety in New Jersey, comprising 75 acres, from which a profit of $14,000 was made last season in three weeks time!

The next in point of profit he places the *Dorchester*, which has an upright, strong growing bush, tall, erect and hardy. They almost invariably yield good crops of fair-sized berries, sweet and firm, so as to carry well to market. This is also an early variety, coming in a little later than the *Wilson's Early*.

The *Kittatinny* is placed next in order as a profitable berry for market. It is very hardy, large, luscious and productive.

The fourth in order of value, as placed by the experience of Mr. Perry, at his gardens in Cinnaminson, N. J. is the *Lawton*, which, though longer known than either of the others, and a most excellent berry, is placed the last on his abbreviated list.

We are indebted to Colman's *Rural World* for the engraving herewith presented, which is especially valuable as showing what the Lawton blackberry was when first taken from its native field—and how little the most careful culture has been able to effect in improving upon Nature in the production of this valuable fruit.

## Culture of Small Fruits.

Many, both at the East and in this State, are becoming fearful that small fruit cultivation is being overdone. We cannot think so. Failures occur in all pursuits, and in all branches of trade, but generally from mismanagement. Some men will succeed better than others in whatever business they may engage. The superiority of one over another is generally very easily traceable, if we study carefully the characters of the two individuals — their habits of industry and modes of doing business.

Can any of our readers call to mind a failure in any branch of fruit growing, where the party kept within his means, made no serious mistakes in selecting his stock of trees or small fruits, and was industrious himself in looking after his business? We think not.

Some men will succeed better than others in growing grain, root crops, cattle or poultry—and that too when all have the same market to realize from, and equal facilities for their several productions. It is generally easy to tell *why* this is; some peculiarity will always show itself to account for either success or failure. One of the most important problems, perhaps, to solve in this connection, is the choice of the particular field in which the party should engage—to determine that which is most in unison with his temperament and circumstances; and when the choice is once made, another essential requisite is a power to concentrate the mind upon that pursuit, to study it in all its bearings and become master of it.

There are very few persons, especially in this State who have accustomed themselves, for a series of years to the cultivation of grain, or the large field crops, where comparatively but little close attention is required, who can come down to the niceties and industry and personal attention required in small fruit culture. Still we do not believe there is a ten-acre lot in any of the counties near this city, now devoted to grain, and at all suited to the fruit culture, but what could be made to pay infinitely better, for the labor and money spent upon it, in such culture, than in grain. The net profits of an acre of grain can always be counted in dollars upon the fingers; but there are very few acres devoted to fruit, large or small, that may not with proper management, be made to nett from $50 to $150 or more per acre.

There always was, and always will be men who will be constantly crying out that the market is overstocked with this or that production of fruit; but the careful, intelligent cultivator will give no heed to such complaints. Fruit can and should be raised and placed in the consumer's hands cheaper than it is now; and when that is done, the consumption will increase in rapid proportion. A small deduction in the price of strawberries in this market, the present season, has increased their consumption fifty per cent. or more, and the producers are making fully as much as they made a year ago; although the railroad companies, jobbers and other go-betweens refuse to abate a farthing of their previous demands.

## MECHANICAL PROGRESS.

AMERICAN MANUFACTURE OF SMALL ARMS.—The following is from the New York *Tribune* of May 5th:—"The aggregate of service rifles manufactured and shipped to France by the Remington Company since the 21st of September, reaches the extraordinary total of 154,120. Adding to this 19,777 carbines and 40,350 army revolvers, the number of their own arms furnished to France by the Remingtons is 214,247, figures which seem to justify the assertion of the London *Times*, in an article deploring the petty organization and inadequate resources of the British small arms manufacture, that one American establishment possessed a larger capacity for production than those of all England combined. The recent adoption of the Martini-Henry breech-loader as the British Service Arm, has elicited the fact that, with her present capabilities of manufacture, England can turn out the 300,000 stand, which is accounted the proper complement for her regular army in four years. No circumstance could illustrate better than this the relative superiority of the small arms industry of the United States. The Remington establishment at Ilion is by no means the only one in our country possessed of a productive capacity unknown to the British industry. Hardly less extensive than the Remington, in scope of operation, is the great Hartford Company, founded by Col. Sam. Colt. In the superb armory of this company, a structure actually unique in the perfection of its adaptedness, are fabricated not merely the Berdan breech-loading rifle and the well known revolving pistol, but whatever style of small ordnance may be required, from a Gatling battery down to a Derringer. The Providence Tool Company, the Brown Manufacturing Company of Newburyport, severally producers of the Peabody and the Van Choate breech-loading rifles; the two Sharps establishments of Philadelphia and Hartford, the Smith & Wesson of Springfield, which is now executing an order of 25,000 army revolvers for Russia, and the Winchester of New Haven, manufacturing the eighteen-shot repeating rifle, are all organizations unequaled by any in England. But the Remington, whose facilities—crowding four acres of brick and mortar, employing from 1,300 to 1,400 workmen—many of them a second generation of skilled artisans—paying out monthly $138,000 for labor, consuming annually from 6,000 to 10,000 tons of coal, contributing to the thrift and absorbing the products of a large rural district—have been in seven months adequate to the completion of more than 170,000 stand of rifles, assuredly hold the first rank, not only in the United States, but in the world."

IMPROVED TURBINE WHEEL.—A recent patent is upon "making the buckets separate and movable, so that they may be polished for the purpose of lessening friction, or removed without taking the wheel apart; and providing a flange or bead upon each bucket, made in sections or continuous the whole length of the edge of the bucket, the flange fitting into a corresponding groove in the disks of the wheel, and secured by a screw bolt passing through the disks into the flange or the edge of the bucket. The upper portion of the mouth of the scroll is made so that it can be removed, which gives ready access to the gate, permitting the latter to be removed or adjusted without disconnecting the wheel from the flume. The gate is also provided with adjustable strips or bars placed on the inside by which compensation for wear is secured and leakage prevented."—*Sci. Am.*

LIGHT TELEGRAPH CABLES.—Capt. W. Rowett recently read a paper before the British Association in which he advocates the adoption of much lighter cables than those now in use. The cable of '57 weighed one *pound* per fathom. Capt. Rowett thinks one *ounce* heavy enough. Such a cable, he says, would sink at the speed of two miles per hour, and could be run out even in tempestuous weather, and kept under as perfect control as a log line, without the cumbrous and complicated machinery now used to pay out heavy cables. The author regards hemp as the proper material for covering the electric core. The material can, he says, be soaked with a preserving solution which will make it practically indestructible, and which in contact with water becomes very hard. He thinks that by the adoption of light cables, messages could be profitably sent for one-sixth of the present price.

OVER-TESTING OF IRON WORK.—We quote the following from the *Mechanics' Magazine*:—"A moderate proof-load is quite sufficient to demonstrate whether the example in question is capable of performing the ordinary duty that will devolve upon it, while a very severe one cannot do more, and at the same time may permanently damage the structure. The over-testing of any piece of mechanism or example of construction may be not inaptly compared to the over-training of a young athlete. When the powers are over-taxed, they are inadequate to perform their work when the time arrives. * * * Independently of the reasons that we shall refer to which indicate that excessive proof tests should not be used, there is the undeniable fact that iron structures do subsequently yield under a much less strain than that which they bore apparently with ease at the time of testing. * * The effect of over-straining, particularly if it be accompanied by shocks and sudden violent wrenchings, is to render iron that is otherwise of a soft ductile nature, exceedingly hard and brittle. In fact, there is very little doubt that incessant repetitions of impactive forces tend in the course of time to completely alter the molecular constitution of the material, and, in a word, to convert wrought iron into cast."

UTILIZING GAS WITH A VENGEANCE.—The New Orleans *Republican* for April 9th has the following: "Yesterday morning, Mr. J. B. Knight, agent of the Watertown Steam Engine Company, sunk a drove well in the rear of his office, with a view to getting a supply of water; and when at the depth of forty-six feet, a sudden and very powerful draft of gas was observed to flow from the mouth of the pipe. He immediately closed the pipe, thinking to utilize this gas for illuminating purposes, but found the pressure too great; when the idea struck him to direct it into the boiler of one of his engines and experiment with it in making steam. But no sooner had the connection been made than the engine began to run entirely by the pressure of the gas acting upon the piston, at a pressure of twelve pounds to the square inch; and so it continued all day yesterday, giving no sign of exhaustion." The *Times* of same date notes the same, and adds: "When we witnessed it in operation, the gage marked a pressure of twelve pounds to the square inch, and the gas from the discharge pipe was burning brilliantly."

COATING STEEL WITH MOLTEN IRON.—A patent has been recently taken out for the following process:—The plate or other article of wrought iron or steel to be coated is covered with powdered borax and raised to a welding heat. It is then placed upon a level iron table, and surrounded with a frame to prevent the flowing off of the metal to be poured upon it. We quote a paragraph from the specification:—"The molten iron which has been mixed with borax, is then poured upon the surface of the heated plate or other article of wrought iron or steel. When a sufficient quantity of molten iron has been poured on as described, a plate of steel or hard smooth iron, of sufficient size to nearly cover the whole of the molten iron, is brought down upon its upper surface, and a pressure immediately applied sufficient to reduce the molten iron to the desired thickness, and also to expel all the air or gases that may be contained in the molten iron, and which would otherwise render the coating porous and of no practical value."

PLANING VALVE-SEATS.—A correspondent of the *American Railway Times* says: "Portable planers are now constructed for the purpose of planing valve-seats, etc., and such jobs as cannot well be placed upon the table of a planer. These portable machines may be clamped to the article to be planed in almost every position possible, either horizontal, vertical, slanting, or bottom upward, and worked either by hand or power; but they must be in the hands of first-class mechanics, in every sense, like all other complex and truly useful machines, in order to do a good job."

SNAKE-SKIN BOOTS.—Fifty skins of the anaconda have, it is said, been tanned by Schayer Brothers, at the Boston Highlands, for boot leather. The tanning process was similar to that observed in the manufacture of alligator leather.

BASE BALL IMPLEMENTS.—One New York manufacturer alone made last year 162,000 balls. Mills are running all the year round, turning out nothing but bats. The *Times* says "the supply is barely equal to the demand."

## SCIENTIFIC PROGRESS.

CRYSTALS IN PLANTS.—Dr. E. M. Hale has an article in the *Journal of Microscopy* upon the value of the microscope to the pharmaceutist. We extract the following: "It has been proven by microscopic examinations that saline substances are spontaneously crystallized within the cells of plants, the crystals having been found existing in infinite numbers throughout the bark, wood and leaves of a great variety of trees and shrubs. Prof. Bailey, of West Point, first called attention to this subject. He observed the crystals in the ashes of the hickory; afterwards he examined the bark previous to its being subjected to the action of fire. When the bark is illuminated by the rays of the sun, numerous glittering particles are seen. An examination proves them to be *crystals*, for when thin layers of bark or sections of wood are viewed by a microscope, the crystals are detected imbedded in their natural position. They are, however, better seen by scraping the bark upon a plate of glass, upon moistening which with the breath the crystals are made to adhere to the surface, while the woody particles are readily blown off. These crystals are identical in every particular with the polygonal bodies found in the *ashes* of hickory wood. Prof. Bailey examined the wood and bark of nearly every indigenous and foreign tree, and with the same result. Even in the densest woods, such as mahogany and lignum vitæ, the crystals may be found by scraping the wood into a watch-glass filled with water, picking out the woody particles and then examining the residue. The crystals are likewise detached in the minute particles that fall from worm-eaten wood, sawdust, and in the finer particles of ground dye-woods. This shows that even the finely ground medicinal barks, woods, etc., used by the pharmaceutist, may be examined successfully for the crystals peculiar to them. It only remains to examine all the medicinal vegetable substances, and ascertain the peculiar crystals belonging to each. Then, if these are delineated and appended to our works on Medical Botany, and Pharmacology, a great and practical advance in our knowledge of the purity of drugs would result."

THE ELECTRO-TONIC STATE.—The following is a brief abstract from *Nature*, of an article in *Silliman's Journal* by Dr. A. M. Mayer, on "the physical condition of a closed circuit contiguous to a permanent and constant Voltaic current; or, on the electro-tonic state." The author commences by giving extracts from Faraday's investigations, in which he uses the term electro-tonic state to indicate the condition of a wire in which an electric wave has been induced by the proximity of a conductor through which a constant current was passing. He has endeavored to obtain some clue to the condition of such a closed circuit by passing through it another electric wave of a constant intensity, and which he ingeniously generated by slipping a flat spiral from the end of a permanent magnet, as described in the number of this journal for November last. Currents thus obtained are found, by means of a delicate reflecting galvanometer, to be practically of the same intensity; for on repeating the experiment several times this produced deflections differing from one another to an extent not greater than 20″. In this manner it was determined that a definite electric current, traversing a metallic circuit in proximity to another traversed by a powerful voltaic current, has the same intensity, whether passed in the same direction as the latter or in a direction opposed to it. The author thinks, however, that a diminution in the velocity of the current ensues, and he intends to continue his experiments in order to settle this question.

ANTHROPOLOGICAL INSTITUTE OF NEW YORK.—This is the new name of the old American Ethnological Society. Some fifteen gentlemen connected with the Society recently gathered at the residence of Hon. E. G. Squier, made this change of title, and adopted new by-laws. Mr. Squier, in introducing the subject of the meeting, said that "in the similar organizations of London and Paris the functions of Ethnology had been long since exchanged for the broader ground of Anthropology, so as to embrace under that general title the co-operative labors of the anatomist, the philologist and archæologist, and combine in one scheme of study whatever relates to historic man."

HALLIER'S PARASITICAL INVESTIGATIONS. The Philadelphia *Medical Times*, in noticing a critique upon the above by Dr. Weise alludes also to the researches of Dr. Billings (U. S. A.), and says:—Dr. Weise is even more explicit in his statements than our Washington authority, declaring that he has found Prof. Hallier's work to be "one mass of errors." Dr. W. worked at the bedside day after day, studying all the secretions, the blood, the lymph of pustules, etc., and receiving from all the same answer,—that they contained no cryptogamic growth. Nor was this from want of a sufficiently high power; for he used a No. 10 Hartnach's immersion lens. * * "In this connection, it is desirable to put upon record the results obtained at the Surgeon General's Office, Washington, in repeating the experiments of Dr. Jos. G. Richardson in which he claims to have demonstrated the passage of bacteria and vibrios from the stomach into the blood. It will be remembered that this method was examination of the blood before and after ingestion of putrid beef-juice. These experiments were repeated in precisely his manner, under the supervision of Dr. Woodward, so often and so carefully, and gave so uniformly negative results, that there can be but little doubt that there was some fallacy in those of Dr. R., and that vibrios do not appear in the blood after the ingestion of matters loaded with them."

RIGHT-HANDEDNESS THE RESULT OF NATURAL SELECTION.—Dr. Pye-Smith,—according to the *Lancet*,—disposing of the theories that left-handedness is to be accounted for by transposition of the viscera, as asserted by Von Baer and others, or by an abnormal origin of the primary branches of the aorta, proceeds to argue that right-handedness arose from modes of fighting adopted. "If a hundred of our fighting ambidexterous ancestors made the step in civilization of inventing a shield, we may suppose that half would carry it on the right arm, and fight with the left; the other half on the left, and fight with the right. The latter would certainly, in the long run, escape mortal wounds better than the former (the heart being protected), and thus a race of men who fought with the right hand would gradually be developed by a process of natural selection." Of course the habit once acquired, of using the right hand more than the left, would be hereditarily transmitted from parent to child.

COLOSSAL SEA-WEED.—From the microscopic examination of the structure of specimens of the fossil trunks described under the name of *Prototaxites Logani*, and which Principal Dawson affirmed in his Bakerian lecture before the Royal Society, to be the oldest known instance of Coniferous wood, Mr. Carruthers has discovered that they are really the stems of huge Algæ, belonging to more than one genus. They are gigantic when contrasted with the ordinary Algæ of our existing seas, nevertheless some approach to them is made in the huge tree-like Lessonias which Dr. Hooker found in the Antarctic seas, and which have stems about twenty feet high, and a diameter so great that they have been collected by mariners in those regions for fuel, under the belief that they were drift-wood. They are as thick as a man's thigh. —*The Academy.*

EXCEPTIONS PROVE THE RULE.—"It is the male birds who take the active part in pairing, and who not only fight for the possession of their mates, but display their colors, their voice, or whatever be their peculiar attractions, in order to gain the same end. This rule is confirmed by the exceptional case of the cassowary and a few other species in which the hens court the male birds, fight together in rivalry, and accordingly assume the brighter colors and more attractive shape usually worn by the male. Not only the parental and incubating instincts, but the usual moral qualities of the two sexes are in these cases reversed: "the females being savage, quarrelsome, and noisy, the males gentle and good."—*Darwin.*

INFLUENCE OF HEAT ON THE REFRACTION OF LIGHT.—At a late meeting of the Imperial Academy of Sciences, in Vienna, Prof. Stefan presented a memoir on the influence of heat on the refraction of light in solid bodies, containing a series of determinations of the refraction of rock-salt, sylvine (perchloride of potassium), alum, fluor-spar, and glass, at temperatures of 53°·6—201°·2 F. The refractive power of the first four bodies decreases uniformly, and for all parts of the spectrum, with the increase of temperature; the refractive power of glass increases with the temperature, and the increase becomes greater in passing from the red to the violet end of the spectrum.

# CORRESPONDENCE.

## Improved Asiatic Fowls—How to Distinguish Different Breeds.

[Written for the PRESS.]

There are so many improved fowls being presented for the public favor, and under so many disguises, that people who do not keep fully posted in such matters, are very likely to be deceived, and perhaps imposed upon. At one time, when the rage was all for Shanghai fowls, every long-legged, coarse-bodied, stalwart fowl was claimed as a Shanghai, or a cross with that favorite breed. But when the public began to get tired of these coarse animals, another mammoth breed, the Cochin China, and Chittagongs came on to dispute the claim to general favor, and then the Brahma Pootras; and now, the light Brahmas, and the dark Brahmas seem to "rule the roost;" while the Houdans, and Creve-Cœurs, La Fleshe, Leghorns, and the old Polanders, are all claiming a portion of the public attention. And now, every big fowl, almost, is called Brahma, or Buff-Cochin, or whatever seems to be the reigning favorite of the day.

That people, novices or amateurs in the business, who may not understand the especial marks of distinction between these several breeds and shades of breeds, may have some guide to go by in their selections, when they wish to purchase of the poultry fanciers, we give below some of the distinctive marks by which to know which is which, and which is not.

### The Brahmas.

These seem to be rather the reigning favorites of the day. There are light and dark Brahmas; and although some fanciers seem to claim that there is something distinctive in the qualities of each, we do not think there is any radical difference; we deem them only varieties of the same breed, or family; the chief variation being in their color. It is thought by some that the flesh of the dark is richer and more palatable than that of the light. But we agree with the author of the "*People's Practical Poultry Book*," (a new and popular work, just issued by Moore of the *Rural New Yorker*), in the opinion that "the difference between the two colors is all *fancy*. One proves just as good as the other, under similar management. Having had both colors (the author adds), we have yet to learn the *distinctive* difference between them. The plumage of the dark does not show the same mussiness of feather as the light, still if kept in a clean, dry hennery, as fowls always should be, the difference is imaginary." This new work thus describes what it deems a perfect Brahma should be.

### Dark Brahma.

The head of the cock should be surmounted with what is termed a "pea comb," which resembles three small combs running parallel the length of the head, the center one the highest; beak strong, well curved, wattles full; ear-lobes red, well rounded and falling below the wattles. The neck should be short, well curved; hackle full, silvery white, striped with black, flowing well over the back, and sides of the breast; the feathers, at the head should be white. Back very short, wide and flat, rising into a nice, soft, small tail, carried upright; back almost white; the saddle feathers white, striped with black, and the longer the better. The soft rise from the saddle to the tail, and the side feathers of the tail to be pure, lustrous green black, (except a few next the saddle) slightly flecked with white, the tail feathers pure black. The breast should be full and broad, and carried well forward; feathers black, tipped with white; wings, small and well tucked up under the saddle-feathers and thigh fluff. A good black bar across the wing is important. The fluff on the hinder parts and thighs should be black or dark gray; lower part of the thighs covered with soft feathers, nearly black. The markings of the hen are nearly similar to those of the cock. Both sexes should have rather short, yellow legs (those of the hen the shorter), and profusely feathered on the outside. The carriage of the hen is full, but not so upright as that of the cock. The markings of the hen, except the neck and tail, are the same all over, each feather having a dingy white ground, closely penciled with dark steel gray, nearly up to the throat on the breast.

### Light Brahmas.

Pure Light Brahma fowls are chiefly white, in color of plumage; but if the feathers are parted, the bottom of the plumage will appear of a bluish gray, showing an important distinction between them and the White Cochins, in which the feathers are always white down to the skin. The neck-hackles should be distinctly striped with black, down the center of each feather. The plume of the cock is often lighter than that of the hen; the back should be quite white in both sexes. The wings should appear white when folded, but the flight feathers are black; the tail, black in both cock and hen; in the cock, however, it is well developed, and the coverts show splendid green reflections in the light; it should stand tolerably upright, and open well out laterally, like a fan; the legs should be yellow, and well covered with white feathers, which may or may not be very slightly mottled with black; ear-lobes must be pure red, and every bird should have a perfect pea-comb, though fine birds with a single comb have occasionally been shown with good success. But, as a general thing, the pea-comb fowl shows off to the best advantage, and attracts universal commendation by both the amateur and breeder.

Speaking of the nature of this breed, the author says that he found them inferior, as layers; but that since he has discarded them, he has found out the reason—he fed them too much. He very justly says, that "feeding fowls enough to keep them in good heart, and over-feeding them, are two different things." He pronounces them "good layers, and good setters," and admits they make the best of mothers, if the breeder knows how to handle them. And we consider that one great advantage of this breed is, that they are not only good mothers, but their chicks are so strong and hardy that few need be lost, with only ordinary care.

### The Cochin-Chinas.

Some people prefer the Buff Cochins to the Brahmas, or Chittagongs. The Buff Cochins are claimed by the author alluded to, to be the "real Shanghais;" or that they and the White Cochins owe their origin to a cross with the Chittagong and Shanghai breed. Some fine specimens of Buff Cochins have recently been brought to California; but the importers would be shocked if they were to hear them called Shanghais.

A true specimen of the Buff Cochins, is described thus:—The carriage of the cock should be upright and majestic; breast very broad forming a straight line from the crop to the thighs; back, short and wide; tail, very slightly raised, and the wings very short and held tightly to the sides; the legs, thighs and saddles unusually large in proportion to the rest of the body; head small, and carried well up; a stout, curved and yellow beak, with plenty of substance at the base, and the shorter the better. The carriage of the hen must be similar in general character to the cock, excepting that the head is carried much lower; and a gentle, pleasing expression of the face is a mark of high bred specimens. The hackle of the cock should be very full and of a light bay color, spreading over the base of the wings, and free from any markings. The hen's hackle should be a distinct, clean buff, free from any markings; a slight penciling is preferable to a clouded one. The saddles of the cock and hen should also be free from any markings. Cockerels of the year, though imperfect, will, if of pure blood, in the second year, molt out perfectly clear. A black tail in the cock is admissable; but the principal feathers, if bronze in color, add very much to the appearance of the bird; if of buff color, will throw dark pullets. The breast of the cock and hen should be clear buff, the feathers running somewhat lighter in color towards the tip, showing a waving appearance in sun-light.

Both primary and secondary quills should be clear buff, without admixture of colors. The legs should be very heavily feathered, short, and wide apart. The comb in the cock and hen should be very flat, evenly serrated and perfectly straight, without any inclination to either side. The wattles of the cock thin and fine, perfectly florid in color, ear-lobes well developed, long, thin and fine; any white is a decided blemish. The eye of the cock should be *yellow-ochre* colored; in the hen a little darker than those of the cock; these characteristics denote a sound constitution. A clear, dark-winged cock throws the best chickens. Vulture hocks, in Cochins, inadmissable. There are Buff, Lemon and Cinnamon colored Cochins, also Silver Buffs, their characteristics otherwise are about the same.

### The Shanghais.

These fowls, which were the first to attract the attention of Americans toward the large Asiatic breeds, had a great run, for a considerable length of time; but have now been measurably supplanted by the more solid, compact Brahma, Cochin, etc., which, in many instances (or those that pass for such), probably, are only the Shanghai improved. But that the reader may know how to detect the Shanghai pure, from others, we will describe them.

A well-bred cock, when full grown, stands twenty-eight inches high; the hen, from twenty to twenty-three inches. The hen has a slightly curved beak, the forehead well arched, comb, low, single, erect, slightly and evenly toothed; wattles small and curved inward; the eyes are bright and prominent, the neck about eight inches long, and gently arched, when held upright; the body long and greatly arched; the girth of the body of a good specimen, when measured over the wings, is about twenty inches; the legs are rather long, of a pale yellow color, with a tinge of flesh color, and generally thickly covered with feathers from the outside down to the toe. The plumage is remarkably soft and silky, and, beneath the tail, densely fluffy and rounded. The comb of the cock is high, deeply indented, and his wattles double and long. Though the comb and wattles are not to be regarded as the chief characteristics of this breed of fowls, nor are its reddish yellow-feathered legs; but the abundant, soft, and downy covering of the thighs, hips, and region of the vent, together with the remarkably short tail, are characteristics not found in any other bird. The wings are small and short, in proportion to the size of the fowl, being carried very high up the body, thus exposing the whole of the thighs, and a large portion of the side. The arrangement of the feathers gives the bird a greater depth of quarter, in proportion to the brisket, than fowls usually exhibit.

In color, Shanghais may be found that are black, gray, buff, cinnamon and partridge color. Those originally imported were generally white. I have raised this kind in China, and found them a very fair breed of fowls. Mr. Bowman, an English poultry breeder of some note, claims that he had a Shanghai pullet that laid one hundred and twenty eggs in one hundred and twenty-five days, then stopped six days, then laid sixteen eggs more, stopped four days, and then continued her lay—and is laying yet, for ought we know. The flesh of these fowls is considered more coarse than ordinary birds, but they are doubtless improved by crossing with other varieties. But, for large breeds, the Brahmas and Cochins, improved, seem to take precedence, at this time.

### Chittagongs.

As elsewhere stated, these fine birds as well as the Shanghais, once had a great run, and were general favorites; but, like the Shanghais, have been almost entirely superseded by the Brahmas and Cochins. Their appearance and characteristics are thus described: The plumage of the Chittagong is very showy, and of various colors; and the birds are exceedingly hardy. In color, some are gray, interspersed with lightish yellow and white feathers in the pullets, the legs being of a reddish flesh color, and more or less feathered; the comb large and single; wattles very full, wings good size, carriage proud and easy, action prompt and determined, the flesh delicately white. The cocks at eight or nine months of age, weigh from nine to ten pounds, and the hens from eight to nine. The red variety are smaller than the gray; legs yellow and blue; wings and tail short; comb single and rose-colored. The Chittagongs as a breed, stand high on their legs, if not so high in public estimation; the cocks, in some instances, standing twenty-six inches high and the hens twenty-two.

From these descriptions and comparisons of the various Asiatic breeds of fowls, I think the readers of the PRESS will be able more readily to distinguish one from the other, when they wish to purchase, or compare the various breeds; which it is the main object of this article to facilitate.

T. H. H.

## The Percheron Horse Again.

EDITORS PRESS.—I see by your paper of May 6th, that Mr. A. Wilsey, of Petaluma, says you were mistaken in the statement you made that my recent importation was the first Percheron stock ever brought to this coast; as he imported a Norman colt in 1865, giving his pedigree, color, etc. He says young Rawley was sired by Rollin, and imported into Champagne Co., Ohio, (does not say where from) and was a dapple brown; Rawly Jr.'s dam, Lady Jane, was from a French Horse, Louis Napoleon.

From his own statement, his horse Rawley Jr. is not more than three-quarter blood. I claim that his horse is only one-quarter Percheron, and that from Louis Napoleon, as the Percheron horse is of a gray color; those that will read in this matter and who are familiar with the French author, C. DeHuy's, know this to be so.

I will say that while East, looking for a Percheron horse to bring to this coast, I saw and conversed with nine different individuals who went to France expressly for the Percheron horse. They all said their true color was grey. I saw 19 last fall, when I selected my horse and mares, and learned positively, from good authority, of 26 others, all Percheron stallions, imported from France, making 45, that they were all grays; some iron and steel gray, others light grays. I did not hear of a brown, bay, or black Porcheron ever being imported.

French writers say the demand for the Percheron, is so great in foreign countries that many Brittany mares are taken into Perche to breed to their horses, and that is where the *dark colors* come from.

De Huys, in writing on this subject, says: "Hence it repels and proscribes the dark colored coats, without examination and reflection, because they are considered the colors of the English horse; it excepts the greys—greys with confidence—because with them it perceives the absence of the dreaded blood, and in them it has found that which satisfies all its wants.

I liked the grey horse because I thought that Providence had created it grey in order that it might be able to withstand, during its work, the heat of the sun, and not be prostrated under its rays. I liked it gray, as the Arab likes his horse grey, and his bournous of a whitish color; as the American planter likes his white cotton suit and his Panama; as our soldier, in the field, liked under the African or Mexican sky, the havelock which protected him against the rays of the burning sun. I liked it grey because it seemed to me to recall more than any other the Arab, the primitive horse, because Perche, having always possessed grey horses, I thought there was much more chance of finding under this coat, the type of the country; because I had been rocked to sleep to the tune of that old ballad of our ancestors, celebrating, Charles de Trie the Percheron seigneur, going forth to combat the English at the battle of Poitiers:

"On charger white
The sire of Trie,
Against the foe,
Has gone to war," etc., etc.

Because, in a word, during my infancy, I had breathed the dust of the old manuscripts making mention of the white Percheron mares. I liked it grey, because for the service of the post-coaches and carriers, in their long stages, in the middle of the night, the grey horse appeared to me more easy to guide than the horse of a dark color. Finally, it has always seemed to me that this coat was more becoming than any other, the powerful form of a vigorous worker."

I was in Iroquois Co., Ill., last October, looking at the Percheron; I did not learn or hear of any brown, bay, or black Percheron horse being imported, and I saw some of the importers there that were old citizens and well posted in horse matters.

I think the Rollin horse was of English origin.

That Mr. Wilsey has a good horse, I do not doubt, as I have seen a number of grand colts of Louis Napoleon, quarter bloods that were fine, large animals, and his good breeding qualities came from Louis Napoleon, as it is said he was the sire of over 400 successful stallions.

I have been breeding large horses for some years; and have the result of others; but have never seen any family of horses that cross so well, and show their peculiarities; even the one-eighth bloods being square, compact, serviceable animals.

I have seen the breeding from the small common mares of the country to the large Clydesdales, all look well and give satisfaction.

W. C. MYER.

Ashland Mills, Oregon, May 13th, 1871.

## SERICULTURE.

We now come to perhaps the most interesting feature of the whole process of feeding silkworms, the

### Spinning of Cocoons.

If the worms have passed all the moltings well, and begin to show ravenous appetites after they have entered upon the last age of their existence, before their transformation into moths or butterflies, the operator may safely count on soon being gladdened, if not with a golden, certainly with a silken harvest. The one secured, the other will surely follow. About four days after the worm has come out of its fourth sleep, the weather being good, it will eat faster and more than at any other period of its life; and on about the sixth day it will have attained its greatest size.

From this time its appetite slacks up gradually, and it is easily perceived by an experienced eye that a change is approaching. The color changes from a rank greenish white to a mellow yellowish white. The body of the worm decreases towards the extremes and increases in the center. Three or four hours before the worm is ready to spin it changes very rapidly and assumes a ripe or mature appearance; the skin about the neck becoming somewhat wrinkled and the whole body translucent. At this stage it begins to show uneasiness, ceases to eat, and begins to crawl about in search of a hiding place in which to enshrine its body in a silken shroud.

If such a place is easily found, it begins its cocoon at once; but if no place has been prepared, it becomes excited and crawls rapidly from place to place until it can put off its work no longer, when it begins to spin its silk here and there, promiscuously, over the table. Hence it is very important that some good provision be made as soon as the spinning time has arrived, in which all the worms can form their cocoons. To this end many plans have been adopted and many inventions have been patented. That which will supply the real wants of the worm at the least expense, and which will enable the operator to gather the cocoons most rapidly, and with the least dirt attached, is the one that should be adopted. If common wild mustard is plentiful, or common May weed or dog fennel, either may be cut, a little green, and after being dried in the sun, the leaves may be threshed off and the branches used to good advantage.

The worms seem to like something of an aromatic smell, such as either of these weeds afford. In the absence of these, almost any other branching weed or brush of trees, such as oak brush or peach tree brush may be used. Wheat straw, bound together at each end in bunches of three or four inches in diameter and then pressed longitudinally, so as to make a bulge in the center is very good. The worm wants to occupy a space of about an inch square in suspending and completing its cocoon, and anything that will furnish the greatest number of separate spaces of this size, the nearest to it and clear from dirt or loose substances that will stick to the cocoon when removed is appropriate to secure the silken harvest.

One look into a cocoonery, prepared for the spinning, will give a person a better idea of what is wanted than all the descriptions that can be written. The worms never all go to spinning at the same time, even from the same table; but they usually all get into the brush within three or four days from the time the first go up. Those that remain on the table will want some feeding until all have spun. After the worm once begins its cocoon it never eats any more, and must not in any manner be disturbed. It requires about three days to complete the cocoon, if unmolested.

The cocoons should not be disturbed or moved until fully completed, and, as above stated, this will be in about three or four days from the time it is first discovered to be spinning. But the cocoons cannot be gathered until all are completed, which will be in three or four days from the time when the last worms went up into the brush.

We would here remark that if any considerable number of worms linger on the table later than three days after the first went into the brush, it is better to remove these slow ones to another table and give them new brush, so that you can the sooner commence the work of gathering the cocoons.

As soon as the cocoon is finished, the worm commences its transformation into a moth; and while in this intermediate state, and until it acquires its wings, it is called a chrysalis. In this condition it lies still and entirely disconnected from the cocoon, having exhausted all the silk that it contained and let go of the thread. When this letting go occurs, the cocoons may be handled without injury, and the gathering of the harvest may be commenced at once.

To determine when the cocoons are finished, gather a number last commenced and, holding one by one up to the ear, shake them. If the chrysalis rattles or moves in the cocoon this indicates that the labors of the worm are completed, and the cocoons may be gathered. While in the live state the cocoons reel best, and if the producer intends to reel his own silk, that work may be commenced at once, or if a market is handy by they may be sold green for immediate reeling. If, however, no reel is at hand and the market is at any distance, the chrysalis must be killed within from six to eight days from the time the cocoon is finished or the moth will work its way out and thus destroy the cocoon for reeling. The moth does not, as is generally supposed, cut the fibre of the cocoon to get out, but it exudes from its mouth a liquid substance which dissolves the glue with which the threads are stuck together and then works them either way and draws itself out between them. This process so tangles the fibre of the cocoon that it cannot, with an ordinary reel, be wound off.

Cocoons from which the moths have been permitted thus to extricate themselves are called pierced or perforated cocoons, and are not worth over half as much as perfect cocoons.

### Killing the Chrysalis.

Various modes have been adopted to kill the chrysalis. Some apply artificial heat, as in a dry oven, others steam them; but in California the rays of the sun, in a hot day, falling directly on the cocoon will kill the chrysalis. To make the killing by the sun more sure they may be placed under glass. They require to be spread out very thin so that the sun will reach every cocoon, or the process will not be entirely successful. If killed by either process the heat should be applied long enough not only to kill the chrysalis, but to dry it, or evaporate the fluids of the chrysalis, otherwise these fluids will stain the silk and injure it. It is also necessary that the chrysalis be thoroughly dried to prevent the bad smell that would otherwise be emitted from the decaying matter, and also to prevent them heating and spoiling.

Having killed the chrysalis the cocoons are ready for market, and are, according to the quotations in France, worth from $1.50 to $3 per pound, according to quality. They should be worth about the same price here, and we presume this will be about what the San Francisco Silk Manufacturing Company will be able to pay for them when their machinery is in running order.

### Important Caution.

If, however, you have occasion to keep them on hand any length of time it must be remembered that the mice must be kept away from them or your labor of the season will soon be lost. One mouse in a very short time will destroy thousands of dollars worth of cocoons.

## THE APIARY.

### Enquiries About Fruit and Bee Culture in California.

EDITORS PRESS.—I have for several years been thinking of emigrating to your State with the view of engaging in horticulture and bee keeping, and I beg leave to ask through your paper a few questions which I hope may be answered through the columns of the PRESS, by those who may be practically posted in the matters enquired of.

What kind of fruit pays best, and in what locality?—naming county, and distance from market, etc?

Will it pay to raise bees in the vicinity of fruit orchards, or does the dry season cause the flowers to dry up? What time do bees swarm? How often can they be allowed to swarm in one season with safety; or with profit to the owner?

What is the average yield of honey each year?—where is the honey sold, and at what price per pound—box honey and strained? What are bees worth in common box hives, and in movable comb hives? Both native and Italian bees?

Are there many in California, who make bees a specialty? Will Italian queen bee raising pay there? What do Italian queens sell for? How are bees wintered? Are there summer stands or are they wintered in cellars? From what feed is the principal part of the honey gathered? Are there any honey yielding plants that will compare with white clover honey in quality and quantity?

Hoping, MR. EDITOR, you, or some of your many readers will answer the above questions I am respectfully, H. NESBIT.

### Chloroforming Bees.

It is unpleasant in the extreme to some people at least, when the sweet treasures of the bee hive are to be taken away, to feel obliged to resort to the nauseating practice of suffocating them with tobacco smoke, or doom them to the still worse

"Death of devils smoored in brimstone rock,"

especially as both tobacco and sulphur may be dispensed with, and more efficient and less distasteful means employed to accomplish the result. We refer to the employment of chloroform, now extensively used in England, and it is said, without injurious results, to stupefy bees so as to remove the honey. The mode of application is as follows:

A table is set about ten feet from the hive, and covered with a cloth. Some chloroform (about a quarter or a sixth of an ounce) is then poured into a shallow dish and covered with a wire gauze, to prevent the bees from falling into it. The hive is then removed from its stand and set over the chloroform. In about twenty minutes all the bees will have fallen down to the table in a state of stupefaction, not one remaining in the comb. After removing the comb, the hive and the bees are restored to their place, the latter soon recovering, without suffering the slightest inconvenience.

Our practice with handling bees has been to simply tap on the hive for a minute with the handle of a pocket knife, or some other small instrument that will make a slight, sharp noise. The effect of this is to so distract the bees as to induce them to gorge themselves with honey, which they always do when disturbed, evidently led by instinct to take a hearty and hasty meal previous to being driven from their home (the fear of which is what disturbs them) so that they may be as fully as possible prepared for a journey of uncertain length. A bee so gorged will never sting unless individually attacked. With this precaution, which is simple, sure and effectual there will be no occasion for the use of tobacco, puff-ball or any other smoke, or chloroform. The only further precaution necessary is to handle them gently and quietly.

TO GET BEES OUT OF HONEY BOXES.—A simple, cheap, and easy way to get bees out of honey boxes, is to place an empty barrel anywhere about the apiary, to suit your convenience. Remove the boxes from the hives and place them in it; then lay a dark cloth over the top of the barrel, leaving a space at one side large enough for one or two bees to fly or crawl out at a time. You may then leave for other work and return at your leisure, without fear of robber bees. I have tried this plan several years, sometimes placing a dozen boxes in a barrel at one time, and never yet knew a bee to return to the barrel for honey nor a cell to be uncapped. If any one has a cheaper, quicker, or easier way, we should like to hear of it.—*Moore's Rural.*

### How to Introduce Italian Queens to Native Bees.

Take away the queen of the colony to which the Italian queen is to be given. To find her most easily, open the hive when many of the bees are out gathering honey; disturb the bees as little as possible, and, if convenient, have an assistant to examine one side of the comb while you examine the other. Look on the combs in the center of the cluster of bees first, as the queen is most likely to be there; as soon as you find her remove from the hive, and then put the Italian queen with a few workers, which are sent with her, in the wire cage, stopping the mouth of the cage with a piece of honey-comb partly filled with honey; lay the cage on the frames over the cluster of bees, or, if the weather is cool, suspend the cage between two combs in the cluster of bees. The bees will gnaw through the comb stopper in a few hours and liberate the queen. In four or five days after, examine all the combs and remove all the queen cells if any are started, or they may throw off a swarm if it is in the swarming season.

Another method is to select a strong colony, move it some distance away to a new location; then take from it two or three frames containing honey and brood, shake all the bees from them, put them in a new hive and place it on the old stand, close all the openings, except one hole in the top, and through this gently put the Italian queen on the frames and shut her in; then open the entrance, so one bee at a time can pass in, of those out gathering honey; being full of honey and disturbed at seeing their hive changed they will not molest the queen. This method saves hunting the native queen, and you also have a new swarm, as the old colony removed has a fertile queen, and will soon build new combs instead of those removed, and enough bees will return to the old stand to soon build up a strong colony. Should you not care to thus divide, you can look over the combs in the old hive for the queen and kill her, and in an hour or two remove all the combs, shaking all the bees from them in the old hive, placing the combs in the new hive with the Italian queen, and just before dark shake out all the remaining bees in front of the new hive; let them enter as a new swarm. Mrs. E. S. Tupper says she never knew a queen to be lost when introduced in this way.

*Caution*—Open the box in which the queen is sent in a closed room, so that if the queen chances to fly, she will go to a window and can be easily caught. Never handle the queen by the abdomen; always take hold of her by the wings or upon some part of the body. She will not sting you.

The above directions are given by Mr. Henry Nesbit, of Cynthiana, Harrison County, Kentucky, the gentleman who asks a series of questions in another column, and who intimates his intention to remove to this State.

BEE ROBBING.—When bees are robbing, close the entrance so nearly that but one bee at a time can escape. At sundown remove the hive to a secure place well darkened and keep there for a week. This will get the robber bees used to their new neighbors, and they will work and remain with them. This should be done only when the swarm is overcome by the robbing bees. Otherwise leave the swarm on the stand, with the entrance hole nearly closed. In such a condition they will fight their way through.

WEIGHT OF HONEY IN A HIVE.—A beekeeper must not judge of the state of his hive in the spring, by its weight alone, because at that time the number of young bees and larvæ in it weigh heavy, and may impose on the unwary for real wealth, when the stock of honey is nearly exhausted.

# Agricultural Notes.

## CALIFORNIA.

The Crops.—Favorable accounts continue to come in from the northern and the mountain and coast counties. The report from Butte county is to the effect that the crops are looking well, especially about Chico. There has been no frost to injure the grain and the prospects are favorable for an average harvest. Grain is looking remarkably well on the Honecut—never better. In the valleys of Plumas county vegetation is looking splendid, and everything promises an abundant yield.

The Folsom *Telegraph* says the grain on the hills about that place is looking well, and both farmers and vineyardists throughout the county are happy in the expectation of abundant crops.

Severe Frosts—No Fruit in Siskiyou. The Yreka *Journal* says that nearly all the fruit in Siskiyou county was killed by a severe frost in the early part of the month. No fruit has been spared, not even apples.

At a later date less severe frosts have visited some other portions of the State—Lake, Nevada, Sonoma, Contra Costa and Santa Clara counties; but little or no damage was done, however, in those localities, unless we except Lake county.

In Sierra valley grass is three or four weeks more advanced than it was last year, and is looking remarkably well. The grazing on the hills around Bear Valley will be excellent by the first of June.

The Marin County *Journal* says the grass of that region is iookihg well, causing the visages of the dairymen to look broader.

The prospects still contiuue good in Sonoma.

The wheat fields on the line of the railroad between Woodland and Davisville, according to the *Mail*, show very plainly where farmers have taken advantage of irrigation. The watered spots look green and flourishing while the other fields present the appearance of having been already harvested.

A Useful Device, according to the Vallejo *Chronicle*, has been put in operation in some parts of Solauo where the grain and grass are very short. An apron is fitted under the sickle of the mower which catches all the grass, and when full is dumped into piles. Grass and grain not over three inches in hight are thus secured, in some cases at the rate of a ton to an acre. This device might probably be found useful in other parts of the State, where the drouth has stunted grain and grass.

The Pacheco *Gazette* says should no excessively hot weather or withering north winds occur during the next two weeks the San Ramon, Taylor and Moraga valley districts, Pinole and San Pablo will have partial grain crops. Hayiug has already begun.

A Davisville date of the 15th says the crops around there are a total failure, and the majority of farmers in Yolo county will have close work to get hay in.

The Oakland *News* of the 9th says: From conversation with farmers in this county we believe that the crops will be better than we had been led to anticipate. We have beeu informed that the beet crop will be ample to supply the Alvarado sugar factory, and wherever there has been deep plowing the prospects are said to be good.

The Sau José *Mercury* says the prospect is most encouraging for immense crops of fruit in that section. Apricots are now as large as uutmegs, and the trees are loaded as we never before saw them.

A San José date of the 15th says that the grape crops are expected to be exceedingly large. Grain crops, though not so large as usual, will yield about the average returns.

Santa Cruz.—The *Sentinel* has seldom seen better crops of grass, wheat, barley and oats, than in the vicinity of Soquel. The grain fields on both sides of the road from Santa Cruz to Soquel, are good. Down the creek to the bay, a better crop will be cut this year than for several years past, unless rust destroys the straw. Corn is just up and looks remarkably well, while potatoes and other spring crops are promising an abundant yield. Santa Cruz and vicinity, will have an average crop of hay, grain and fruit this year.

The *Pajaronian* says that wheat, barley, oats, flax, fruit trees, strawberries, etc., are all in excellent conditiou, aud of all kinds of crops there will be an immense yield.

Accounts from the Alisal, Natividad, New Republic and Castroville districts, report the crop, both wheat and barley, will be larger than last year. Pajaro and San Juan have nothing to complain of, and about Hollister there is some grain and a pretty good show of hay.

The San Luis Obispo *Tribune* says:—"We are safe from the iron jaws of the monster drouth. Gentlemen from Cambria, San Miguel, and other portions of the county, report progress and prosperity—all because of the prospect of a bountiful harvest."

Los Angeles reports say that the crops in El Monte township are looking finely. Corn promises a large yield. Grasshoppers, which are creating alarm in other townships, have not made their appearance at El Monte.

Grasshoppers in large numbers have made their appearance on the foothills east of Stockton, and it is feared they will move into the valley.

The wild blackberry crop is very promising the present season, along the Feather river bottom. These luscious berries will be ready for the pickers in about two weeks.

Solano County reports that the cool and moist weather, prevalent there during last week, was of a reviving character to the languishing crops in the northern part of the county, and that more hay will be made than a short time ago was anticipated.

Cutting Hay.—The farmers on Feather river, above Yuba City, are cutting their grain for hay. In some places where it is too short for even that purpose, they have turned in their stock to eat it off. The same reports are reaching us from many other sections where the drouth has been severe.

Oranges and Grapes.—The indications are exceedingly favorable for an unusually large orange and grape crop, the coming season, in the vicinity of Los Angeles.

The Sheep Men of San Juan.—A correspondent of the Monterey *Republican* writes as follows: Flint, Bixby & Co., of San Juan, owu about 200,000 acres of land; 19,000 in the immediate vicinity of San Juan, 140,000 in Los Angeles, 23,000 in San Louis Obispo and over 18,000 in San Joaquin and Washington Territory, ou which graze 75,000 sheep and thousands of cattle and horses. P. Vacca & Co., have about 19,000 sheep on the Los Aguilas and Stanislaus; Hernandez, 20,000; J. D. Carr, 15,000; E. J. Donelly, 16,000; A Mitchell, 2,500; Reynolds & Russell, 5,000; Goodrich & Baker, 8,000; Moore 7,000; Pendleton, 1,500; Grogan 1,500; Dr. E. M. Mathews, 1,500; Thos. Butterfield & Son, 200 Angora goats, valued at from one to five hundred dollars each, and 1,000 fine sheep; Dan. Wilson, 1,500; Daily Dodge, 2,000; W. H. Stone, 2,000; John W. Stone, 3,000; N. Crooks, 2,000; Evan James, 2,000; Wilcox & Bro., 3,000; Upton Mathews, 2,000—making a grand total of 203,500. It is calculated that each sheep will average about five pounds of wool—makiug 1,047,500 pounds, at 25 cents a pound, worth $254,875. This for the spring clip alone; allowing one-half the sum for the fall clip, $127,437, and we have $382,312 as the annual income from the wool alone. If we were to recken the increase in lambs, it would swell the total income to $500,000—a reasonable allowance.

The Wool Fraud.—The Napa *Reporter*, says of the wool fraud, to which we have several times made reference, that some of the wool has been so adulterated with sand and refuse matter that wool dealers refuse to make auy offer for it, and the packers will have it left on their hands, a total loss. Every bale has to be opened aud examined now in order to ascertain its conditiou. In one bale a rock weighing 56 pounds was discovered last week. This state of affairs is calculated to inflict great injury upon our wool growers.

Large Eggs.—The Placerville *Democrat* has been shown two hen's eggs measuring respectively, 7⅝ by 6⅜ inches, and 7¾ by 6¼ inches.

Mammoth Strawberry. — The same paper has seen a strawberry, raised by Dr. DuBois, of that place which measures 5¾ inches in its greatest circumference. It was a Longworth Prolific.

Agriculture in San Luis Obispo.—We condense the following sketch of the agricultural resources of San Luis Obispo county: Our agricultural region is confiued to the west of the Coast Range, aud extends from San Simeon in the north to the Arroyo Grande in the south; a distance of about fifty-two miles with an average width of four miles. The northern portion is somewhat rolling, and intersected by narrow valley, but as we approach the town of San Luis Obispo, coming south, the country opens out into wide valleys,—containing soil of unsurpassed richness, which yields from 90 to 100 bushels of barley to the acre, 50 to 60 of wheat, and 75 to 80 of corn. This entire section is indisputably the best watered portion of California. Iu every ravine and gulch are found never-failing streams of water. During the general drought of 1864 these streams served a good purpose, enabling crops of corn, beans, barley and vegetables to be raised by irrigation. The soil iu the valleys is a black loam; in some places mixed with sand and gravel. The side hills are not so rich, but are considerably the best wheat lands.

The average rainfall is sixteen and one-half inches: this year it has already reached nearly twelve. The county to the East of the Coast Range presents a series of low, rolling hills, wooded with white oak; the soil light and gravely, but producing fine, nutritious grasses. This entire section is used ouly for grazing cattle and sheep. The Santa Margarita rancho and a few tracts on the eastern slope of the coast range possess very rich lands; but these are exceptions to the general rule.

Work for the Unfortunate.—It is said that the Tide Land Reclamation Company are ready to let, on liberal terms, portions of their reclaimed lands to such farmers as will till it thoroughly. It is not too late to commence operations on such lands, and good crops may be expected the present season.

Cattle upon Reclaimed Lands.—The extensive tract of reclaimed land between Colusa and Knight's Landing is to be used, the present season, for pasturing cattle, which will be driven to that locality from the parched plains of the San Joaquin valley. Many of the tule districts, of other localities favorably situated by nature, for grazing, will also be employed for the pasturage of cattle, as fast as the feed gives out on the plains.

## OREGON.

Crops in Oregon.—The papers, iu all sections of Oregon, speak of excelleut crops, and there seems to be no doubt but that the State will be as abundantly blessed in its agricultural interest this year as its most sanguine well-wisher could ask. Both her grain and fruit crops are spoken of as beiug especially promising.

The Willamette *Farmer* says that the fall and early winter sown wheat is looking well. Doubtless that which has been sown late the present spring will do well. But we are assured that the wheat crop will not occupy as many acres of ground as last year, and consequently the yield will be less.

We have a certain prospect of an unusual amouut of fruit the present year. The pear, apple, plum, cherry, and quince trees are laden with bloom.

Oregon Horticultural Society has determined to hold an exhibition at Portland, some time duriug the month of Juue. The objects of the Society are to bring out the sample productions of fruits, flowers, and vegetables of Oregon, and the *Bulletin* of that city says it stands the people in hand to give this maiden effort of the Society the best endorsement possible. This will be the first Fair held by the Society. Awards will be offered for roses, plants, cut-flowers, berries, cherries, and vegetables, but whether these premiums will be large or small, the benefit to succeed will be in favor of the State.

Next fall, at the time when the State Agricultural Society holds its exhibition, the Horticultural Society will have a grand prize exhibition. The chief object of the present movement is to stimulate an interest in horticulture.

Wool Purchase.—The Jacksonville *Times* of May 6th says James T. Glenn has bought the bulk of the wool clip iu Rogue River Valley, at from 19 to 22 cents per pound. This purchase will shorten the stock for the Ashland Woolen Mills.

A Lard Oil Factory has been started at Albauy. The building is 36x60 feet, three stories. This is the first lard oil factory in Oregon, if not on the coast. The process of extracting lard oil, is a new one. The iron tank or upright cylinder, has space to contain 7,000 pounds of pork or lard, which would equal 35 hogs of 200 pounds each, to fill the tank. The process then, a combination of hot steam and heavy pressure, reduces the whole, bones and all, to a fine and compressed mass, minus the oil and greese, which is an excellent substitute for guano.

Dairy Establishments. — The *Farmer* urges the introduction into Oregon of dairy establishments for the mauufacture of cheese and butter. The "Hiram Smith farm," some 12 miles from Portland, on the east side of the river, has been supplied with cows and the buildings arranged for a dairy establishment. A large quantity of excellent butter is sent from thence to Portland, weekly. Other dairy establishments are being started in Oregon—one near the mouth of the Santiam has recently gone into operation.

## Queries.

W. W. Powers, writes from Cajoū Ranch, San Diego county:—Can you or any of your contributors tell me of any wash that can be applied to young fruit trees to keep rabbits from gnawing them. I think I have seen mention made of some preparation of sulphur applied to them. We have set out about 2,000 young trees of various kinds. So far the rabbits have not molested them; as yet there is plenty of green grass and grain for them; but as soon as that dries we expect the rabbits will go for our trees. We have also put out several thousand grape cuttings and roots, and the rabbits have trimmed a few of them. Is there any way of poisoning them?

Rabbits are very abundant here, but we are not much troubled with gophers or squirrels. We shall have about half a crop in this valley. A few pieces of grain sowed on old land will make a full crop. Will wheat or barley come up, or do well if plowed in six inches deep? What does a common subsoil plow cost, and how much of a team does it require? We intend putting in ten to twenty acres of grape cuttings next winter, aud want to subsoil the ground. Which is the best variety of grapes for raisins? There, I have asked questions enough for one time. By answering them you will do me and perhaps many others a favor.

We know of no better way to prevent the anuoyance of rabbits thau to get the dogs after them. If their nests or burrows can be found, poison may be safely introduced. We know of nothing safe to apply to a vine or tree which will keep them off or kill them.

Wheat possesses a property in its root, common to both barley and oats. It will bear to be deep sown, not so deep as barley, but deeper than oats. It may be covered to a depth of six or even seven inches in a light, warm soil; below that depth there will not be sufficient heat for germination to take place. The roots of barley strike downward to a considerable depth—deeper than wheat; hence it stands a drouth well. The roots of wheat are less inclined to go downward, and those of oats less still; the latter are inclined to spread and keep near the surface.

On enquiring at several of our agricultural warehouses, we are told that there are no subsoil plows now for sale in this city, although there may be some at Stockton or some other of our interior cities. It is one of the encouraging signs of the times and indicative of a much improved system of agriculture on this coast that there should have been such an unexpected demand for subsoil plows during the past season. Subsoil plows cost from $16 to $25, according to size, and require a four or six horse team to work them.

Several varieties of grapes have been employed for raisins, in this State, but we are unable to state which is the best. We should be happy to have the experience of those who have experimented in this direction for the benefit of our readers generally.

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The San Joaquin Irrigation Scheme. The gentlemen who have projected this important enterprise are evidently in earnest, and have already placed three surveying parties in the field. Two of them have started from Millerton on the San Joaquin river. One will run a line north and the other south from that point. The other party starts from Kern river and will survey the line along the base of the Coast Range on the west border of the valley.

The projectors express confidence that the crop of 1873, in the San Joaquin Valley, will be raised by aid of these improvements, and that thereafter the people of that now parched region will be in a position to laugh at drouth, and become the most successful and independent farmers in the state.

# Home and Farm.

## Strawberries in California.

The first strawberries in any considerable quantity, generally make their appearance in this market about the first of April, and have usually sold from 20 to 25 cents per pound, but the price has been considerably less this season. The grand rush is about the first three weeks in May. The rush for the present season is now about at its hight. It is expected that nearly twice the usual aggregate will be produced this year. The average price for several years has been about 8 cents per pound. This year it will fall below 5, a figure which leaves a very handsome margin for profit to the producer.

The largest shipment from Santa Clara Valley sent to this market in any one day, last year, is reported by the Santa Clara *Agriculturist* to have been about 40,000 pounds. The amount which has arrived daily during the past week has been 60,000 to 70,000 pounds—mostly from that locality, nearly half a pound for every person in the city!

Santa Clara Valley furnishes most of the strawberries which find their way to this valley. Over 300 acres are under that cultivation there, the principal growers cultivating from 20 to 25 acres each, and many from 5 to 10 acres each. The Longworth Prolific is the standard variety cultivated. This business is pretty well filled; and any considerable extension at the present time would probably be unprofitable. The best fields, in their third and fourth years, yield from four to six thousand pounds per acre,

The *Alta* sets down the gross yield at from $200 to $300 per acre. The cost of picking is 2 cents, railroad freights ½ a cent, drayage to this city ¼ of a cent, and commissions 8 per cent., or a little short of ½ per cent. per pound—making an aggregate of about 1½ cents to the producer for the use of his land, original cost of planting and annual care of plants. Nearly all the strawberry lands are irrigated by water from artesian wells.

We gather the following additional particulars from the *Alta:*

"Strawberries are mostly grown on the shares by Chinamen, who give half the crop for the land. As the vines produce nothing the first year, and the Chinamen are poor, the land-owner usually loans the credit for provisions. The renters will make little profit this season, but many of the land-owners will clear $100 per acre Six Chinamen do the work on ten acres of strawberries, except in the picking season, when extra help is required, and just now three extra men are employed to the acre. Strawberry fields have fallen into the possession of the Chinese within the last two or three years, and the profits to the landlords are greater than under the old system of paying wages. It would be impossible to grow the berries profitably without Celestial help. Irrigation, except in very moist spots, increases the yield of the vines tenfold; without artesian wells few strawberries are grown in Santa Clara."

## Farmer's Wives.

The reading of essays by the ladies is one of the exercises which give life and interest to the meetings of the Springfield (Vt.) Farmers' Club. From one of the essays by Mrs. Daniel Rice, published in the *Vermont Farmer*, we copy the following paragraph:

"Did you ever think of the amount of thought requisite to plan three meals a day for three hundred and sixty-five days in succession? To prepare enough and not too much, and for those living at a distance from the village, to remember that the stock of flour, sugar, tea, etc, etc., is replenished in due time? Do you ever think of the multitude of her cares and duties? She must rise early to prepare breakfast or oversee it. Perhaps there are children to wash, dress and feed, or to get ready for school with their dinners. There is baking, sweeping, dusting, making beds, lunch for the men, may be — dinner, supper to be made ready at the proper time—the washing, starching, folding and ironing of clothes—the care of milk, including the making of butter and cheese—and the inevitable washing of dishes. In autumn there is an additional work of picking,, preserving, canning of fruit, drying apples, boiling cider, making apple sauce, with the still more unplesant task which falls to her lot at butchering time. Then there is haying, harvesting, sheep-shearing, etc., when more help is needed, bringing an increase of her labors. Twice a year comes house-cleaning. By the way, of all the foes a house-keeper has to contend with, dirt is the greatest. She may gain a complete victory and think to repose upon her laurels after her semi-annual engagements—but it is only temporary. The enemy soon returns, and even daily skirmishing does not keep it at bay. There is the mending, too. Sewing machines are great blessings, but hey can't set in a patch or darn the stockings. I dont mention these things by way of complaining of woman's lot in general, or asking for her any rights which she does not possess. I don't know as there is any remedy in the present state of the world. It seems to be one of the evils of life which must be borne as we bear other ills– but what I do ask is a due appreciation of the important part that woman acts, and a concession that her labors, mental and physical, are as great, all things considered, as those of the other sex. Women are not so childish that a little sympathy now and then or acknowledgment of their efforts and sacrifices make them imagine their case worse than it is. I tell you, men and husbands, "It doeth good like a medicine," and many a poor, crushed, broken-down wife and mother is dying for want of it."

## Some Poor Practices.

To attempt to fatten three hogs into 1,200 pounds of pork on just as much feed as would keep two nicely growing.

To estimate agricultural fairs as arrant humbugs, and spend three days every month saving the country at political meetings.

To depend upon borrowing your neighbors' rakes, mowers, and all sorts of implements in haying and harvest time.

To house up a thousand bushels of grain waiting for a rise, till one-tenth has gone to feed rats and mice, and the remainder smells like the essence of rat, and the price is down forty per cent.

To plant out a big orchard of fruit trees with a first thought of money-making, and leave them to do or die.

To keep two fancy five hundred dollar carriage horses, and pay six dollars a day for a team to plough.

It is positively a poor practice to call "book learnin'" all bosh, to ignore news and agricultural papers, and attempt to keep an even yoke with your progressive neighbors by main strength and stupidness.—"*Cosmo.*"

Farmers' Dress.—A farmer while laboring is brought into pretty close intimacy with dirt, and his clothes should correspond with his labor. To wear fine cloth and clean linen while at work in the field, would be highly inappropriate? but when he rides to town with his family, or to market his produce, it would elevate his calling in the estimation of the world, if he were a little more careful of his appearance. No matter how independent we may feel—however we may affect to despise the opinions of others, we are none of us entirely insensible to the fashion of the times or the opinions of the world. Henry Ward Beecher once used the expression—"True: dress does not make the man, but when he is made, he looks better dressed up."

## Why do Animals Need Salt?

Prof. James E. Johnstou, of Scotland, says: "Upwards of half the saline matter of blood (fifty-seven per cent.) consists of common salt, and this is partly discharged every day through the skin and kidneys; the necessity of continued supplies of it to the healthy body becomes sufficiently obvious. The bile also contains soda (one of the ingredients of salt) as a special and indispensable constituent, and so do all the cartilages of the body. Stint the supply of salt, therefore, and neither will the bile be able properly to assist digestion nor the cartilage to be built up again as fast as they naturally waste. It is better to place salt where stock can have free access to it, than to give it occasionally in large quantities. They will help themselves to what they need, if allowed to do so, at pleasure; otherwise when they become "salt-hungry" they may take more than is wholesome.

### Brine Poisonous to Animals.

Several years ago, M. Reynal, an eminent French veterinarian, urged that brine in which pork and other meats had been pickled, was a deadly poison to horses and hogs. In proof of this, the Kentucky *Turf Register* says: "We were last week a personal witness to its practical demonstration. A gentleman in the village of Lawrenceport, Ind., emptied brine from a pork barrel into his lot. A drove of hogs, as also one horse, partook of it, and the result was, the horse and seven hogs out of the nine, died in less than six hours from the time the barrel was emptied.

## A Settled Policy on the Farm.

The whole secret of the successful farmer often lies in his having fixed a plan of operations. Multitudes have no plan but to meet their immediate necessities and make money by the easiest and seemingly shortest methods. If wool brings high prices, they will gradually give up dairying and work into sheep, with the expectation of making their fortunes. If wool and mutton raising for a time does not pay, they sell their flocks at a great sacrifice. If hops are sixty cents a pound, they invest in hop-poles and kilns for drying, and expect sudden wealth. If, when their yards come into full bearing, the prices fall off one-half or more, they are disgusted, and ready to plow up their yards, concluding the business will not pay. There are men who are always taking up a good thing a little too late to make money by it. The farmer cannot afford this continual change. His business is less speculative than any other, and, after providing for the wants of his family and stock, he should give his attention steadily to the production of a few animals, crops, or other products, on which he can rely to raise money. Any branch of farm industry, steadily followed, will be found profitable. Dairying in a year of short grass might not pay very well.

But years of drought are exceptions, and the man who makes first-rate butter and cheese, will find them a reliable source of income. Where a specialty is made of some one crop, it is particularly important he should follow it steadily. The raising of hops or of tobacco requires fixtures that are useless in any other branch of farming, and the change of crops involves a considerable loss of capital. Besides, we are always learning in a business to which we give habitual attention, and this knowledge is as much a part of our capital as the money invested in tools and buildings. If a man should make potatoes his leading crop, he would study to lessen the cost of production, and would resort to divises in the preparation of the seed and the soil, in the use of manures, and in cultivation, quite unknown to the farmer who pursues a careless style of husbandry. He could raise potatoes cheaper than his neighbor, by reason of his improved methods, and, if he sold at the same price, make money. Whatever branch of farming you follow, stick to it, if moderately profitable. Lay your plans ahead and be prepared for exceptional years, when large profits come from high prices, or losses from unfavorable seasons. A mixed husbandry is always the safer, and is not inconsistent with the cultivation of commercial crops as tobacco, hops, flax, onion seeds, or vegetable seed of any kind, garden vegetables for market fruits, etc. The introduction of these require close calculation, definite plans, and thorough business management, if success be attianed.—*New York Day Book.*

How to Keep Sweet Potatoes.—A correspondent of the *Small Fruit Recorder* comments the following as his plan for keeping sweet potatoes through the winter, remarking, by way of preface, that he has left hundreds of bushels, in the manner described:—"Take dust from the road that has become as "dry as powder." Fill boxes 8 to 9 inches deep and that will hold about one bushel. Fill them level full with potatoes, then pour on the sand, shaking it down among the potatoes thoroughly, until they are all covered over. Set one box upon another, having a thin slat between each. Don't allow the temperature to go below 50 degrees, and all will come out well.

Iron for Fowls.—A writer in the *Practical Farmer* says he had a silver-spangled Hamburg cock, which began to droop, wasted away in flesh, and his comb became black. Whole black pepper, wet and rolled in carbonate of iron, two pills at once, twice on the first day and once on the two succeeding days, were given, and the bird recovered.

## Make Your Home Beautiful.

Make your home beautiful—bring to it flowers;
Plant them around you to bud and to bloom;
Let them give life to your loneliest hours—
Let them bring light to enliven your gloom.
Make your own world—one that never has sorrowed—
Of music and sunshine, and gold summer air;
A home-world, whose forehead care never has furrowed.
On whose cheek of bright beauty shall ever be fair.

Make your home beautiful—gather the roses,
That hoard up the sunshine with exquisite art;
Perhaps they may pour, as your darkness closes,
That soft summer sunshine down into your heart!
If you can do so, oh! make it an Eden
Of beauty and gladness; remember 'tis wise;
'Twill teach you to long for that home you are needing,
That heaven of beauty beyond the blue skies.

Make home a hive, where all beautiful feelings
Cluster like bees, and their honey-dew bring;
Make it a temple of holy revealings,
And love its bright angel with "shadowing wing."
Then shall it be, when afar on life's billows,
Wherever your tempest-tossed children are flung,
They will long for the shades of the home weeping-willows,
And sing the sweet song which their mother had sung.
—*Southern Farmer.*

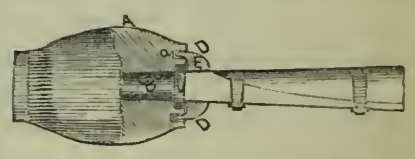
## A Refrain for the Season.

"Week after week not a sprinkle of rain,
Yellow and crisp is the grass on the plain,
Parched and withered is the garden and grain,
What will o'ertake us; a famine is near,—
What is the matter; 'tis such a strange year."

## Sand-Caps for Hubs of Vehicles.

Mr. George H. Nevens, of Livermore, Alameda county, Cal., has invented an improved sand-cap for axle-boxes, which promises to be of excellent service in excluding all sand and dust, and which is easily applied to any wagon. We here give a simple illustration and description of the device.

The invention consists of a ring of metal which is made conical in form and has its smaller end attached to the axle near the collar. The edge of the larger end projects into a groove, which is formed in the inner end of the hub, and thus effectually protects the collar and axle-box from sand and dust. In the illustration, *A* is the hub of the wheel, *B* the axle, which may be fitted in any of the ordinary ways, *C* the collar, and *E* a ring of wood or metal, which may be put on by removing *C*. In



the case of axles already made, or in new work, the ring may be slipped on before the axle is welded up.

The metal cap, *D*, may be cast with the ring, *E*, if the latter is of metal; or, if the ring is of wood, the cap can be formed of sheet metal and suitably attached. This cap is conical, its edge entering a groove, *a*, in the end of the hub, as indicated. Its shape causes any sand or dust, that may fall on it, to slide or fall away from the hub.

The simplicity of the device is evident from the above, and its value must be very great everywhere, and especially great on our sandy, dusty plains. We recommend it to the consideration of farmers, miners and mechanics. A patent has been secured, through the Scientific Press Patent Agency, to Mr. Nevens, who may be addressed as above.

Mr. R. N. Caughell, who owns one-half interest in this patent, will also be happy to give further information. His address is Livermore, Alameda county.

Shetlanders.—The author of a "Trip to the Shetlands," in the *Spectator*, thus describes the people:—The Shetlanders are very honest, sober and simple in their habits; generally very poor, and wearing their clothes to tatters like the Irish. They live in small hovels, the best of which are of stone, with a good straw thatch, but the worst are scarcely to be described—built of peat, upon a peat floor, with small holes half stuffed up to keep out the wind, for windows; and a peat fire in the middle, whose pungent smoke thus confined makes the place unapproachable for strangers.

# POPULAR LECTURES.

## The Study of Modern Languages.

[Prof. Paul Pioda before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Fifth Series. Reported expressly for the PRESS.]

LECT II. May 20.—The Professor commenced his lecture by remarking on the universal and imperative demand for the introduction into our public schools of instruction in the modern languages. That this demand was founded on the best of grounds, his previous lecture had tended to show. To-night he was to remark on the best methods of conveying that instruction.

It is only within a few years that this study has been introduced into the grammar schools of the principal cities of the Union. Before this, it was treated as a sort of practical superfluity, or rather as an exotic. But in this short time much progress has been made in the methods of teaching. To Manesca belongs the credit of having introduced a new and improved method, which has been followed to a greater or less extent by all subsequent grammarians. But Manesca was all practice, and his predecessors were all theory. The true way is to combine theory and practice properly.

Now the manner of acquiring knowledge varies with age, character, etc. An adult must be taught in a different way from a child. A man of mature age is able to grasp rules and theories, but as habit is the greatest enemy in the acquisition of the phonetic element of a language, he cannot expect to get the accurato pronunciation of a native. Certainly not, unless he is willing to devote a very great amount of time to the study. With adults, the most essential condition of success consists in the personal activity of the students themselves. The students must work hard, while the teacher is te be used only to guide, explain and stimulate.

### Prof. Pioda's Method for Children.

With children, it is different. Here theory must give way to practice, books to personal instruction. Place a collectiou of rules and theories before a child, and the only result will be, if any, a torn and mutilated book. A child is helpless, dependent in everything; he must be taught orally, by objects, talks, little histories, which will interest it; and for short periods at a time.

Prof. Pioda elaborated at length his system for schools. He objected to the one-hour system (giving lessons to children one hour at a time, twice or thrice a week) as valueless. Arithmetic, geography and all other branches of juvenile instruction can be learned as well in one language as another. Therefore let there be primary schools where all the instruction is given in one foreign language, others in which it is given in another. A young child can be sent to a school for two years where French, for instance, is spoken, where all the instruction is given in this language. Then, for a couple of years, to a German school, where, however, he continues his French by the one-hour system. Or he may learn German first, and then French. This is only the general idea of the Professor's method. By it children will have acquired a foundation in the languages which will be firm and lasting, and on which the superstructure may be elaborated hereafter.

There is no fear that an American child will suffer as to his mother tongue by such a method. All the time that he is out of school, he will hear English spoken, and he will grow in this language equally with his pace in the others. There is one school on this coast where this method is pursued. The Lafayette Grammar School at Oakland, has a class of 40 or 50 children who are taught the common branches pursued in such a school in French. The Professor had requested prominent teachers and others to examine these children in *English*, and they reported them as sound in this language as the children in the schools where English only is taught.

The Professor spoke at length on the different points of the matter, upholding and explaining fully. This lecture terminates his series. The next three lectures will be delivered by Prof. W. F. Welcker on,—1st, General Considerations of the Science of Mathematics; 2d, Descriptive Geometry; 3d. Historical Sketch of Small Arms.

## A New Palace Car.

The elegant drawing-room car, just completed by the Kimball Carriage and Car Manufacturing Company, has been thrown open to public inspection during the past week, and has been visited by many. As a sample of workmanship, it is certainly of the very highest order, and as a specimen of California manufacture and of Pacific coast material, it is exceedingly interesting.

The car body is 60x10¼ feet. The exterior is very elegant, with highly polished prima vera wood panels and blue-and-gold borders. On each side is an oval medallion, bearing the title of the car "Siempre Viva," surmounting the arms of California. At the corners and elsewhere are fine little landscape views of the Yosemite, the Big Trees, etc.

There are six sections or compartments, entirely distinct from one another, placed alternately first on one side and then on the other side of the car, and separated from one another by the common passage way which consequently has a zigzag path around three sides of each section. There is also a passage way through each section which can be closed by the party having the compartment when they desire. This arrangement enables a party to seclude themselves from others, or to mingle with their fellow-passengers, as far as they may elect. Each section has single and double berths, water-closet, wash basin, and complete toilet arrangements, with lamps, tables, closets of perfumed wood, crimson and green velvet lounges, etc., etc.

The finish of the interior is magnificent. The elegant, but most tasteful paneling is made up of thirty different kinds of wood, including California laurel, Mexican rose, coa wood, maple, coral wood, etc. These are alternated with the best of taste. The ceilings are frescoed and the windows are of cut glass, where such material is admissable. The cars are warmed by Baker's patent heater.

Every modern improvement conducive to comfort and safety is to be found. The trucks are six-wheeled, with the American Elastic Wheel, and with Jeinsen's pateut lubricators for the journal boxes. Miller's patent trussed platforms, compression buffers and automatic couplers are also employed, with other devices of the most approved coustruction.

We doubt whether a car has ever been made before, which cau compare with this for really regal magnificeuce, joined with the most exquisite of taste. We are told that Mr. Atkinson has had the general superintendence of the construction, and has made all the drawings and designs. We are perfectly satisfied to have the car go East as a sample of what can be done by a California manufactory.

SHERMAN ISLAND CROPS.—The Sherman Island people claim that they will have the best crops of wheat and barley in the State —that the former will average 50 to 70 bushels to the acre and the latter 75 to 100. Moreover, after the grain has been taken off they will plow the laud and plant root crops, thus realizing two full crops within the year—and both of the largest yield.

SAN RAFAEL MECHANICS' INSTITUTE.—We see that enterprising citizens of San Rafael have organized a Mechanics' Institute, which is a most excellent action. The officers are I. Shaver, President; H. A. DuBoise, Vice-President; U. M. Gordon, Treasurer; V. D. Shoub, Secretary; J. Sims and H. H. Butterfield.

RAILROAD EXTENSION.—The California Pacific have decided to build a road from Adalante, at the junction of the Napa Valley and Sacramento branches, to Petaluma, where it will connect with the Donahue road.

A RAILROAD is projected in Humboldt county, from Hookton to tide water on Eel river.

# GOOD HEALTH.

## Effects of Colors on Health.

From several years' observation in rooms of various sizes, used as manufacturing rooms, and occupied by females for twelve hours per day, I found that the workers who occupied those rooms which had large windows with large panes of glass in the four sides of the room, so that the sun's rays penetrated through the room during the whole day, were much more healthy than the workers who occupied rooms lighted through very small panes of glass. I observed another very singular fact, viz: that the workers who occupied one room were very cheerful and healthy, while the occupiers of another similar room, who were employed on the same kind of work, were all inclined to melancholy, and complained of pain in the forehead and eyes, and were often ill and unable to work. Upon examining the rooms in question, I found they were both equally well ventilated and lighted. I could not discover anything in the draining of the premises that could effect the one room any more than the other; but I observed that the room occupied by the healthy workers was wholly whitewashed, and the room occupied by the melancholy workers was colored with yellow ochre.

I had the yellow ochre all washed off, and the ceiling and walls whitewashed. After makiug this discovery I extended my observation to a number of small rooms and garrets, and found, without exception, that the occupiers of the white rooms were much more healthy than the occupiers of the yellow or buff colored rooms; and I succeeded in inducing occupiers of the yellow rooms to change the color for whitewash. I always found a corresponding improvement in the health and spirits of the occupiers. From these observations, I would respectfully drop a hint to the authorities of schools, asylums and hospitals, to eschew yellow buff, or anything approaching to yellow, as the grand color of the interior of their buildings.

The following are some of the things not generally appreciated about a house: 1. The benefit of thorough drainage and water supply. 2. The benefit of good heatiug and ventilation. 3. The benefits of proper color.—*Cor. of the Builder.*

To the above may be added, facilities for admission of light.—ED. PRESS.

HARD AND SOFT WATER.—Dr. Letheby considers moderately hard water better suited for drinking than that which is very soft—an opinion which is confirmed by that of the French authorities, who took the Paris water from chalk districts instead of from sandy strata. He also stated that a larger percentage of French conscripts are rejected from soft-water districts than from neighborhoods supplied with hard water, and that English towns supplied with water of more than ten degrees of hardness have a mortality of four per one thousand less than those whose inhabitants use soft water.

REMEDY FOR THE TOOTHACHE.—The following application is said to be a prompt and generally efficient remedy for toothache, or neuralgic affections arising from teeth in any state of decay:—Saturate a small bit of clean cotton with a strong solution of ammonia, and apply it immediately to the affected tooth. The pleasing contrast instantaneously produced in some cases causes a fit of laughter, although a moment previous extreme suffering and anguish prevailed. A correspondent of the *Scientific American* says he has used the remedy for over one year, and obtained sufficient proof of valuable results to warraut its publication.

DISINFECTANT.—Sick and other rooms may be promptly and readily disinfected by placing a portion of carbolic acid in a porcelain dish, and float it in a larger vessel of hot water, to produce a more rapid evaporation. The disagreeable odor of carbolic acid is not at all difficult to disguise. An *aromatic or perfumed carbolic acid* is prepared by the admixture of oil of lavender, etc., which diffuses an agreeable odor of incense, but leaves the virtues of the acid uuimpaired.

## Eating Without Appetite.

It is wrong to eat without appetite, for it shows there is no gastric juice in the stomach, aud that nature does uot need food, and there not being any fluid to receive and act upon it, it would remain there to putrefy—the very thought of which should be sufficient to deter any man from eating without an appetite, for the remainder of his life. If a tonic is taken to whet the appetite, it is a mistaken course; for its only result is to cause one to eat more, when already an amonnt has been eaten beyond what the gastric juice supplied has been able to prepare. The object to be obtained is a larger supply of gastric juice, not of a larger supply of food; and whatever fails to accomplish that essential object fails to have any efficiency toward the cure of dyspeptic disease; and as the formation of gastric juice is directly proportioned to the wear and waste of the system, which it is to be the means of supplying, and this wear and waste can only take place as the result of excercise, the point is reached again that the efficient remedy for dyspepsia is work—out door work—beneficial and successful in direct proportion as it is agreeable, interestiug and profitable.

## Comfort For Tea Drinkers.

In the life of most persons a period arrives when the stomach no longer digests euough of the ordinary elements of food to make up for the natural daily waste of bodily substances. The size and weight of the body, therefore, begins to diminish more or less perceptibly. At this time tea comes in as a medicine to arrest the waste, to keep the body from falling away too fast, aud thus to enable the energetic powers of digestion still to supply as much as is needed to repair the wear and tear of the solid tissues. No wonder, therefore, that tea should be a favorite, on the oue hand with the poor, whose supply of substantial food is scanty, and on the other with the aged and infirm, especially of the feebler sex whose powers of digestion aud whose bodily substances have together begun to fail. Nor is it surprising that the aged female, who has barely enough of weekly income to buy what are called the common necessaries of life, should yet spend a portion for her ounce of tea. She can live as well on less common food, when she takes her tea along with it; she feels lighter, at the same time more cheerful and fitter for her work, because of the indulgence.

## Influence of Climate on Man.

It is not generally known, but it is nevertheless true, that a pure, moderately dry air generally produces great mental sprightliness, especially with full blooded persons. A cloudy and moist atmosphere, on the other hand produces mental relaxation, and with many, melancholy. This explains why suicides so often happeu when the sky is overcast. The depressed mental state is thus further enhanced. Villenuve reports that of every ten suicides which were committed in Paris during two years, nine took place in the rainy season. The influence of the climate is also well exemplified in the case of mountaineers. They are quicker more active and excitable. The Swiss naturalist, Desor, in a recent essay, describes the climate of North America as very changeable and dry. After having explained a number of phenomena produced by the climate in general, depicts its influence upon the inhabitant of this country. He derives from the climate his activity, acuteness, his tall stature, his eagerness for gain, his practical talent, aud his love of adventure. It is also well known that the inhabitants under a preponderating clear sky possesses more talent for art, while those under a gloomy sky have more propensity for speculation and thought.

TAKE CARE OF THE EYES.—Looking into a bright fire, especially a coal fire, is very injurious to the eyes. Looking at molten iron will soon destroy the sight. Reading in the twilight is injurious to the eyes, as they are obliged to make great exertion. Reading or sewing with a side light injures the eyes, as both eyes should be exposed to an equal degree of light. The reason is, the sympathy between the eyes is so great, that if the pupil of one is dilated by being kept partially in the shade, the one that is most exposed cannot contract itself sufficiently for protection, and will ultimately be injured. Those who wish to preserve their sight, should preserve their general health by correct habits, and give their eyes just work enough, with a due degree of light.

LEIBIG ON APPLES.—Dr Leibig says on apples: "The importance of apples as food has not hitherto been sufficiently estimated and understood. Besides contributing a large proportion of sugar, mucilage and other nutritive compounds in the form of food, they contain such a fine combination of vegetable acids, extractive substances and aromatic principle as to act powerfully in the capacity of refrigerents, tonics and antiseptics; and when freely used at the season of ripeness by rural laborers and others they probably maintain and strengthen the power of productive labor."

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SAN FRANCISCO:
Saturday, May 27, 1871.

## Our Weekly Crop.

We present our guests with a plate of Small Fruits, as they enter our ranch this week, and show them a picture of our new Lawton Blackberry, a delicious species of the berry family. After the introductory dish of fruit, we partake of the more solid feast of reason furnished in our library of Mechanical and Scientific Progress, and then sally forth for a trip around the farm.

Our Improved Asiatic Fowls first claim our attention, and we are shown How to Distinguish the Different Breeds. Next, we pay a visit to the Percheron Horse, who, on a previous occasion, carried us so gallantly on our course, and enquire as to his claims of being the pioneer he calls himself. Passing on to the cocoonery, we see how the Cocoon is Spun, and the Chrysalis Killed. The Apiary invites a call, and we witness the interesting ceremony of Introducing an Italian Queen to Native Bees, and the proper method of Chloroforming the industrious insect.

The review of Agricultural Notes of the Coast may lead some to turn over a new leaf, in a double and practical sense.

The Strawberry in California forms a topic of our conversation, previous to our visit to the Farmer's Wives, whose good practices lead us to consider some Poor Practices, and to speak of a Settled Policy on the Farm. The wives tell us to make Our Homes Beautiful, which we determine do. As we hum a Refrain for the Season, we suddenly change our tune, and come down to every-day life, to examine a Sand-Cap for Axle-Boxes.

Resting a few moments to hear Prof. Pioda elaborate his ideas on the Study of Modern Languages, we see a beautiful New Palace Car whiz by. Then the doctor discourses on Good Health, and we are ready for a fresh start.

The Full-Blooded Stock of the ranch charm us by their fine appearance, and their exhibition causes us to think of exhibiting what we can at the coming Fair of the American Institute, to be held in New York. So we glance over our latest Inventions, to see what we have, and we review the difficulties and pleasures of a Trip Eastward, *via* the C. P. R. R. and also *via* San Gorgonio Pass, and reflect on other cognate matters.

But we find we cannot just now leave our pleasant Home Circle, and we must have a little sport with the Young Folks. And we call on the cook, to study Kitchen Chemistry and to get Receipts and Hints. Then we visit the Market and look over the Premium List of the State Fair at Sacramento, and we determine, as we part, to exhibit somewhere and not to loose, through indifference or laziness, the advantages accruing from such action.

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THE CALIFORNIA COTTON GROWERS AND MANUFACTURERS' ASSOCIATION have received a number of very encouraging offers from owners of extensivs tracts of land in the San Jaichim Valley, with a view to the location of their industry. The Association much regret that Mr. C. J. Pilsbury, of the firm of Marsh, Pilsbury & Co., has found it necessary to decline the position of President of the Association, in consequence of the pressure of his very extensive business.

## Full Blooded Stock.

The day for the introduction and breeding of good stock in California is at hand. The vast ranges, and the immense herds of Spanish cattle are among the things of the past, and it is well for California that such is the fact. It was this old Spanish system of cattle raising that, in the earlier days of our State, operated so much against the introduction and breeding of good stock, and as this old system has now passed away, we may confidently expect that in a very few years California will become one of the best good stock breeding States in the Union. Our farmers are already rapidly waking up to the many advantages to be derived to them as individuals and to the State at large by this change in the stock interests of the country. It is asserted by a large stock owner, and a gentleman who has been posting himself well upon this subject, that the exhibition of blooded cattle at our State Fair this year will not be excelled at any other State Fair in the Union. There are many good cattle in the State that have never heretofore been shown at our fairs, but which, on account of the increasing interest in this line, will this year be brought out for the first time. There are also many new importations being made this year, and these too will be at the fair to contest the awards of premiums and to be assigned a place among the good stock of the State. Good stock is also changing hands at good prices and thus in many ways, the interest in this department of agricultural industry is spreading and increasing.

In confirmation of the foregoing statements we would mention the following facts that have lately come to our knowledge. Gen. Sweezey, the president of the Northern District Agricultural Society, lately purchased of Col. Younger, of Santa Clara County, three calves of the Short-horn breed for which he paid the nice little sum of $2,100. Col. Younger has fifty head of the same kind of stock left.

Mr. Wick, of Oroville, has lately imported from Ohio fourteen head of first-class, Short-horned cattle, which, added to his already fine herd, gives him one of the best herds of full blooded stock in Butte county.

S. B. Emerson, of Mountain View, has just imported from the herds of the association of breeders of full blooded Holstein cattle, of Massachusetts, three head of this fine stock. We are not certain but this is the first lot of this breed of stock in the State. They are said to be among the best cattle for dairy purposes in the world, and if properly managed will sustain their reputation in California.

Peter Saxe, of Troy N. Y., writes the Secretary of the State Board of Agriculture that he intends being at our State Fair with a half a dozen of the best Durham bull calves that can be had in Kentucky. These calves will be for sale, and we predict for them a ready market at good prices; for, as we said in the begining, the day for the introduction and breeding of good stock in Callfornia is at hand.

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EASTERN FRUIT AT OUR STATE FAIR.—Corresponding Secretary Hoag has opened a correspondence with the agricultural and Horticultural Societies of the States east of the Rocky Mountains, with a view to exchanging samples of the different fruits for exhibition at the several fairs this fall. This is a most excellent idea, and we hope it may be successfully carried out. California fruits exhibited at the fairs of the Eastern States will attract great attention and may give many of our Eastern people a touch of the California flavor while it will be a matter of great interest to Californians to be able to compare fruits direct from "the old folks at home" with those grown in their own orchards and gardens. We would call attention, in this connection, to the communication from Mr. Dawson, Superintendent of the New York American Institute Exhibition, which will be found in the next column.

## California and the American Institute Fair.

The following letter, addressed to Mr. S. W. Shaw, of this city, President of the "California Fruit Growers' Association," has been handed us for publication. It fully explains itself, and we trust our fruit growers and others, interested in the productive industries of California, will see to it that the Pacific coast is properly represented at the Exhibition of the American Institute this coming fall. Mr. Shaw authorizes us to state that he proposes to be present at the Fair, and will be most happy to attend, personally, to all California exhibits. We append the letter as follows:

DEAR SIR:—Mr. Lyman, of the N. Y. *Tribune* suggests to me that, as it is desirable that California be properly represented in the fruits as well as other industrial products, at the coming Autumnal Exhibition of National Industries under the management of the American Institute, in New York, you would be one of the best persons to communicate with on the subject. As an old Californian, I am anxious that the land of big beets, big pumpkins, big trees, and big vines—whose fruits are so delicious, whose wines are so good, whose mines teem with as much mineral wealth as does her soil with other virgin products—should let the people of the East perceive with their own eyes some of the big things of which she is capable. They have often read, but do not yet more than half believe the truth, and it will take nothing less than occular demonstration to fully convince them. If you and other progressive Californians will pitch in and send on such a representation of products as will do honor to the State I will take especial pains to secure for them a place in the exhibition according with their merits, and shall also draw particular attention to them through our metropolitan press, so that all may know where to find and admire them. Our annual attendance at these great exhibitions comprises hundreds of thousands, and I have always thought it a pity that the Pacific slope should fail to reap the manifold advantages which an adequate representation of her industries would secure to her. Respectfully,

GEO. F. DAWSON.
Supt. Am. In. Exhibition.

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ASHES AS MANURE.—Wood ashes constitute a most valuable manure on almost any soil. Their chemical constituents consist of silica, alumina, oxide of iron, oxide of manganese, potash, soda, and phosphate. These constituents are all essential to the growth of plants; but potash is the most important of all. It is always needed to decompose the various organic substances which exist in the soil—a change which is prerequisite to their becoming food for plants. Potash also renders many inorganic substances soluble, thus converting inert minerals into useful plant food. Sandy soils are most benefited by the application of ashes, and they are more particularly useful for the following crops:—potatoes, carrots, corn, beans, peas, clover and grass generally. A compost can be made of hen manure, soil and ashes, which is about as valuable as the most expensive guano. This compost may be made by thoroughly mixing 3 parts of finely pulverized soil, one part of hen manure and two parts of unleached wood ashes. Mix well, moisten, and allow to stand from four to eight weeks. Apply dry—a small handful to a hill, as with guano, and the result will repay for the trouble fourfold.

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WEEDS.—A distinguished agricultural writer asserts that "On three-fourths of the farms of New York, one-half of the profits are lost by weeds"—at least fifty millions of dollars! It is also asserted, after careful calculation, that there are enough weeds grown on the cultivated fields of the Union, to load heavily a close line of wagons which would span the globe at its greatest circumference! A cheap and more efficient weed exterminator than any yet produced is an important desideratum for the farmer.

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HOPS.—The English hop crop has been badly damaged by blight.

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THE PARTZ SUGAR REFINER is still on trial at the Alvarado sugarie. The objects of this improvment are to cast the sugar loaf in a single cylinder containing one or more tons, instead of the multitude of small molds at present used—thus saving great space and much maniplation; also, by the use of steam outwardly and hot air forced through the mass, the crystalization is effected more quickly and more perfectly, and with a much less use of white liquor.

Two trials have been made, to test the best consistency in the boiling for this new process, and the proper force and temperature of the hot air injection. It is found that the air freely penetrates the semi-liquid mass and effects the drying, while the syrup discharges freely. A third filling was made on Tuesday last, the sugar having been boiled to a consistency supposed to be better adapted to this process. Great hopes are entertained of final success; a result which will revolutionize an important step in the present costly way of refining raw sugars. The trials are made with raw cane sugars from Peru, the beet sugar of the company's make having been previously sold in market.

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SALT ON TOMATO PLANTS.—F. Meeltz, of Lake county, Ohio, informs the *Small Fruit Record* that he has had most remarkable success in the use of salt upon his tomato plants. He has applied it at various times during the season, and carefully noted the results. In every case its effect has been marked in the increased growth of both plant and fruit. In some cases he laid the roots of backward plants bare, and sprinkled upon them a teaspoonful of ordinary table salt, then covering with soil. Such plants generally took a new start and developed fine fruit. He regards the application as a specific. The soil upon which he experimented is a black, sandy loam.

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THE EDINBURGH REVIEW for April has reached us through the Leonard Scott Publishing Co. of New York. Among the articles there are several of more particular interest to the readers of our coast. To many, Lord Broughton's Recollection of a Long Life will be welcome as giving a lively picture of scenes and men contemporaneous with one of England's most noted characters of recent days—Lord Palmerston. The Applications of Photography forms the subject of an important review; and the exceedingly well written, although a little one-sided, articles entitled "The German Empire," and "Studies of the Recent War" bear on a topic now uppermost in the popular mind.

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HOW TO DESTROY ANTS IN GARDENS.—Lay a piece of board over or near the bed so as not to injure the plants—a shallow, inverted box is good—for a few days, until they collect under it; then scald with hot water. Two or three applications may be required, as these industrious insects are often scattered about. The largest number may be expected to congregate under the trap an hour or two before sundown.

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REFORM IN FRUIT PACKAGES.—There is an effort being made by certain commission fruit dealers to do away entirely with the customary charge for boxes. Many who have had much experience in the business, have become convinced that the charge for packages ought to be charged with the fruit, a course which would do away with a great nuisance, particularly in outside localities where the return of packages is inconvenient or impracticable. If the charge was made to the fruit, cheaper packages might be used, and the extra expense would not equal the annoyance of the present system.

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A LIBERAL ACT.—Leland Stanford, the California Railroad King will give $25,000 to the Odd Fellows' College, located at Napa.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING MAY 9TH.

MANUFACTURE OF ILLUMINATING GAS.—Samuel Hevner, San Francisco, Cal.

BUCKLE.—John F. Martin, Harrisburg, Oregon.

WATER-WHEEL GATE.—Perry W. Davis and Dennis D. Burnell, Portland, Oregon.

## Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency the following are worthy of notice.

IMPROVED SAFETY FUSE. – R. Uren, Santa Cruz, Cal. The object of this invention is to produce a safety fuse which can be manufactured at a less cost than the ordinary fuse heretofore made. The article in question is composed of only two layers of material, instead of three. Its manufacture is accomplished by means of a machine previously patented by Mr. Uren and others. In the ordinary method of manufacture, it is necessary, while twisting the first or main rope (inside of which the powder is confined), to twine around it, in an opposite direction, one or more strands or yarns, called counter yarns, in order that the rope shall not untwist when taken from the drum upon which it is wound in preparing and covering it with the tapes. With the machine above mentioned, it is possible to dispense with winding with the counter yarns, and thus the expense of this operation and material are saved, while an equally durable and effective fuse is obtained.

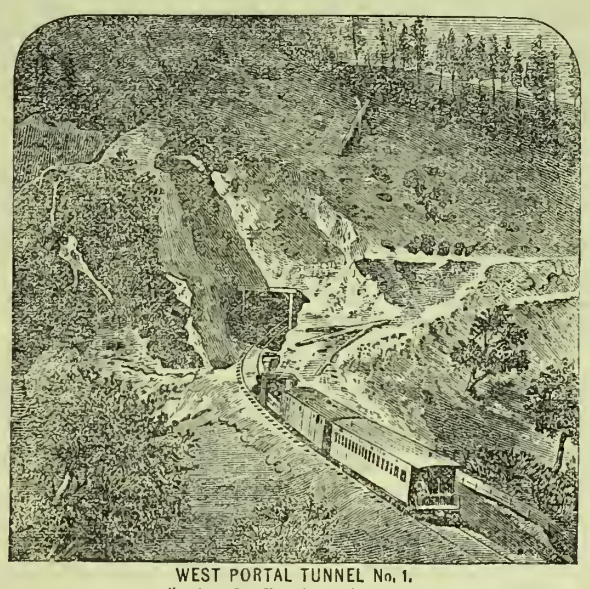
CARBURETTER FOR AIR. —L. Marks, S. F. This machine consists of a vessel, to the lower portion of which is fixed a series of shallow, oppositely-inclined boxes, connecting with one another. Gasoline, or other suitable oil, is placed in the upper box and immediately fills the inclined series. Air is driven into the lower box and forced to follow the inclined boxes, through the gasoline, up into the upper tank, whence it is drawn off for use, having become saturated with the vapors during its passage over the oil. The device is cheap and simple, occupies but little space, and is said to act very well in preparing the air for illuminating purposes.

GARDEN SPRINKLER.—J. I. Spear, S. F. This very neat and effective sprinkler has a hollow annular rim, of triangular cross-section, the upper face of which is rounded from the inner to the outer edge, and perforated with numerous small holes in the manner of any ordinary sprinkler. To the lower side of the rim, pipes or hollow arms are secured at equal distances, and converge to a central hollow boss which is attached to the hose by any suitable means. Any number of these arms may be used, or two V-shaped rings, one placed inside of the other with a space between them, may be used to connect the boss with the rim. The sprinkler stands in a vertical position when in use, and throws a spray or shower of water in all directions, evenly wetting the ground in every part, and, while acting much more effectively than the common sprinkler, forming a very neat ornament.

## Editorial Notes Eastward.—3.

As we continue on, we are continually catching ever varied and beautiful views of the American River, which twists and turns and tosses through the roughest and the wildest and the grandest of places. Now it is in plain sight below us, and now a turn or an intervening rise of the ground conceals it, as we pass on our serpentine path, over a ledge on the face of the mountain or into a low cut in its sides.

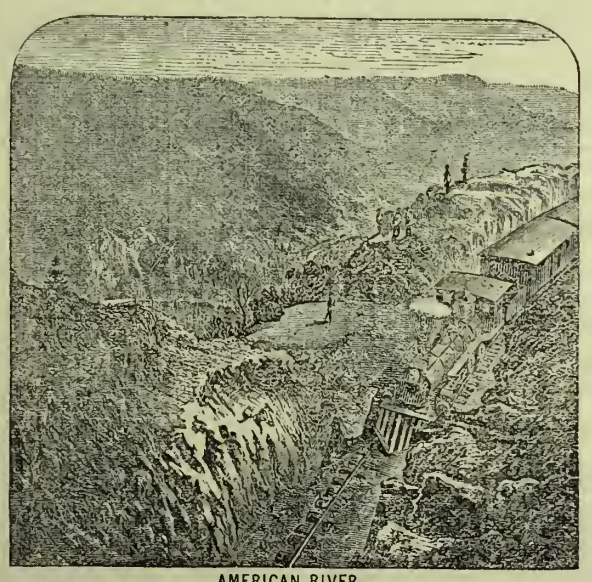
GIANT'S GAP, American River.
[illegible] miles from San Francisco.



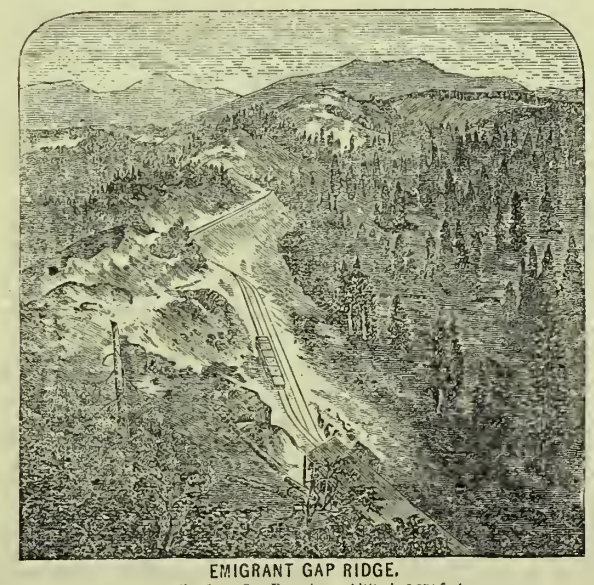
WEST PORTAL TUNNEL No. 1.
215 miles from San Francisco—Altitude 4,574 feet.

Everywhere are rough rocks, high mountains, deep ravines and green trees.

With a shriek we dash into darkness,—into the first tunnel we have yet met, which is burrowed through Grizzly Hill, aptly named. We pass through darkness and smoke, and before we have well accustomed our eyes to the changed condition, we are again in daylight. We come to Blue Cañon, blue with the light smoke rising from the many fires of the hardy



AMERICAN RIVER.
209 miles from San Francisco—Altitude 3,884 feet.



EMIGRANT GAP RIDGE.
222 miles from San Francisco—Altitude 5,374 feet.

wood-cutters, who are engaged in getting lumber for the varied wants of the coast. In the vicinity are numerous mills, which fashion into proper shape the huge trunks, and prepare them for the builder.

Soon we run along along an extended ridge, Emigrant Gap Ridge, so called from the fact that here the road traversed by the old emigrants crossed the divide. This road we shall often view again on our way, and it will recall the weariness and vexation of flesh of former days. The view here is very fine, and the ease of traveling now enables the laziest of mankind to enjoy it. But he must have been possessed of the strongest of limbs, the most indomitable of spirits and the deepest love of Nature, who could appreciate the scene in the days of the stage coach and of the prairie schooner.

We are now getting well up in the world. At Cape Horn we were thirty-five hundred feet above the level of the sea. At Emigrant Gap Ridge we were nineteen hundred feet higher, having risen this distance in the space of eighteen miles. We are rising up into regular Alpine scenery, and soon we shall be at a hight where the snow comes in heavy drifts, and where the greatest ingenuity and skill of man is required to contend against the immense obstacles which Nature's forces present to his progress. But man shows himself the conqueror of Nature, and comes out victorious in all the contests. D.

## San Gorgonio Pass, San Bernardino County.

A correspondent of the Los Angeles *Star* says:—It (the San Gorgonio Pass) is an immense plain, ten to fifteen miles wide, extending before us further than the eye can reach. We had entertained the idea that this famous pass was a narrow gorge in the mountain, hence the scene which opened on us, and expanded in grandeur as we proceeded, took us wholly by surprise. We saw before us a vast extent of country, apparently as flat as a table, wide as the eye could reach, bounded on each side by a lofty range of hills, which, on the right, run up to the San Gorgonio Mountain, and receding toward the desert into low sandhills, as did also the hills on the left. On our left, going out, we pass the ranch of Dr. Edgar, known as the San Gorgonio; next to it the ranch of Dr. Smith, said to be on the divide of the pass; and, three miles further on, the Chapin ranch. Here, ascending a steep hill, with a field-glass, we examined the country down as far as the valley of the White Water, which presented the same characteristics of a dead level plain, barren as the desert, but, as were informed, capable of high cultivation, if water were supplied.

About three miles from where we stood, a fine stream of water rises in the hills, and after supplying Moore's ranch, makes its way out upon the desert. Still farther on, another stream irrigates an Indian settlement, the Potrero, which yields abundantly to the culture of the occupants. This is the last vestige of vegetation; all beyond is a sandy waste, down to the White Water River, a distance of some twenty miles, over which we saw a team slowly dragging its weary way, and over which the stage from Arizona had just passed. Passing down the plain to where the foot-hills run out on the desert, and turning towards the south, the Cabeson valley opens up, from which, to the Colorado, at Fort Yuma, there is not a hill or obstruction of any kind, and so gentle a descent, that in riding over it one cannot perceive the inclination. This is the nearest and cheapest route for the construction of the southern railway, as the surveys will, no doubt, eventually prove. It was on this desert the people of San Bernardino some years since sunk the wells which proved so useful to the immigrants.

Passing down this desert from Chapin's, about twenty miles, and leading in a northeasterly direction, the Morongo Pass opens up, which leads to the Colorado at Fort Mojave, or the Needles, the route by which it is proposed the thirty-fifth parallel road should enter California. This is another open plain, and offers the greatest facility for railway construction.

We may notice certain projected improvements by which it is intended to utilize the White Water River, by leading it from its desert course over the plains of the San Gorgonio Pass. This river rises in the San Bernardino mountain, near to the source of Mill Creek, (we think,) which runs west, while the White Water runs an easterly, useless course, and loses itself among the desert sands of the Cabeson Valley. It is proposed to take out this water, and by ditch and flume, for some nine or ten miles, making use of natural water courses, bring it upon the lands near Dr. Smith's, and there found a colony. The idea is a grand one, but it is as yet in an undeveloped condition, but the preliminary surveys are being made to test the practicability of the plan.

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THE oldest stove probably in the United States, says *Appleton's Journal*, is the one which warms the capitol at Richmond, in Virginia. It was made in England in 1770, and warmed the House of Burgesses for sixty years, before it was removed to its present location, where it has been for thirty years. It has survived three British monarchs; has been contemporaneous with four kingly monarchies, two republics, and two imperial governments in France. The great American republic has been torn by internal strife, the breach partly healed, and still the old stove remains the same, unmoved in the midst of all.

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ARTESIAN WELLS.—A Watsonville correspondent of the *Alta* gives the following as the cost of sinking artesian wells at that place. "Boring,—first 50 feet, 50 cents per foot; second 50 feet, $1; third 50 feet, $1.50; fourth 50 feet, $2.; and so on in proportion to the depth. Pipe for the well costs 75 cents per foot. A well 150 feet deep will cost, including incidental expenses, such as breakage in pipe, etc., about $275."

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OXFORD UNIVERSITY is said to have had 7,000 students during the last term.

BY OUR LADY EDITORS.

## My Neighbor.

BY JEAN B. WASHBURN.

[Written for the PRESS.]

She is active in all childish sports; fancies herself a blooming girl of eighteen, though half a century has furrowed her forehead and trailed lines of white through her brown hair. She has no mental record of those years, whose snowy foot prints have changed her looks, and bent her once upright form.

Some call her idiotic; but it is a simplicity, a childishness without that dreadful void which belongs to idiocy. She once had bright dreams of a future. In the days of her girlhood, she was intelligent, an ordinary girl in smartness, who loved and supposed herself beloved.

We will go back to that blasted youth. Behold her as she stands with a young friend, confiding the expectant bridal ceremony to her, radiant with happiness, trusting, as youth always does in full faith of no disappointment.

"Delia," said her less confiding friend, "Are you perfectly happy?"

"Happy as the sunlight dancing on the river," she answered. "I have all that mortal can desire; a man who loves me, and whom I esteem as the perfection of humanity. Is that not ground for happiness to grow in, Nell?"

"It ought to be; but he neglected you so for a time, that I have not generosity to forgive him, and therefore doubt your future."

"Doubt on, silly girl," she said with a musical laugh, "that misunderstanding you mention, was one of those coquetting quarrels of courtship, that evaporates like mist and leaves no shade behind."

"You don't see it as I do; you look through loves' spectacles, I through a matter-of-fact telescope. I thought he used you cruelly for a time; but if it is all forgotten and forgiven, what can friendship urge against it?"

"I am satisfied, Nell, and desire no greater happiness on earth than the fulfillment of my hopes, which will be realized when I stand at the altar with him. You have not heard how prettily he settled that affair. He protested he did not intend to forsake me for Alice Bryant; that their's was an intimate friendship—no more. And see, this beautiful bracelet cancelled that trouble and he vows he is mine now, as he always was."

Nell answered, "Shall I intrude my knowledge on you; dare I without offence."

"Shall you; of course you shall," she replied smiling; "but anything you could tell would not affect me in the least."

"Did you ever hear that the rich Alice Bryant refused him? Do you know that report is stereotyped gossip, and that after this he came back to Delia Gray—the less rich, but supposed heiress of her bachelor uncle, Thomas Gray?"

"Yes! I've heard lots of nonsense of that sort; but that don't shake my faith in him. Nor would I listen to any tirade from gossips. His own words are my guarantee, and I rely implicitly on all he says, and *his* version of that affair was, that an old friendship existed between them; that in his attention to her he was compelled to neglect me. Bosh! he never thought of that ugly girl, with her great goggle green eyes, and red hair!"

"All right, Nell; you think me acrimonious; but I am a little more matter of fact, a little prouder, that's all. If a man returned to me after a public slight, he'd meet my scorn. I am not meek, like you, Nell, make no pretences to it; so good bye, till that bridal morn when you will appear as empress of the fete—good bye!" There was the usual hearty smack of the lips between them, and Nell went away to teach her music scholars, and Delia to her room, where she reflected with a look of scorn on her handsome features, upon the jealousies that affect a gossiping community!

A week went by—the invitations were abroad, and the invited preparing for the great event. How little one woman regards the rights and feelings of another! Self is too apt to be the lever, that governs their actions; and to humiliate or supersede one another, in the estimation of some petted *roue* of society, is their ill roused ambition to "cut one another out," to wrest from the engaged girl her affianced, seems to be the study of the pleasure seeking woman of the world for centuries.

The bridal day dawned in rich splendor, and at the appointed hour the long line of vehicles stood in pageant before the good old brick mansion of Thomas Gray, Esq. The guests were assembled in the parlors, and the bride, in full regalia, of white satin point lace and orange blossoms, was radiant with loveliness,—a natural and uncosmeticed beauty; so different from most of the girls of these days of "bismuth" and "creme de lis."

Two nights before she had seen her Joseph; but he had not come, as expected, the last night; yet she was satisfied, as he told her only urgent business should detain him.

He sat in his room at the hotel, high up stairs, where the smoke of neighboring factories had grimed the walls; he was elated, dreaming his dreams of the future; his clerkship at the auction room, was a binding, hard life, and ferret like he had been searching round for some easy way of bettering his condition.

He was a beau, with well-oiled locks that were taught to curl, and a waxed moustache that received his earnest attention; he was tall, his face was that of a gentleman rogue, well featured, but dented with small, sharp, black eyes, and a heavy broad chin; his hands and feet would bear inspection for size, and the latter were always encased in irreproachable polished boots. As he sat in his room, in the twilight, he studied over the future. Should he keep his engagement to Delia? She was an heiress, but would not be very wealthy—merely have a moderate fortune. He thought of it, and taking up a pink note, with glittering crest, from the little painted table, read and re-read it, and smacked his lips and ejaculated:—"I'll do it; I must throw Delia overboard. Such a chance as this don't come to a fellow every day, and I'll take it at all odds; I must let Delia go. I wish Alice had repented sooner. To-morrow I was to wed—wed for love; but nary a wed with me. Love, avaunt!" he exclaimed, as he twirled the pink note in his fingers and flung it back on the table. It ran thus:—

"DARLING:—Come to me. I have repented of my action; I will be yours and yours alone. Don't forsake me for Delia Gray. I could not live and bear it.

ALICE."

"I wonder how she thinks Delia will bear it," he said, aloud. "Delia is pretty, Alice is ugly—ugh! positively ugly; but what can a poor fellow do? He must have no heart in the matter; he must make a financial scheme of it, and auction himself to the highest bidder. I'll on with my chapeau, and away to Alice, and let Delia and beauty go drown.

So Delia had waited while Alice and Joseph went strolling down the broad avenue and into a grand saloon to refresh themselves after the reconciliation had made them lovers again.

Then came the splendid sunlight of morning, bringing a hope for realization of happiness that never was to be, to one poor heart that loved and trusted implicitly, and joy to another self-absorbed soul who gloried in her mean triumph over her unconscious rival.

The guests grew very impatient as the hours went by, and no bridegroom appeared, the bride and bridemaids were weary. On the face of Nell Lander, the little sybil, as Delia sometimes called her, sat a look of pain—sorrow for the waiting bride. She trembled lest her fears and presentments were about to become truths.

Uncle Thomas paced the floor in moodiness; the minister walked beside him, his surplice glaring out in filmy whiteness, and the half-opened prayer book in his hand. Uncle Thomas dreaded some disgrace, judging by the past, but the bride comforted her maids with the assurance that he was "the soul of honor, her own kind Joseph," and that "something important kept him away; he would never, never do wrong or deceive her."

Hours passed on, and her "soul of honor" did not appear to make good her opinion of him; but instead came a brief note saying, that he was sorry things had gone so far; but he must be allowed to forego his engagement with her, as he found its fulfillment would peril the happiness of another. He hoped she would forget and forgive him, and learn to be happy by marrying some one else.

The thunderstroke had sounded, but she only saw the flash, and then lay, beautiful in her bridal robes, as beautiful and white as if death was her bridegroom. All the world sunk under her feet, when she read that cruel note. The guests departed, the house was closed, her bridal garments lay upon the floor. She stood upon the wreath crushing it beneath her feet, when good Uncle Thomas came into her room. At sight of him, Delia flung herself at his feet crying, "Uncle, forgive, forgive me, that I should have brought this sorrow on your white hairs; should have brought desolation to your age; that I must be an object of disgrace to you."

Raising her in his arms and kissing her tenderly, he said, choking with emotion: "Not desolation to my age, but to thy youth. Oh! the scoundrel, what must be my course with him!" Delia looked at him, while with her white hands she put back the gray hairs from his wrinkled forehead. There was a strange glare in her eyes; he saw it with startled horror.

He held her off at arms length; her face was convulsed, her lithe form quivered like an aspen, then, with a frantic shriek, she darted from his grasp. He again approached her, as she stood with both hands pressed against her temples. She turned upon him, with a loud laugh, sank helplessly against his breast a writhing maniac!

Years passed in mental darkness over her head, and then the childish being, fond of toys and childish gambols, came out from her cell into the sunshine. She still lives with "Uncle Thomas," and loves him with the simplicity of childhood. She was "MY NEIGHBOR," and I have often been amused at her innocent sports, so foreign to her age, and yet I've imagined that in her ingeniousness perhaps she was nearer God that the scientific scorner, who mocks at the belief in eternal life.

Joseph, the cause of her dementation, is a weak, shabby, old man, who, having lost position and health, is spending his declining years in doing chores in families; while Alice, whom he deserted when her father became bankrupt, is now an old maid, working hard at her sewing machine, earning, by her daily toil, a living for herself and poor, rheumatic, bedridden father. But poverty has improved her, for though aged and homely, she is benevolent; and we hope, in her nobler course of life, is storing up jewels to form an aureola for her withered head in heaven. "My Neighbor," the petted idol of Uncle Thomas, is tracking life's road in affluence, her hair is white, but the little, shrivelled, old woman revels in the fantasies and vagaries of youth, oblivious to the flight of time and the knowledge of her unfortunate bridal day. Joseph and Alice both acknowledge that a life of probity and truth is the only road to happiness.

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ABOUT FURS.—Ladies who are "dieing" to get some of the popular Alaska sable for dress and cloak trimming, may be glad to know that its other name is *skunk skin*, which it often is, the fashionmonger giving it the name by which it is known to the trade, in order to effect a more ready sale. By any other name it would not smell so sweet.

In purchasing furs, a sure test of what dealers call a "prime" fur is the length and density of down next the skin; this can be readily determined by blowing a brisk current of air from the mouth "against the set of the fur." If the fibre opens readily, exposing the skin to the view, reject the article; but if the down is so dense that the breath cannot penetrate it, or at most shows but a small portion of the skin, the article may be accepted.

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THE GREAT AUTHORITY.—The mother of a family was married to an infidel who made jest of religion in the presence of his own children, yet she succeeded in bringing them all up in the fear of the Lord. I asked her one day how she preserved them from the influence of a father whose sentiments were so opposed to her own. This was her answer:—"Because to the authority of a father I do not oppose the authority of a mother, but that of *God*. From their earliest years my children have always seen the Bible upon my table. This holy book has constituted the whole of their religious instruction. I was silent that I might allow it to speak. Did they propose a question, did they commit a fault, did they perform a good action—I opened the Bible, and the Bible answered, reproved or encouraged them. The constant reading of the Scriptures has wrought the prodigy which surprises you."

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THE real way to improve is not so much by varied reading as by finding out your weak points on any subject and mastering them.

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CONSCIENCE is a judge placed in the interior of our being.

# YOUNG FOLKS' COLUMN.

## About Pets.

Yesterday I heard a boy wishing for one of our California gray squirrels for a pet. Some people are very fond of pets, will always have something for a pet. Just so far as petting leads to kindness of feeling, I am in favor of petting. But all cannot afford to have rare and costly pets.

Now I think we might have very interesting pets among those animals which are useful as well as amusing. One of my neighbors has a pet mule. When he comes into the stable and asks if she loves oats, she shakes her head. When he asks if she loves barley, she nods her head several times. She speak as plain as she can.

I once had a pet rooster. He would crow any pleasant day, whenever I told him to.

When I was quite a small boy I had a pet cat, which was the source of much amusement; and besides was as useful in hunting rats and mice as any terrier dog of his size could possibly be. He would come when his name was called, and was always very playful and active, would follow us over the farm, would go with us to elder brothers farm, and hunt as well there as at home.

The neighbors sometimes sent for him, to help destroy mice, while they were threshing the bottom of the mow. We had to be a little more careful with him, when strangers were around and in a strange place.

One time as I lifted a sheaf of wheat the cat sprung under it, and sat there motionless. I took two mice from his mouth, two more from each forepaw, then he got slowly up, and let another run from under his body and caught that. Seven at one jump. Was not that good mousing?

How much better to *pet* the animals about you than to treat them harshly, as many do. I hope that my boys will try to have first class, intelligent animals about them, and then make interesting pets of them all.

JEIGH ARRH.

## Home Made Fun.

We clip the following description of "Potatoe Pantomimes" from the *Hearth and Home*:—"Potato Pantomimes" may be as old as the hills, but I confess not to have heard of or seen them until quite lately. So perhaps you have not. Take a good sized potatoe with a smooth skin; cut out nose, eyes and mouth; twist curled horse hair into the shape of a wig and whiskers or moustache, and fasten on with pins; then make a hole for the forefinger to go into: this gives the head a throat. Wrap a bit of cloth, a handkerchief, or whatnot round the hand, arranging one corner of it around the second finger. Then you have a little man with hands and arms; capable of bowing and moving his head. Make a screen, let four or five youngsters be behind it, each with their potatoe characters; and as they say the words of the charade, burlesque or tragedy let these potato men perform. It is capital fun, and beats Punch and Judy out of the field. Potatoe men have amiable dispositions. They are generally friendly, fond of shaking hands, embracing and nodding their heads cordially at each other. They have a thoughtful way of rubbing their foreheads that is very funny. Sometimes they fight, I admit, but they don't bang each other all the time as Punch and Judy do. Try them.

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THE LANGUAGE OF THE HANDKERCHIEF.—Drawing across the lips—Desirous of an acquaintance.

Drawing across the eyes—I am sorry.
Taking the centre—You are too willing.
Dropping—We will be friends.
Twirling in both hands—Indifference.
Drawing across the cheek—I love you.
Drawing across the hands—I hate you.
Letting it rest on the right cheek—Yes.
Letting it rest on the left cheek—No.
Twirling in the left hand—I love another.
Folding it—I wish to speak with you.
Over the shoulder—Follow me.
Opposite corners in both hands—Wait for me.
Drawing across the forehead—We are watched.
Placed on the right ear—You have changed.
Letting it remain on the eyes—You are cruel.
Winding round the forefinger—I am engaged.
Winding round the third finger—I am married.
Putting in the pocket—No more at present.

# DOMESTIC ECONOMY.

## Chemistry of the Kitchen.

Although it is generally admitted that a thorough knowledge of chemical science would be of value in the kitchen, we do not deem it necessary or desirable that those employed in or directing the labor of the kitchen should be chemical experts, yet a knowledge of the broad principles upon which the more ordinary operations depend, will result in a great improvement in the character of cooking in general, and a great saving in the quality and quantity of provisions and fuel.

We do not propose to enter into any speculative views or improvements, but confine our remarks to principles well established, and universally admitted among all theoretical and practical chemists, although such principles may appear contrary to the preconceived notions of some of our readers.

The subject will be discussed under the heads of Boiling, Roasting, Baking, Stewing and Frying.

*Boiling.*—When a liquid is placed over the fire to boil, the vessel becomes heated, and the particles of the liquid in contact with the heated portion of the vessel also become heated, and rise to the surface, on account of being expanded; by this operation fresh particles of the liquid are constantly being brought into contact with the heated vessel; this action continues, so that the liquid becomes heated throughout. Therefore if the heat be applied at the upper surface of the liquid, *it will not be heated throughout*, as liquids are bad conductors of heat. This can be clearly demonstrated by taking a champagne or other long necked bottle filled with cold water to within about an inch of the top, then hold the bottle in a slanting position, with the neck over and between three and four inches above the flame of an ordinary gas burner or lamp; in a few moments small bubbles will be seen to form in and escape from the water; these are due to the air being expelled from the water. After eight to twelve minutes, the water in the upper portion of the bottle neck will commence to boil violently, and by sliding one hand along up the bottle at about three inches below its mouth will be felt the first indications of the increase of temperature, which indication very rapidly increases as the hand is moved toward the mouth of the bottle; and so great is this increase of temperature that the hand cannot be held to the bottle neck much over an inch above the first mentioned point. Now if the bottle be set upon the table, the above experiments of the hand can be repeated after a quarter of an hour, showing that the heat has not traveled downward by conduction. If, in the commencement of the experiment, ice water be placed in the bottle, a lump of ice can be put in the bottle, having in the first place attached to it a stone, so as to sink it to the bottom; then proceed with the experiment as above set forth; you will then have ice and boiling water in the same bottle. This instructive experiment can be modified by putting the ice and stone into the bottle, then filling it about half full of ice water, after which hold the bottle at an inclination, and fill up by pouring into it, gently, boiling water, allowing the water to run down the side of the bottle; upon placing the bottle upright on the table, it will be found to be cold at the bottom and hot at the top; but if the bottle be now corked and inverted, the cold water will attempt to descend, and the hot water, which has become the lower stratum, attempts to rise; thus the two layers become commingled, and the whole mass reaches a uniform temperature. In making this last experiment it is advisable to do it over a large pan, as the bottle may break when the hot water is being poured into it.

We now return to the liquid over the fire, which, having arrived at the boiling point, *no amount of fire can make it any hotter*. This can be shown by placing a thermometer in the boiling water, then augmenting the fire; the thermometer will not rise, although the ebullition is very much increased. This is explained by the fact that after water arrives at the boiling temperature, it absorbs an additional large amount of heat to convert the water into steam, *which is no hotter than the boiling water;* therefore, when the fire is augmented, the only effect is to form an increase of steam in order to carry off the increased amount of heat. The practical lessons to be learned from these facts are—

1st. Violent boiling does not increase the heat of the liquid, consequently does not cook articles therein more rapidly.

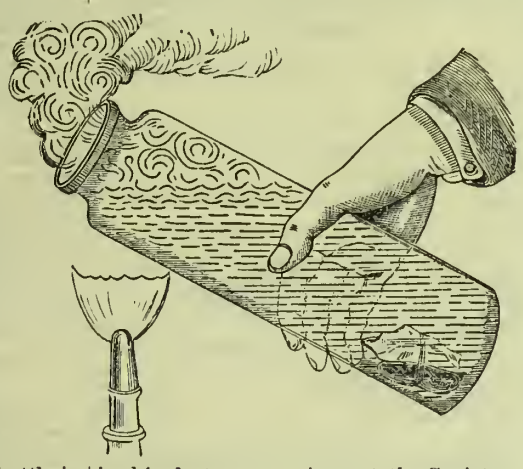
2d. There is a useless consumption of fuel which goes to the generation of steam, which is thrown out into the kitchen, making the air damp and hot, and charged with organic matter.

3d. Steam has the property of carrying off with it the aroma and flavor of vegetable substances, and meats, as shown in the manufacture of attar of roses, oil of peppermint, etc., etc., and therefore the excessive escape of steam incidental to violent boiling deteriorates the quality of the article being cooked.

4th. The violent ebullition throws the articles together, thus bruising them; and in the case of green corn, etc., results in the escape of valuable portions of the food into the boiling liquid.

In our next article we will show the application of the foregoing principles (in connection with others) to the preparation of soups, broths, etc., etc.—*Industrial Press.*

A NEW KIND OF WINE.—Dr. Thudichum,



in his lecture on wines at the Society of Arts, introduced a new wine which had been made from *tea.* He stated that the wine was a good stomachic, and would probably be useful both in ordinary diet and as a medicinal remedy.

## Household Sins.

Some cooks will throw out the water in which meats have been boiled, without letting it cool to take off the fat.

Bits of meat are thrown out which would make hashed meat.

The flour is sifted in a wasteful manner, and the bread pan left sticking to it. Pie crust is laid by to sour instead of making a few tarts for tea.

Cold puddings are considered good for nothing, when often times they can be steamed for the next day.

Dish cloths are thrown down where mice can destroy them.

Vegetables are thrown away that would warm nicely for breakfast.

The scrubbing brush is left in the water.

Tubs and barrels are left in the sun to dry and fall apart.

Nice handled knives are thrown into hot water.

Silver spoons are used to scrape kettles.

Cream is allowed to mould and spoil.

Coffee, tea and spices are left to stand open and lose their strength.

The cork is left out of the molasses jug, and the flies take possession.

Vinegar is drawn into a tin basin and left to stand until both basin and vinegar are spoiled.

Dried fruit is not taken care of in season and becomes wormy.

Potatoes in the cellar grow, and the sprouts are not removed until they become useless.

Pork spoils for want of salt, and beef because the brine wants scalding.

Bones are burned that would make soap.

Clothes are left out on the line to whip to pieces in the wind.

Brooms are never hung up and soon are spoiled.

WASHING TABLE LINEN.—It is poor economy to boil table cloths if brown. It gives them an old, yellow look. White ones may be kept clear by spreading for a few hours in the hot sun. If there are fruit stains on them pour boiling water over them before washing.

## Domestic Receipts.

RHUBARB VINEGAR.—It is said that a very excellent vinegar may be made from the rhubarb plant in the following manner: For *five* gallons take 12 ordinary sized stalks of rhubarb; pound or crush them with a piece of wood in the bottom of a strong tub; add 3 gallons of water; let this stand 24 hours; strain off the crushed rhubarb and add 9 pounds of sugar free from molasses, and a small teacupful of the best brewer's yeast; raise the temperature to 65° or 68°, and put into a 12-gallon cask; place it in a position where the temperature will not fail below 60°. In a month strain off from the grounds, returning it to the cask again, and let it stand till it becomes vinegar.

TO MAKE CLOTHING WATER-PROOF.—Dissolve half a pound of sugar of lead in a bucket of soft water; add half a pound of alum and stir till clear. Put the garment to soak in the liquid for 24 hours, then take out and hang up to dry, *without wringing.* This mode of rendering cloth water-proof is capable of a very wide and useful application. It is applicable to all kinds of cotton goods. Overalls, tents, etc., may, by its use, be made to shed water like a duck's back. The preparation is very simple and cheap, and to persons who affect boating, fishing, or yachting, where they expect to be exposed to the weather for several days, it will prove a valuable receipt.

A SUBSTITUTE FOR MILK OR CREAM.—Beat up the whole of a fresh egg in a basin, and then pour boiling tea over it gradually, to prevent its curdling. It is difficult from the taste to distinguish the composition from rich cream.

## Mechanical Hints.

TO PRODUCE UPON IRON A DURABLE BLACK SHINING VARNISH.—Take oil of turpentine, add to it, drop by drop, and while stirring, strong sulphuric acid, until a syrupy precipitate is formed, and no more of it is produced on further addition of a drop of acid. The liquid is now repeatedly washed with water, every time refreshed after a good stirring, until the water does not exhibit any more acid reaction on being tested with blue litmus paper. The precipitate is next placed upon a cloth filter, and after all the water has run off, the syrupy mass is fit for use. It is painted over the iron with a brush; if it happens to be too stiff, it is previously diluted with some oil of turpentine. Immediately after the iron has been so painted, the paint is burnt in by a gentle heat, and, after cooling, the black surface is rubbed over with a piece of woolen stuff dipped in, and moistened with linseed oil. It is said this varnish is not a simple covering of the surface, but that it chemically combines with the metal, and does not, therefore, wear off or peel off, as other paints and varnishes do, from iron.

PAINTING ZINC.—A difficulty is often experienced in causing oil-colors to adhere to sheet zinc. Roettger recommends the employment of the following composition: One part of chloride of copper, one of nitrate of copper, and one of sal-ammoniac are to be dissolved in sixty four parts of water, to which solution is to be added one part of commercial hydrochloric acid. The sheets of zinc are to be brushed over with this liquid, which gives them a deep black color; in the course of from twelve to twenty-four hours they become dry, and to their now dirty gray surface a coat of any oil-color will firmly adhere. Some sheets of zinc prepared in this way, and afterwards painted, have been found to entirely withstand all the atmospheric changes of winter and summer.

TO BLACKEN ZINC.—Zinc may be given a fine black color, according to Knaffl, by cleaning its surface with sand and sulphuric acid, and immersing for an instant in a solution composed of four parts of sulphate of nickel and ammonia in forty of water, acidulated with one part of sulphuric acid, washing and drying it. The black coating adheres firmly, and takes a bronze color under the burnisher. Brass may be stained black with a liquid containing two parts arsenious acid, four hydrochloric acid, and one of sulphuric acid in eighty parts of water.

CEMENT FOR SEALING EDGES OF THIN GLASS.—Hunt's formula for a cement, which is used for sealing the edges of thin glass is to evaporate Canada balsam to a solid consistence, dissolve it in an equal bulk of benzole and then thicken it to about the density of cream with white lead or zinc ground in oil.

# LIFE THOUGHTS.

EXPECT nothing from him who promises a great deal.

PEOPLE obey willingly when they are commanded kindly.

HOLD your little twinkling light boldly and honestly; then God will pour in the oil and make it a blazing torch.

THE vain man idolizes his own person, and here he is wrong; but he cannot bear his own company, and here he is right.

FROM the small hollow of the dice-box arise fear, rage, convulsions, tears, oaths, blasphemies—as many evils as ever flew from the box of Pandora.

## After All.

It would be a sad thing, to unbelieving ones, if it should transpire that they are mistaken, after all—if in the end they should face death with the painful consciousness of something more than they have counted on beyond. And unless your faith in unbelief is stronger than that of many another, this may happen. The chances are very great indeed, that happen it will any way.

Unbelief is rarely stronger than belief—never so strong when strength is most needed. Unbelief may be in the estimation of certain philosophers, more philosophical than belief, but thousands can testify, have testified, that it is not half so comforting. Philosophy is good, but at certain times comfort is better, and it is always more sweet. Philosophy may help a man to die like a stoic; but belief makes it his glorious privilege to put aside his earthliness like a saint.

Then what does one lose, by believing? Nothing, surely. But what may he not lose, clinging ever to his doubt? It is this possibility of loss that ought to be more carefully considered. Did possible loss attach to both sides of the question of accepting Christ, the skeptic would seem reasonable in skepticism But such is not the fact. Accepting Him as the Savior of the race entails no loss whatever, unless to give up some injurious pleasures count as losing; whereas positively rejecting Him may result in the greatest loss possible to any.

After all your want of faith, there may come an eternity of regrets. After all your unbelieving smiles at the foolish faith of some whom you now choose to denominate simple-minded, you may come to see that in all their foolishness and simple mindedness there was the truest wisdom. Others have known a like experience. Are you wiser than they who have gone before?

A BEAUTIFUL THOUGHT.—God knows what keys in the human soul to touch, in order to draw out its sweeter and most perfect harmonies. They may be the minor strains of sadness and sorrow; they may be the loftier notes of joy and gladness. God knows where the melodies of our nature are, and what discipline will bring them forth. Some with plaintive tongue must walk in lowly vales of weary way; others in loftier hymns sing of nothing but joy, as they tread the mountain tops of life; but they all unite without discord or jar as the ascending anthem of loving and believing hearts finds its way into the chorus of the redeemed in heaven.

PROFUNDITY OF THOUGHT is generally purchased at the expense of versatility. To be very profound it is necessary that the intellectual eye be fixed for a long time on one continued series of operations; to be versatile the mind must glance from subject to subject, and brood over none. Profundity plunges to the depth, while versatility skims the surface of the sea of speculation; while the former is going down, the latter is sporting onward on easy wing.

TO JUDGE OF CHARACTER.—We may judge a man's character by what he loves—what pleases him. If a person manifests delight in low sordid objects, the vulgar song and debasing language; in the misfortunes of his fellows or animals, we may at once determine the complexion of his character. On the contrary, if he love purity, truth, modesty—if virtuous pursuits engage his heart, and draw out his affections—we are satisfied that he is an upright man. When we see a young man fond of fine clothes, and making a fop of himself, it is a sure sign that he thinks the world consists of outside show and ostentation and he is certain to make an unstable man, without true affection or friendship, fond of change and excitement, and wearying of those objects and pursuits which for a time give him pleasure.

## The Mendenhall Theory Again.

EDS. PRESS.—I do not wish to occupy your valuable paper with arguments upon a rain theory that has proven to be a humbug; but when such a correspondent as "Rusticus," whom I judge, by his language and terms to be a learned meteorologist, takes up the defense, with yet strong belief, I would like to know the rock upon which such wonderful and enduring faith is built. As brief as possible, and with due regard to the value of your space, I would like to ask "Rusticus" a few questions:—

1. Has he knowledge of the amount of rain that has fallen in Mexico and Central America, each season, for the last nine; and what is the amount of each season.
2. Is the rainfall in those countries recorded as accurate, and over the county as generally as in this State, and by whom—government or private persons?
3. Where does he get his information as regards the rainfall in those countries?
4. Did his "course of inductive reasoning" lead him to know we were to have a dry season this year?
5. Did the same "course" warn him of the drought of '63 and '64.
6. If he has seen no reason to change his belief, why were we not warned of all our dry years instead of assuring us they were to be wet.
7. If the "theory" is allowed to fail, as all else does, because of a dry season, of what service is it? G. W. T. C.

San Gregorio, May, 1871.

A CURIOUS DOG STORY.—"L. V." sends us the following dog story from Livermore valley. "There is a small bulldog here, about five years old, which has recently taken to crowing [howling?] like a rooster. Every time chanticleer raises his voice the dog chimes in; and he has got to be such an expert at it that one can scarcely distinguish his voice from that of a 'bantam' unless he actually sees the dog in the act of crowing."

THE hen fever is raging in New York in an unmistakable manner. At a recent auction sale of fancy poultry at New York, a trio of light Brahmas brought $52, another trio sold for $40, and eggs from $2 to $5 per dozen. And these prices are called "low."

SAN DIEGO has an abundance of pine apples, oranges, bananas and mangoes.

COAL IN LOS ANGELES COUNTY.—About 40 miles east of Los Angeles, coal of good quality is reported as abundant, and is to be worked immediately.

## The New Erie Sleeping Coaches.

Theconveniences of modern travel—how are they multiplying! Cars heated by hot water lighted with gas, cushions of velvet, walls covered with oil paintings, carpets of the finest Brussels, curtains of tapestry, beds of curled hair, ceilings in fresco, windows of French plate glass, mirrors of the finest quality, seats of carved walnut, walls of splendidly polished hard woods, cornices fit for the finest library, hooks and handles and bars of the finest silver. Such are the appointments of the new sleeping coaches built for the Erie Railway, and which are now running between Cincinnati and New York. They call them Drawing-Room Palace Sleeping Coaches, and they are worthy of the name. They have the comfort of a bed chamber, the beauties of a parlor, and the capacity of a drawing-room. The seats are really luxurious, covered with a species of velvet called French moquette, of the most beautiful colors, and with medallion patterns in the center of each seat. The wood work is all black walnut, with panels of the same material made from the most beautiful veneers cut from the knots of this wood. The work is oiled and polished so that it is as fine as the best furniture. Five fine globes from above, surrounded by rich appointments, furnish light by night. In the main room, after the beds are all put away and hidden from view, the traveler looks upon the walls decorated with twenty oil paintings. In this coach is a parlor or family room, six by nine feet, capable of accommodating six persons. There is nothing apparently that could be added to this to make it more attractive and comfortable. There is still another stateroom in the rear that will accommodate four persons. A wash room at either end furnishes every possible convenience in this line. The bed clothing is of the best, and the amplest arrangements have been made for clean linen.

The coach is warmed by Baker's patent hot water furnace, which is so constructed that, in the event of an accident, the fire will not be communicated to the surrounding wood. Fifty persons can be accommodated in each car.

The Erie and Atlantic Sleeping Coach Company have planted thirty-eight thousand dollars in this marvel of the car kind. Whether it will blossom into handsome returns would seem to admit of no doubt, when it is remembered that the charges on these are the same that are made in the common coaches.—*Indianapolis Journal, Dec. 7th*, 1870.

# Eighteenth Annual Fair

OF THE

CALIFORNIA

# State Agricultural Society,

To commence on the 18th and end on the 23d of September, 1871, at SACRAMENTO CITY.

**OVER $20,000 APPROPRIATED FOR PREMIUMS!**

Liberal SPECIAL PREMIUMS for all worthy articles exhibited, not mentioned in the Schedule. Also, in addition to the Premiums named, the Society will give a GOLD MEDAL to the most Meritorious Exhibition in each of the seven departments.

**The Pavilion will be open for the reception** of Articles for Exhibition on Friday and Saturday, September 15th and 16th, 1871.

## LIST OF PREMIUMS,

Open to all the States and Territories.

## FIRST DEPARTMENT.

### LIVE STOCK.

#### HORSES.

In this department the same animal cannot be entered more than once, except in sweepstakes, or as a colt with its sire or dam, as a member of a family.

No animal will be allowed to compete for a premium unless free from disease or blemish which can be transmitted to posterity.

CLASS 1—THOROUGHBRED HORSES.

In this class none will be permitted to compete but such as furnish a complete pedigree—tracing the entire line of descent to the English parent on the side of both sire and dam. The standard of authority for the pedigree of thoroughbred horses will be the English and American Stud Books.

Best stallion, four years old and over..... $75
Best stallion, three years old..... 50
Best stallion, two years old..... 40
Best stallion, one year old..... 30
Best colt under one year..... 20
Best mare, four years old and over, with colt..... 60
Best mare, four years old and over..... 50
Best mare, three years old..... 40
Best mare, two years old..... 30
Best mare, one year old..... 25
Best mare colt under one year..... 20

**Families.**

Best thoroughbred sire, with not less than ten of his colts, all thoroughbred..... 100
Best thoroughbred dam, with not less than four of her colts, all thoroughbred..... 60
Best stallion, other than thoroughbred, with not less than ten of his colts, open to all..... 75
Best dam, other than thoroughbred, with not less than three of her colts..... 50

CLASS II—HORSES OF ALL WORK.

Best stallion, four years old and over..... 40
Best stallion, three years old..... 30
Best stallion, two years old..... 20
Best stallion, one year old..... 15
Best mare, four years old and over, with colt..... 40
Best mare, four years old and over..... 30
Best mare, three years old..... 20
Best mare, two years old..... 15
Best mare, one year old..... 10

CLASS III—GRADED HORSES.

In this department none will be allowed to compete but such as furnish satisfactory proof of a cross of either sire or dam with thoroughbreds.

Best stallion, four years old and over..... $50
Best stallion, three years old..... 40
Best stallion, two years old..... 30
Best stallion, one year old..... 20
Best colt under one year, without reference to sex.. 20
Best mare, four years old and over..... 40
Best mare, four years old and over, with colt..... 50
Best mare, three years old..... 30
Best mare, two years old..... 20
Best mare, one year old..... 15

CLASS IV—DRAFT HORSES.

Best stallion, four years old and over..... 40
Best stallion, three years old..... 30
Best stallion, two years old..... 20
Best stallion, one year old..... 15
Best mare, four years old and over, with colt.. ..... 40
Best mare, four years over..... 35
Best mare, three years old..... 25
Best mare, two years old..... 20
Best mare, one year old..... 15

CLASS V—ROADSTERS.

All animals competing for a premium in this department must be exhibited in harness.

Best stallion, four years old and over..... $50
Best stallion, three years old..... 40
Best stallion, two years old..... 30
Best gelding, four years old and over..... 40
Best mare, four years old and over..... 40
Best mare, three years old..... 30
Best mare, two years old..... 20

CLASS VI—CARRIAGE HORSES.

Best matched span carriage horses, owned and used as such by one person, silver goblet, worth..... 40

CLASS VII—ROADSTER TEAMS.

Best double team roadsters, owned and used as such by one person, silver goblet, worth..... 40

CLASS VIII—SADDLE HORSES.

Best Saddle Horse..... Fine Bridle

CLASS IX—COLTS.

Free to all except those entered as thoroughbred and graded.

Best yearling horse colt..... $30
Best sucking horse colt..... 20
Best yearling mare colt..... 20
Best sucking mare colt..... 15
Best exhibit of not less than six colts, owned by one person, of any age or sex, can be entered in other classes when allowed by the general rules..... 50

CLASS X—SWEEPSTAKES.

Open to all. In the awards in this department blood will have the preference only when in the examination all other qualifications shall be found equal.

Best stallion of any age, silver pitcher worth..... $150
Best mare of any age, silver pitcher worth..... 100

CLASS XI—JACKS AND MULES.

Best jack..... 50
Best jennet..... 40
Best mule two years old..... 20
Best mule one year old..... 15
Best mule under one year old..... 10

#### CATTLE.

CLASS 1—DURHAM CATTLE.

Best bull, four years old and over..... 75
Best bull, three years old and over..... 40
Best bull, two years old and over..... 30
Best bull, one year old and over..... 25
Best bull calf..... 15
Best cow, four years old and over..... 50
Best cow, three years old and over..... 40
Best cow, two years old and over..... 30
Best cow, one year old and over..... 20
Best heifer calf..... 15
Devons, Herefords, Alderneys, Ayrshires and Holderness—same premiums as for Durhams.

CLASS II—GRADED CATTLE.

Best bull, four years old and over..... 40
Best bull, three years old and over..... 30
Best bull, two years old and over..... 20
Best bull, one year old and over..... 15
Best bull calf..... 10
Best cow, four years old and over..... 30
Best cow, three years old and over..... 20
Best cow, two years old and over..... 15
Best cow, one year old, full blooded..... 10
Best herd of cattle of any one breed, not less than ten, owned by one person..... 100

CLASS III—SWEEPSTAKES.

Best bull of any age or stock, silver pitcher worth.. 100
Best cow of any age or stock, silver pitcher worth.. 75

#### SHEEP AND GOATS.

CLASS I—STOCK SHEEP AND MUTTON.

Best ram two years old and over..... 20
Best ram under two years..... 15
Best three ewes two years old and over..... 15
Best three ewes under two years..... 10

CLASS II—FINE WOOL SHEEP.

Best Spanish merino ram two years old and over.... 30
Best Spanish merino ram under two years..... 20
Best three Spanish merino ram lambs..... 20
Best three Spanish Merino ewes two years old and over..... 20
Best three Spanish merino ewes under two years.... 20
Best five Spanish merino ewe lambs..... 20
Best French merino—same premiums as for Spanish.
Best Cotswold and Leicestershire—same premiums.
Cross between any two thoroughbreds, same premiums.

CLASS III—GRADE OR CROSS WITH SPANISH MERINO.

In this class a statement must be filed with the Committee, of the degree of the cross and the breed of the sheep crossed with.

Best ram two years old and over..... $20
Best ram under two years..... 15
Best three ram lambs..... 20
Best three ewes two years old and over..... 15
Best three ewes under two years..... 15
Best five ewe lambs..... 15
Best grade or cross with French merino—same premiums as for Spanish.
Best cross with Cotswold and Leicestershire—same premiums as for Spanish.

CLASS IV—SWEEPSTAKES ON SHEEP.

Best buck of any age or breed, silver goblet..... $30
Best ewe of any age or breed, silver goblet..... 25
Best pen of not less than five ewes of any age or breed, silver goblet..... 30

CLASS V—CASHMERE AND ANGORA GOATS.

Best thoroughbred buck..... $30
Best thoroughbred she goat..... 20
Best thoroughbred three kids..... 20
Best graded lot of three..... 15

#### Swine.

CLASS I—LARGE BREEDS, WHICH, WHEN FAT, WILL WEIGH AT MATURE AGE OVER 300 POUNDS.

Best boar two years old and over..... $30
Best boar under two years old..... 20
Best boar six months old and less than one year.... 10
Best breeding sow two years and over..... 25
Best breeding sow one year old..... 15
Best sow six months old and under one year..... 10
Best lot of not less than six pigs, not less than five nor more than ten months old..... 20

#### POULTRY.

CLASS I.

Best lot of white or gray Dorkings..... $5
Best lot of black Spanish..... 5
Best lot of black Poland..... 5
Best lot of Jersey Blues..... 5
Best lot of Sumatra game..... 5
Best lot of English game..... 6
Best lot of light Brahmas..... 5
Best lot of any other distinct variety..... 5
Best lot of turkeys..... 5
Best lot of ducks, any good variety..... 5
Best lot of geese..... 5
Best lot of Guinea fowls..... 5

## SECOND DEPARTMENT.

### Machinery, Implements, Etc.

Models in Classes I, II, III and IV cannot compete with full sized machines.

All machinery, as far as practicable, to be exhibited in motion.

All articles named in Classes I, II, III, IV, V, VI and VII of this Department, if of California manufacture, will receive the premium offered and diploma; if not, they will be awarded a diploma only.

CLASS 1—MACHINERY, ENGINES, ETC.

Best display of general machinery from one shop... $50
Best light portable prospecting mill for reducing quartz..... 25
Best machine for saving quartz sulphurets..... 25
Best concentrator for copper ores..... 25
Best grinding and amalgamating pan combined..... 25
Best turbin wheel (Cal. manufacture)..... 25
Best quartz crusher (Cal. manufacture)..... 25
Best steam engine (Cal. manufacture)..... 50
Best portable steam engine (Cal. manufacture)..... 25
Best portable sawmill..... 20
Best saw gummer..... 2
Best self-setting sawmill head block..... 5
Best stave machine..... 5
Best shingle machine..... 5
Best lathe machine..... 5
Best hoop machine..... 5
Best molding machine..... 5
Best mortising machine..... 5
Best sash machine..... 5
Best tenoning machine..... 5
Best scroll sawing machine..... 5
Best wood turning lathe..... 5
Best iron turning lathe..... 5
Best iron planing machine..... 10
Best wood planing machine..... 10
Best water wheel..... 10

CLASS II—AGRICULTURAL MACHINES (FIRST DIVISION).

Best display of agricultural machinery by any one house (Cal. manufacture)..... $50
Best threshing machine..... Fr. diploma
Best sweep horse power (Cal. manufacture)..... 10
Best endless chain, horse power (Cal. manufacture) 10
Best threshing machine, operated by endless chain power..... 10
Best circular sawmill, operated by horse power..... 10
Best log crosscut sawmill, horse power..... 10
Best clover huller and cleaner..... 5
Best clover huller..... 5
Best hemp and flax dressing machine..... 10
Best cider mill and press..... 10
Best horse hay rake..... 10
Best hay and straw cutter..... 5
Best hay press..... 20
Best power corn sheller..... 5
Best hand corn sheller..... 5

If possible, the Board will manage to have a grand trial of reaping and threshing machines, to come off during the Fair, and will give special premiums for the same.

CLASS III—AGRICULTURAL MACHINES (SECOND DIVISION).

Best header (Cal. manufacture)..... $50
Best wheat drill (two horse)..... 10
Best wheat drill (one horse)..... 5
Best grain broadcast sowing machine..... 10
Best machine for cutting and shocking corn..... 5
Best clover seed harvester..... 5
Best self-raking and reaping machine..... 10
Best reaping machine..... 10
Best mowing machine..... 10
Best combined reaper and mower..... 20
Best display of reaping and mowing machine knives 5
Best hay pitching machine..... 5
Best corn planter (horse power)..... 5
Best corn planter (hand)..... 2
Best potato planter..... 5
Best potato digger..... 5
Best field roller and crusher..... 10
Best harrow..... 5
Best one-horse corn cultivator..... 5
Best two-horse corn cultivator..... 10
Best horse hoe..... 5
Best double shovel plow..... 5

CLASS IV—AGRICULTURAL MACHINES (THIRD DIVISION).

Best smut machine..... $10
Best farm feed mill..... 10
Best fanning mill..... 5
Best flour packing machine..... 5
Best self-regulating windmill..... 15
Best stock scales for general purposes, to be set up by exhibitor, and be used by the Board during the Fair, free of charge..... 25
Best platform scales..... 5
Best stump extractor..... 10
Best brick machine..... 10
Best drain tile machine..... 10
Best farm gate..... 15
Best beehive (without bees)..... 3
Best refrigerator..... 5
Best agricultural boiler..... 5
Best portable fence..... 20
Best ornamental fence..... 10
Best economical fence for tule land..... 25

CLASS V—TOOLS AND HOUSEHOLD IMPLEMENTS.

Best display of haying and harvesting tools..... $20
Best set of draining tools..... 5
Best farm road scraper..... 2
Best garden seed drill..... 2
Best cheese press..... 10
Best cheese vat, with heater attached..... 10
Best cheese shelf model..... 5
Best churn..... 10
Best butter worker..... 5
Best cabbage cutter..... 2
Best sausage meat cutter and stuffer..... 5
Best washing machine..... Diploma and 5
Best clothes wringer..... Diploma
Best mangle or ironing machine..... 5
Best clothes horse, to occupy the least space..... 5
Best well pump..... 10
Best apparatus for raising water for irrigating purposes..... 20
Best apparatus for raising water for mining purposes 20

CLASS VI—PLOWS.

Best steam plow, to be tested to the satisfaction of the Committee, and its utility fully demonstrated. $200
Best two-gang plow..... 40
Best plow for general purposes..... 10
Best stubble plow..... 10
Best sod plow..... 10
Best steel plow..... 10
Best cast iron plow..... 10
Best subsoil plow..... 10
Best sidehill plow..... 5
Best one horse plow..... 5
Best mole or blind ditching plow..... 10
Best open ditching plow..... 10
Best dynamometer..... 10

The Board will furnish to exhibitors suitable grounds for practically testing their plows, under the direction of the Awarding Committee.

CLASS VII—VEHICLES.

Best two-horse family carriage..... Diploma and $30
Best one-horse family carriage..... Diploma and 25
Best top buggy..... Diploma and 20
Best trotting wagon..... Diploma and 15
Best farm wagon for general purposes..... 15
Best spring market wagon..... 15
Best cart..... 5
Best street goods wagon..... 5
Best wagon or carriage brake..... 5
Best jackscrew..... 5
Best carriage or cab for children..... 5
Best display of carriage wheels, hubs, etc..... 10

## THIRD DEPARTMENT.

### TEXTILE FABRICS—MILL AND DOMESTIC PRODUCTS.

#### Textile Fabrics and Materials of which they are Made.

Articles to be exhibited by manufacturer, and articles which heretofore have received a premium, to be excluded from competition, except in Class VI.

CLASS I—FABRICS MADE FROM CALIFORNIA SILK.

Best specimen of silk manufactured, not less than five yards..... $20
Best pound reel silk, made in family..... 10
Best pound sewing silk, made in family..... 10
Best specimen of raw silk goods..... 10
Best pair of silk stockings..... 10
Best pair of silk gloves..... 10
Best silk shawl..... 20
Best silk cravat..... 10
Best piece of pocket handkerchiefs..... 10

CLASS II—MILL FABRICS.

Best display of woolen goods by one manufactory... $50
Best display of cotton goods by one manufactory... 50
Best ten yards woolen cloth..... 5
Best ten yards cassimere..... 5
Best ten yards satinet..... 5
Best ten yards jean..... 5
Best ten yards floor oil cloth..... 10
Best ten yards tweed..... 5
Best ten yards cloth of flax cotton..... 5
Best piece cotton sheeting..... 5
Best ten yards of flannel..... 5
Best fifteen yards woolen carpet..... 20
Best fifteen yards tow cloth..... 5
Best ten yards linen..... 20
Best ten yards linen diaper..... 10
Best ten yards kersey..... 5
Best hearth rug..... 5
Best double carpet coverlet..... 5
Best pound linen sewing thread..... 5
Best shawl..... 5
Best mackinac blanket..... 5
Best pair woolen blankets..... 5
Best stocking yarn..... 3
Best oil cloth table cover..... 5
Best display of cordage..... Diploma and 5

CLASS III—NEEDLE, SHELL AND WAXWORK CLOTHING, HATS, CAPS, FURS, ETC.

Best exhibit and greatest number of articles in this class..... Fr. Diploma and $10
Best ottoman cover..... 5
Best table cover..... 5
Best fancy chairwork with needle..... 5

Best fancy chair cushion and back ..... 5
Best woolen shawl ..... 5
Best crotchet shawl ..... 5
Best worked shawl ..... 5
Best lace cape ..... 3
Best lampstand mat ..... 3
Best ornamental needlework ..... 5
Best silk embroidery ..... 5
Best embroidered sofa cushion ..... 5
Best embroidered mantilla ..... 5
Best embroidered table spread ..... 5
Best embroidered dressing gown ..... 5
Best embroidered lady's robe ..... 5
Best embroidered lady's dress ..... 5
Best embroidered children's clothes ..... 5
Best embroidered undersleeves ..... 3
Best embroidered lady's collar ..... 3
Best embroidered handkerchief ..... 3
Best chenille embroidery ..... 5
Best embroidery with beads ..... 5
Best tatting collar ..... 3
Best worked collar ..... 3
Best worked veil ..... 3
Best worked handkerchief ..... 3
Best silk bonnet ..... 5
Best velvet bonnet ..... 5
Best knit cloak ..... 3
Best exhibit of men's clothing ..... 10
Best exhibit of boys' clothing ..... 5
Best exhibit of men's hats and caps ..... 5
Best collection of furs ..... 10
Best assortment leather gloves and mittens ..... 5
Best variety of linen embroidery ..... 10
Best group of artificial flowers ..... 10
Best variety of artificial flowers ..... 5
Best specimen of wax flowers ..... 5
Best group of wax flowers ..... 5
Best specimen of wax fruit ..... 5
Best and largest variety of wax fruit ..... 5
Best specimen of moss or lichen work ..... 5
Best specimen cone work ..... 5
Best specimen leaf work ..... 5
Best specimen flower work ..... 5
Best specimen shell work ..... 5
Best braid of straw or grass ..... 5
Best specimen of braid work ..... 5
Best embroidered picture ..... 10
Best white quilt ..... 5
Best worked quilt ..... 5
Best silk quilt ..... 5
Best patchwork quilt ..... 5
Best children's afghan ..... 5
Best display of millinery ..... 20

CLASS IV—HOUSEHOLD FABRICS.

No article manufactured in factories or out of the family will be received in this class. Exhibitors must accompany their articles with a certificate of manufacture in the family within the year.

Best ten yards jean ..... $10
Best pair woolen blankets ..... 10
Best ten yards flannel ..... 10
Best woolen carpet, fifteen yards ..... 10
Best ten yards linen ..... 10
Best ten yards linen diaper ..... 10
Best ten yards kersey ..... 5
Best pair kersey blankets ..... 10
Best rag carpet, fifteen yards ..... 10
Best fifteen yards of tow cloth ..... 5
Best hearth rug ..... 5
Best double carpet coverlet ..... 5
Best pair woolen knit stockings ..... 3
Best pair of cotton knit stockings ..... 3
Best pair by misses under twelve years of age ..... 5
Best pound of linen sewing thread ..... 3
Best pair of woolen fringe mittens ..... 3
Best pair of woolen mittens ..... 3
Best pair by misses under twelve years of age ..... 5
Best pair of woolen stockings by misses under twelve years of age ..... 5
Best linen handkerchiefs ..... 5
Best netting ..... 3
Best worsted knit stockings ..... 3
Best stocking yarn ..... 5
Best woolen shawl ..... 5
Best mill bag ..... 5
Best woolen knit drawers ..... 5
Best woolen knit shirt ..... 5
Best foot mats ..... 3
Best straw hat ..... 5
Best straw bonnet ..... 5
Best grass bonnet ..... 5
Best grass hat ..... 5
Best gentleman's shirt ..... 5
Best knit bedspread ..... 5
Best wove bedspread ..... 5
Best ten pounds dressed flax ..... 10
Best five pounds flax cotton ..... 10
Best five pounds flax yarn ..... 5

Articles exhibited by misses under ten years of age, entrance free.

CLASS V—SADDLERS' AND SHOEMAKERS' WARE AND MISCELLANEOUS ARTICLES.

Best traveling trunk ..... $10
Best carpet sack ..... 5
Best set of carriage harness ..... 10
Best set of farm harness ..... 10
Best display of leather ..... 10
Best display of saddles and bridles ..... 10
Best display of hames ..... 3
Best display of saddletrees ..... 3
Best display of brushes ..... 3
Best display of shoe lasts, pegs and lasting machine ..... 5
Best pair of dress boots ..... 5
Best pair of heavy boots ..... 5
Best pair of gent's dress shoes ..... 5
Best pair of Congress gaiters ..... 5
Best pair of ladies' gaiters ..... 3
Best pair of ladies' slippers ..... 3
Best pair of bootees ..... 3
Best display of bound account books ..... 5
Best display of paper ..... 5
Best display of paper hangings and borders ..... 5
Best silk hat ..... 5
Best soft hat ..... 5
Best made suit of gentleman's clothing ..... 10
Best display of printing ..... 10
Best display of gloves and mittens ..... 3
Best display of ladies' furs ..... 10

## FOURTH DEPARTMENT.

### MECHANICAL PRODUCTS.

All products of industry competing for premiums are to be exhibited by or for the maker or improver or inventor.

CLASS I—WORKED METALS.

Best display of copper work ..... Diploma and $20
Best display of brass work ..... Diploma and 20
Best display of axes ..... 5
Best display of locks ..... 5
Best display of door trimmings ..... 5
Best display of window trimmings ..... 5
Best display of window, blind or shutter trimmings ..... 5
Best display of saddlers' hardware ..... 5
Best display of horseshoes ..... 5
Best display of horseshoe nails ..... 5
Best display of plumbers' goods and ware ..... Diploma and 10
Best display of gas chandeliers and burners ..... Diploma and 10
Best display of lamps ..... 10
Best display of general hardware ..... 10
Best display of iron and steel ..... 5
Best display of iron fencing including post ..... 10
Best display of mechanics' tools ..... 10
Best display of table cutlery ..... 5
Best display of pocket cutlery ..... 5
Best display of silver ware ..... 10
Best display of Britannia ware ..... 5
Best display of clocks ..... 10
Best display of kitchen utensils of brass or copper ..... 10
Best display of kitchen utensils of tin ..... 5
Best circular saws ..... 5
Best mill saws ..... 5
Best hand saws ..... 5
Best display of files ..... 5
Best burglar and fireproof safe ..... 20
Best collection of California marble ..... 25

CLASS II—STOVES, CASTINGS, ETC.

Best cooking stove for wood ..... $ 5
Best cooking stove for coal ..... 5
Best parlor stove ..... 5
Best warming furnace or other furnace ..... 5
Best cooking range ..... 10
Best parlor grate ..... 3
Best pair ornamental iron vases ..... 3
Best specimen of marbleized iron ..... 3
Best specimen of marbleized stone ..... 5
Best specimen of marbleized wood ..... 5
Best display of hollow iron ware ..... 5
Best ornamental statuary ..... 5
Best ornamental fruit and flower stand ..... 5
Best church bell ..... 20
Best farm bell ..... 5
Best chime of bells ..... 5

CLASS III—MUSICAL INSTRUMENTS, CABINET WARE—CALIFORNIA MANUFACTURE.

Best grand or semi-grand pianoforte ..... $20
Best boudoir piano ..... 20
Best square piano ..... 20
Best parlor piano ..... 10
Best dressing bureau ..... 10
Best sofa ..... 10
Best lounge ..... 5
Best extension table ..... 5
Best office chair ..... 5
Best set of parlor chairs ..... 10
Best center table ..... 5
Best pair of side tables ..... 5
Best set of parlor furniture ..... 20
Best display of furniture ..... 20
Best display of mattresses ..... 5
Best seats and desks for schools ..... 5
Best writing desk ..... 5
Best book case ..... 5
Best wardrobe ..... 10
Best sick chair or couch ..... 5

CLASS IV—WOODEN WARE.

Best display of cedar ware ..... $ 5
Best display of pine ware ..... 5
Best display of oak ware ..... 5
Best display of window shades ..... 5
Best display of window blinds ..... 5
Best display of willow ware ..... 10
Best display of splitwood baskets ..... 5
Best display of pine, oak or walnut doors ..... 10
Best display of flour, pork and tight barrels ..... 10
Best display of turning-lathe work ..... 5
Best display of osier willow ..... 5
Best wine cask ..... 10
Best display of wooden ware ..... 50

CLASS V—PHILOSOPHICAL, SURGICAL, DENTAL, DRAWING, PAINTING, SURVEYING AND LEVELING INSTRUMENTS AND APPARATUS, ETC., OF FINE WORKMANSHIP, EXHIBITED BY MAKER—AMERICAN MANUFACTURE.

Best surgical instruments ..... Diploma
Best set optical instruments ..... Diploma
Best dentist's instruments ..... Diploma
Best set of mathematical and philosophical instruments ..... Diploma
Best specimens dentistry ..... Diploma
Best theodolite ..... Diploma
Best level ..... Diploma
Best surveyor's compass ..... Diploma
Best achromatic telescope ..... Diploma
Best reflecting telescope ..... Diploma
Best optical apparatus ..... Diploma
Best balance ..... Diploma
Best thermometer ..... Diploma
Best barometer ..... Diploma
Best electro-magnetic apparatus ..... Diploma
Best electric telegraph ..... Diploma
Best electric machine ..... Diploma
Best galvanic battery and apparatus ..... Diploma
Best set drawing instruments ..... Diploma
Best chronometer ..... Diploma
Best clock (eight day) ..... Diploma
Best specimen silverware, with agricultural designs, suitable for premiums ..... Diploma
Best specimen Argentine or Britannia ware ..... Diploma
Best turned and cast Britannia ..... Diploma

CLASS VI—CHEMICALS.

Best ivory black ..... $ 5
Best Prussian blue ..... 5
Best copal varnish ..... 5
Best glue ..... 5
Best prussiate of potash ..... 5
Best linseed oil (5 gallons) ..... 10
Best white lead ..... 5
Best display of soap ..... Silver Medal
Best display of soap (California make ..... $ 0
Best specimen of lard oil ..... 5
Best five gallons of castor oil ..... 10
Best display of potash, saleratus, pearlash and other alkalies ..... 5
Best display of writing fluid ..... 2
Best display of blacking ..... 3
Best display of lubricating petroleum ..... 5
Best display of illuminating petroleum ..... 5

CLASS VII—GLASS, CROCKERY, STONEWARE, BRICKS AND TILES—AMERICAN MANUFACTURE.

Best specimen Rockingham ware ..... Diploma
Best stoneware ..... Diploma
Best specimen ground glass ..... Diploma
Best specimen stained glass ..... Diploma
Best water pipe of water lime ..... Diploma
Best sample drain tile ..... $5
Best roofing tiles ..... 5
Best flooring ..... 5
Best looking glass ..... Diploma
Best plate glass ..... Diploma
Best window glass ..... Diploma
Best flint glass ..... Diploma
Best bottle glass ..... Diploma
Best bottles, green glass ..... Diploma
Best tincture and other stoppered bottles and vials ..... Diploma
Best retorts and receivers, tubulated and plain ..... Diploma
Best demijohns ..... Diploma
Best carboys ..... Diploma
Best terra cotta ..... Diploma
Best fire bricks ..... $3
Best pressed brick ..... Diploma
Best pottery, various kinds ..... Silver Medal
Best display of stoneware ..... $10
Best display of glassware ..... 10
Best display of queensware ..... 5
Best dressed stone ..... 5
Best mill stone ..... 5
Best marble of California ..... 10
Best barrel common salt ..... 3
Best sack table salt ..... 3
Best barrel lime ..... 5
Best hydraulic cement ..... 5

CLASS VIII—MINERALS, FOSSILS, BIRDS, FISHES, ETC.

Best set of useful minerals of California, including coals of California, iron ores of California, limestones of California, marbles of California, sandstones of California, marls of California, peats of California, soils of California, salt waters of California, minerals of California, potters' clay of California, fire clay of California, burr stones of California, gypsum of California ..... $20

For the following articles, such awards as the Board shall deem best, on the recommendation of the Committee, will be made:

Best collection o minerals illustrating the geology of California.
Best collection illustrating the ornithology of California.
Best collection of natural fishes, living or dead.
Best suit of crystallized minerals of California.
Best suit of crystallized minerals from all parts of the world.
Best suit of fossils of California.
Best suit of the vegetable kingdom, including the woods and most useful plants and native grasses of California.
Best suit of the animal kingdom, including insects injurious to the farmer.

## FIFTH DEPARTMENT.

### AGRICULTURAL PRODUCTS.

#### Farm Products, Food, Condiments, Etc.

CLASS I—SILK.

Best exhibition of the silk business, from the mulberry tree to the silk cocoon, including the feeding of the worms, their eggs, etc ..... $50
For the greatest number of useful forest trees planted in permanent plantation during the year .. 50

CLASS II—FLOUR AND GRAIN.

All parties desiring to compete for premiums on flour, wheat or barley, and who will send the required samples to be exhibited to J. W. H. Campbell, San Francisco, or to H. G. Smith, Sacramento, will be paid the market price for the flour or grain, and the same will be properly labeled with the producer's name and be exhibited for him; and also, will be paid any premiums awarded to the same. The object of this arrangement is to secure a good exhibition and to save trouble to the producer.

Best sack wheat flour (California manufactured and California wheat) ..... Silver Medal
Best two bushels of wheat of the Chile variety ..... $10
Best two bushels of wheat of the Australian variety 10
Best two bushels of the Club variety ..... 10
Best two bushels of any other variety ..... 10
The premium wheat to become the property of the State Board of Agriculture.
Best sample of rye, not less than two bushels ..... 10
Best sample of oats, not less than two bushels ..... 5
Best sample of barley, not less than two bushels ..... 5
Best sample of buckwheat, not less than one-half bushel ..... 5
Best sample of flax seed, not less than one-half bushel ..... 5
Best sample of hops, not less than twenty-five pounds ..... 5
Best sample of timothy, not less than one-half bushel ..... 5
Best sample of clover seed, not less than one-half bushel ..... 5
Best sample of blue grass seed, not less than one-half bushel ..... 5
Best sample of red top seed, not less than one-half bushel ..... 5
Best sample of orchard grass seed, not less than one-half bushel ..... 5
Best bushel yellow corn ..... 5
Best bushel white corn ..... 5
Best bushel early corn ..... 5
Best exhibit garden seeds of California production, not less than twenty-five varieties ..... 10

Evidence must be presented showing that the grain, vegetables and products have been grown by the exhibitor.

CLASS III—CHEESE (DOMESTIC MANUFACTURE).

Best cheese one year old and over ..... $15
Best cheese under one year old ..... 10

CLASS IV—CHEESE (FACTORY MADE).

Best cheese one year old and over ..... $15
Best cheese under one year old ..... 10

CLASS V—SWEEPSTAKES ON CHEESE.

For the best and largest display of cheese ..... Diploma and $20

CLASS V—BUTTER, BREAD, ETC.

Best lot ten pounds of butter, in rolls ..... $10
Best tub of firkin, not less than twenty-five pounds, at least three months old ..... 15
Best four loaves of baker's bread not less than forty-eight hours old ..... 3
Best pilot bread ..... 2
Best biscuit ..... 2
Best soda biscuit ..... 2
Best crackers, butter ..... 2
Best crackers, sweet ..... 2
Best crackers, Boston ..... 2
Best domestic corn bread ..... 5
Best domestic rye bread ..... 5
Best domestic brown bread ..... 5
Best domestic wheat bread ..... 5

CLASS VII—HONEY, PRESERVES, PICKLES, ETC.

Best ten pounds honey ..... $5
Best canned tomatoes ..... 3
Best canned blackberries ..... 3
Best canned raspberries ..... 3
Best canned peaches ..... 3
Best canned pears ..... 3
Best canned apples ..... 3
Best canned quinces ..... 3
Best canned cherries ..... 3
Best canned gooseberries ..... 3
Best canned currants ..... 3
Best canned grapes ..... 3
Largest and best variety of canned fruits ..... Diploma
Largest and best variety of canned jellies ..... Diploma
Largest and best variety of canned preserves ..... Diploma
Best apple jelly ..... $3
Best currant jelly ..... 3
Best peach jelly ..... 3
Best quince jelly ..... 3
Best preserved quinces ..... 3
Best preserved peaches ..... 3
Best preserved pears ..... 3
Best preserved apples ..... 3
Best preserved plums ..... 3
Best tomato catsup ..... 3
Best cucumber catsup ..... 3
Best pickled cucumbers ..... 3
Best pickled peaches ..... 3
Best pickled tomatoes ..... 3
Best pickled walnuts ..... 3
Best pickled mangoes and melons ..... 3
Best pickled onions ..... 3
Best pickled gerkins ..... 3
Best specimen of concentrated vegetables ..... 3
Best specimen of concentrated milk ..... 3

CLASS VIII—WINES, SUGARS, SYRUP AND BRANDY.

Best white still wine, four years old ..... $10
Best white still wine, three years old ..... 10
Best white still wine, two years old ..... 10
Best white still wine, one year old ..... 10
Red wines—same premiums as white wines.
White sparkling wines—same premiums as white still wines.
Best port wine ..... 10
Best claret wine ..... 10
Best sherry wine ..... 10
Best exhibit of wines from foreign grapes ..... 20
Best exhibit of wines from native grapes ..... 20
Best brandy made from grapes, one year old ..... 10
Best brandy made from grapes, two years old ..... 15
Best brandy made from grapes, three years old and over ..... 25
Best brandy made from peaches ..... 15
All wines and brandy must be the product of the exhibitors.
Best one hundred pounds of sugar made from sugar beet ..... $20
Best one hundred pounds of sugar made from Chinese cane ..... 20
Best one hundred pounds sugar made from melons ..... 20
Best five gallons syrup from either of the above named articles ..... 10

CLASS IX—VEGETABLES, ROOTS, ETC.

All articles in this class are to be raised by the exhibitor.

Best half bushel red potatoes ..... $5
Best half bushel white potatoes ..... 5
Best half bushel of any other variety ..... 5
Best and greatest variety of Irish potatoes, half peck of each variety ..... 10
Best half bushel sweet potatoes ..... 5
Best twelve parsnips ..... 3
Best twelve carrots ..... 3
Best six long blood beets ..... 3
Best six turnip beets ..... 3
Best six sugar beets ..... 3
Best display of beets in variety and quality ..... 5
Best peck of tomatoes ..... 3
Best display of tomatoes, variety and quality ..... 5
Best six drumhead cabbages ..... 3
Best six heads of red Dutch cabbage ..... 3
Best six heads of any other variety ..... 3
Best three heads of cauliflower ..... 3
Best three heads of brocoli ..... 3
Best six heads of lettuce ..... 2
Best half peck of red onions ..... 3
Best half peck of yellow onions ..... 3
Best half peck of white onions ..... 3
Best display of onions in variety and quality ..... 5
Best half peck of peppers for pickling ..... 3
Best display of peppers in variety and quality ..... 5
Best twelve roots of salsify ..... 3
Best six stalks of celery ..... 3
Best six marrow squashes ..... 3
Best six Hubbard squashes ..... 3
Best six crookneck squashes ..... 3
Best display of squashes, variety and quality ..... 10
Best and largest pumpkin ..... 5
Best display of pumpkins, variety and quality ..... 5
Best dozen of sweet corn, green ..... 3
Best display of sweet corn in variety and quality, green or dry ..... 5
Best three mountain sweet watermelons ..... 2
Best three watermelons of any other variety ..... 3
Best three green-fleshed muskmelons ..... 3
Best three yellow-fleshed muskmelons ..... 3
Best and greatest display of melons of all varieties, both watermelons and muskmelons ..... 10
Best six cucumbers ..... 2
Best half peck Lima beans, in pod ..... 3
Best half peck white beans, dry ..... 2
Best half peck kidney bush beans, in pod ..... 3
Best half peck pole beans, other than Lima, in pod. 2
Best half peck field peas, dry ..... 2
Best half peck garden peas, dry ..... 3
Best half peck castor oil beans ..... 5
Best and greatest variety of peas, dry ..... 5
Best half peck gerkin cucumbers ..... 3
Best three purple egg plants ..... 5
Best and greatest variety of vegetables raised by one exhibitor ..... 50

CLASS X—FLOWERS.

Best miniature flower garden ..... $50
Best display growing flowers ..... 25
Best display cut flowers ..... 25

## SIXTH DEPARTMENT.

### FRUITS.

CLASS I—GREEN FRUITS.

Best twenty varieties of apples, properly named, five specimens each ..... $40
Best ten varieties of apples, properly named, five specimens each ..... 20
Best twenty varieties of pears, properly named, five specimens each ..... 40
Best ten varieties of pears, properly named, five specimens each ..... 20
Best ten varieties of peaches, five specimens each .. 20
Best five varieties of peaches, five specimens each ... 10
Best ten varieties of plums, five specimens each .... 20
Best five varieties of plums, five specimens each .... 10
Best twenty varieties table grapes, not less than two bunches each ..... 40
Best ten varieties table grapes, not less than two bunches each ..... 20
Best display of Mission grapes ..... 20
Best single variety of grapes, not less than two bunches ..... 10
Best and greatest variety wine grapes ..... 40
Best display of tropical fruits ..... 20
Greatest number and best specimens oranges ..... 5
Greatest number and best specimens lemons ..... 5
Best display of seedling fruits ..... 10
Best general display of fruit embracing best and greatest varieties ..... 100

CLASS II—DRIED AND PRESERVED FRUITS, NUTS, ETC.

Greatest number of varieties and best specimens, not less than three pounds each ..... $10
Best dried figs, prepared so they will keep in condition for export, not less than six pounds ..... 10
Best twenty-four pounds raisins ..... 15
Best ten pounds dried prunes ..... 10
Greatest number of varieties and best specimens fresh preserved fruits, not less than one jar each, nor less than six varieties ..... 10
Best half peck English walnuts ..... 5
Best half peck soft-shelled almonds ..... 5
Best half peck peanuts ..... 3

## SEVENTH DEPARTMENT.

### FINE ARTS.

CLASS I—DRAWINGS, PAINTINGS, ETC.

Best life-size photograph, colored in oil ..... $20
Best specimen of portrait painting, in oil, by California artist ..... 50
Best specimen of landscape painting, in oil, by California artist ..... 50
Best specimen in water colors ..... 10
Best specimen uncolored photograph ..... 20
Best specimen of not less than twelve different objects of natural history, in water colors, by California artist ..... Diploma and 25
Best specimen fruit painting ..... 10
Best specimen of California landscape, in oil, by California artist ..... 20
Best exhibition of paintings ..... Diploma and 50
Best fancy painting in water colors ..... Diploma
Best engraving ..... Diploma
Best wood engraving ..... Diploma
Best lithography ..... Diploma
Best porcelain painting and gilding ..... Diploma
Best specimen penmanship ..... $5
Best crayon drawing ..... 5
Best pencil drawing ..... 5
Best pen drawing ..... 5

CLASS II—SCULPTURE, ETC.

Best sculpture ..... $20
Best collection of marble work ..... 50
Best carving in wood ..... Diploma
Best collection and greatest variety of California birds, prepared ..... Diploma and $15
Best collection and greatest variety of quadrupeds, prepared ..... Diploma and 15

CLASS III—DESIGNS.

Best design for farm house ..... Diploma
Best design for farm barn ..... Diploma
Best design for carriage house and stable ..... Diploma
Best design for dairy house ..... Diploma
Best design for poultry house ..... Diploma
Best design for farm gate ..... Diploma
Best gransry ..... Diploma
Best bridge (model of) ..... Diploma
Best domestic apparatus (or model of) ..... Diploma

PACIFIC RURAL PRESS
BY
DEWEY & Co.
PUBLISHERS SAN FRANCISCO
A FIRST CLASS
Agricultural Home Journal.

Is issued weekly on Saturdays, containing sixteen pages devoted to

**Agriculture, Horticulture, Stock Raising, Domestic Economy, Home Manufactures Mechanics, Industries, etc.**

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LOCAL CANVASSERS WANTED for every town, city and county. Special inducements offered.

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Publishers, Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.



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**SAVE YOUR MONEY!**

BY USING THE

**Patent Wood Horse Collars and Hames Combined,**

Which has many advantages over the Leather Stuffed with Straw.

1st. DURABILITY, lasting at least ten times as long.
2d. CONVENIENCE. Opening below, can be laid on and off the Horse, having one fastening in place of two or three.
3d. Is one-third lighter than leather collar and hame.
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5th. As there are no stitches to break, or stuffing to press out, IT NEVER LOSES ITS SHAPE, always bearing upon the muscular part of the shoulder, near the neck—the proper place for draft.
6th. Its smooth, hard surface, giving equal pressure on the whole line of draft, NEVER SWEATS OR RUBS OFF THE HAIR.
7th. It has an important advantage in the stationary curved arch, keeping THE COLLAR FROM SETTING TIGHT AROUND THE TOP OF THE NECK when heavy tongues have to be carried (as in some machines), THUS KEEPING THE NECK COOL, AND FREE FROM SORES IN THE HOTTEST WEATHER. Leather Collars WILL TIGHTEN over the top of the neck, and heat and gall the animal.
8th. Wood being a non-conductor of heat the soreness caused by Leather Collars becoming wet by perspiration is avoided. It has many other advantages which cannot be known without a trial. This Collar is WARRANTED to Cure Horses with Sore Shoulders in Three Weeks, Working Every Day. Give them a trial.

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STEVENS BROS'

## Patent Egg Boxes.

We would respectfully call the attention of all persons who ship or handle Eggs, to the advantage to be derived from using Stevens' Bros. Patent Egg Cases.

These cases hold thirty dozen Eggs each, self counting, and can be packed with ease and facility. Eggs shipped in the above cases sell quicker and give more satisfaction to buyers than any other package in use, as the contents are not damaged, and buyers subjected to no trouble as regards the count.

**NO BROKEN EGGS! NO HEATED EGGS! NO PACKING REQUIRED!**

### To the Trade.

We offer these Egg Cases at the following rates:

SCALE OF PRICES:

100 cases or over, cash price ..... $3 00 each
50 cases or under, cash price ..... 3 50 each

CAUTION!

STEVENS' PATENT EGG BOXES, patented Feb. 26, 1867.

All persons are hereby cautioned against manufacturing, selling and using any cases for packing and transporting eggs, constructed with compartments, by placing a separate diaphragm horizontally between each tier, from the bottom to the top of each case, and any and all infringements upon said patent, either for manufacturing, selling or using without authority from the undersigned, will be prosecuted. Parties desiring information will apply to the owners.

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## A FORTUNE FOR EVERY ONE!

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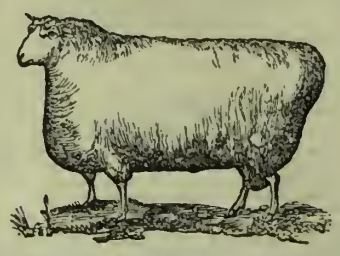
CASH must accompany orders.

19-v1-1m R. S. THOMPSON.

## Thoroughbred Cotswold Sheep.



IMPORTED FROM THE FLOCKS of Lane, Garne & Fletcher, England, and J. D. Wing, of New York, with their grades half and three-quarter breeds.

REFERENCES.—Secretary of State Agricultural Society, who says: "Your Cotswold and Merino grade rams (recommended by himself to parties in Sacramento) give entire satisfaction since they have seen the result of the cross."

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Wm. O. Brine, of San Francisco, purchased all of our quarter Cotswold lambs at $2 per head on our rancho.

Christy & Wise sold thirty-nine bales of our grade wool at thirty-two cents per pound, for six months clip.

1,300 Spring Lambs, shears in May, averaged 2¾ lbs. of wool per head.

Below, find statement of wool scoured by me for the New York State Sheep Breeders and Wool Growers' Association, of wool sheared at the meeting in this place, in May, 1867.

Truly, WM. HAYDEN,
Woolen Manufacturer.

| Owners' Names. | No. | Age. | Breed. | Sheared. | Scoured. |
|---|---|---|---|---|---|
| S. W. Crandall | 1 | 2 | Merino. | 19 2½ | 8.2½ |
| Chamberlain | 2 | 2 | " | 8.10½ | 4 ½ |
| A. H. Clapp | 3 | 4 | " | 10.3½ | 5.6 |
| McMillen | 4 | | " | 16.2½ | 6 4½ |
| W. Cole | 5 | 1 | " | 13 7½ | 5 2½ |
| W. H. Holmes | 6 | 2 | " | 18 7 | 7.13½ |
| Q. Bonan | 7 | 2 | " | 16 6 | 6.9 |
| J. D. Wing | 8 | 1 | Cotswold. | 18 9 | 11.37 |
| D. H. Barnes | 9 | 4 | " | 11 12 | 8.7 |
| J. D. Wing | 10 | 2 | " | 19.4½ | 10 6 |

Nos. 8 and 10 are the Cotswold rams "Golden Fleece" and "Champion," imported from England by J. D. Wing, and now owned by us. "Golden Fleece" won the Randall Prize, for which the above fleeces were scoured.

For pamphlet, address
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19v1-3m Hopeton, Merced Co., Cal.

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**For Sale, at Fair Prices, 40 Rams and 20 Ewes, of**

**Full Blooded Silesian Stock,**

from the celebrated "Electoral" Flock of William Chamberlain, Esq., of Red Hook, Duchess County, New York. These are the purest and best bred Silesian Sheep in the United States, if not in the world, and have carried off the

### FIRST PREMIUMS

in Fine Wool Classes at the State and National Fairs since 1854.

ALSO FOR SALE,

**Full Blooded Cotswold and Full Blooded Leicestershire Rams and Ewes,**

just selected from the Best Flocks in England by one of the best of judges, WM. T. WILSON, ESQ., and imported by him especially for this market.

Also, California Bred, Full Blooded

**COTSWOLD AND SOUTHDOWNS,**

and ½ and other crosses between these Breeds and between each of these Breeds and Full Blooded Spanish Merinos.

**Also, Full Blooded Berkshire Pigs,**

selected and imported by the same party above named.

HIGHEST PRICES PAID FOR WOOL,

and Wool Pressed and Shipped for Exporters, with Care and on Reasonable Terms, by,

**ROBERT BECK,**
At the Office of the Secretary of the Cal. State Agricultural Society, SACRAMENTO, Cal.
20v1-3m

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**GRAND, SQUARE AND UPRIGHT.**

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**Wholesale Fruit and Produce Commission House,**

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Our business being exclusively Commission, we have no interests that will conflict with that of the producer.
17 v1-tf

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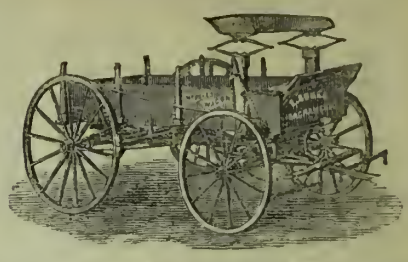

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*Warranted to make Butter in from Three to Five Minutes.*

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THE LARGEST AND

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January 28.—4v1-3mr

WM. M. LYON. CHAS. C. BARNES.

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Successors to LYON & SON, dealers in Produce Vegetables, Butter, Eggs, Green and Dried Fruits, Cheese Poultry, Honey, Beans, etc., etc.
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## MACHINES AND EXTRAS

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**BEST MOWER NOW IN USE.**

As a Reaper,

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Sole Agents for the Celebrated

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GENUINE HAINES' HEADER,
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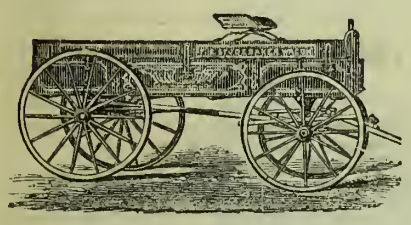

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To Lovers of Choice Fowls,

AND ALL INTERESTED IN INTRODUCING the Fine Breeds of Poultry into the State, a rare opportunity is now presented. The undersigned has just received from Europe and the Eastern States, and offers for sale at the most reasonable rates the following first-class stock:

FORTY LIGHT BRAHMAS,
"Duke of York" Strain;
FORTY DARK BRAHMAS,
"Boyle's" Strain;
SIXTY BUFF COCHINS,
"Cooper's" Strain;

And THREE TRIOS each of Partridge, Black and White Cochins, Houdans, Gevecœurs, White Leghorns and Silver Spangled Hamburgs.

**GEORGE B. BAYLEY,**

Importer and Breeder of Choice Poultry, corner of Sixteenth and Castro streets, OAKLAND.
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## WALTHAM WATCHES.

In soliciting anew the public patronage of WATCHES of domestic production, the AMERICAN WATCH COMPANY respectfully represent:

That no fact in the history of manufactures is more completely demonstrated than that the best system of making Watches is the one first established by them at Waltham. That system always had the warrant of reason and common sense, and now the test of time in the trial of the Watches themselves cannot be denied to have been ample and satisfactory. It is admitted on every hand—the evidence of daily observation and common repute—that the Watches not only keep correct time, but that as machines they ENDURE. It should seem that nothing more is needed, but that their sizes, shapes and appearance should suit the tastes of the people. As to all these conditions the American Watch Co. are now fully prepared to answer the exactions of the market. They confidently assert there is no longer any need for such reasons to import watches of any description whatever. Every size in ordinary demand, every shape and every variety of finish and decoration, may now be had. And as to price, the recent reductions leave no room for doubt that the Waltham system of Watch-making is

The Most Economical as well as the Most Reliable,

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Many new varieties of movements have been added during the last year, all of which display the Latest Improvements in design and finish, and evince the rapid progress the Company is making toward perfection in the art. Among these the new small size Watch, for Boys and young gentlemen, is to be specially noted. A very low price has been made for this Watch because it is a boy's watch, and with the object of bringing it within the means of boys of all classes. Price being considered,

No such Watch, in Quality and Beauty,

Has ever, in any country, been produced.

The "CRESCENT-STREET" FULL PLATE WATCH, added during the last year, is now made either with or without stem-winding and setting attachment. This Watch, in either form,

The Company Challenges all Manufacturers of all Countries

To best or equal for its price. It is made with all the latest improvements in every part—improvements which IMPROVE—and which not only make it better for its purposes as a timekeeper, but will make it the great favorite with Watchmakers. This, the highest grade of full plate Watches made in this country, in size and appearance, in finish, and general excellence, is especially intended for and recommended to business men, and in particular to Railway and Expressmen, to constant travelers—in fact, to all live men who must be told by their Watches the correct time of day whenever they want it. All such men should have the

"American Watch Co., Crescent Street."

Counting on such destination for this variety of their manufacture, the company devote the greatest care to its construction, employ upon it only their best men and best machinery, and issue it with their reputation at stake upon its success.

For sale by all leading jewelers. No Watches retailed by the Company. For all other facts address

**ROBBINS & APPLETON,**

General Agents for American Watch Company, 182 Broadway, New York.
13t-sa

## Phelps' Patent Animal Trap.

FOR GOPHERS, SQUIRRELS, RATS, CAYOTES, and other "Varmints."

This Trap, as may be seen, is of simple construction, not likely to get out of order, and very durable.

**It is Very Efficient**

and can be used conveniently by women or children THE CHEAPEST AND BEST YET INVENTED. Price 50 cents. By mail, prepaid (to places where express charges are high), $1. A liberal discount to clubs or dealers who buy by the dozen. Address the inventor and manufacturer,

D. V. PHELPS,
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## YOUNG LADIES' SEMINARY,

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The Twentieth Annual Session of this well known institution will commence on the

**26th day of July Next.**

Previous to that date there will be a complete renovation of the establishment. A fine School Room and many other improvements will be added, and new furniture, carpets, bedding and apparatus supplied.

The course of study and mode of instruction will be such as the best modern culture demands; and in every genuine advantage of school and home, the institution will prove its claim to a place in the first rank.

For particulars address

REV. C. H. POPE,
19v1-1mbp Benicia, Cal.

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Oculist.

Has removed to 19 Post street, San Francisco.

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**Readers** addressing parties on business, from intelligence given in this journal, will confer a favor by stating the source of their information.

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AND MANUFACTURERS
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MANUFACTURES

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The Commission and Forwarding House of Rodgers, Meyer & Co., of San Francisco, has been selected as Factors.

The Actuary of the Commercial Business of the Association in San Francisco, which will be a most important one, is not yet selected. Offers of Lands, Machinery, Implements, Seeds, Shrubs, Fruit and other Trees, Lumber, Horses, Harness, with full particulars, should be forwarded for the consideration of the Board of Trustees. **JAMES DALE JOHNSTON,**
Secretary and General Agent, 125 Sansome street,
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A complete assortment of REAPER AND MOWER SECTIONS, BARS, Etc., constantly on hand and made to order.

FILES of every description made and re-cut

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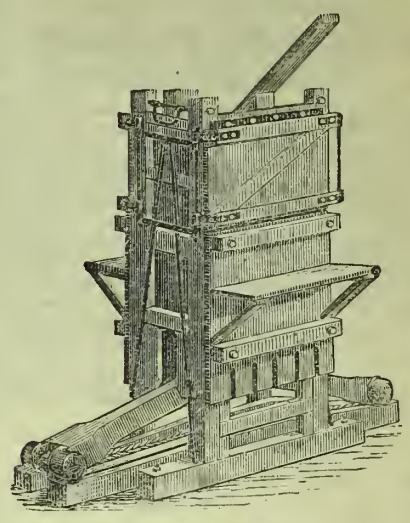
## THE EAGLE HAY PRESS.



The above is a correct representation of this remarkable

## Eagle Hay Press,

THE INVENTION OF J. A. McGILLIVRAY, OF ILLINOIS, TO WHOM LETTERS PATENT WERE ISSUED JANUARY 10TH, 1865, AND JULY 24TH, 1866.

Several years were devoted by the patentee to the perfection of this powerful press, and its unprecedented sale in the East induces the proprietors to introduce it into California and the Pacific States.

All who have seen or used these Presses pronounce them superior to anything used heretofore. The power is applied by means of two levers, and it will be seen the power increases in ratio to the resistance; as the levers approach a horizontal position the power can scarcely be estimated. It is not only a powerful Press, but has the advantage of being Cheap, and also Simple, therefore not liable to get out of order.

Three men with one horse can bale from Ten to Fifteen Tons per Day, each bale weighing 250 to 300 lbs. It obviates all necessity by beating the hay before pressing. On account of its great power it is well adapted for pressing Hydes, Rags, Wool or Cotton. When a bale is pressed and fastened, the follower runs down of its own weight, and the bales can be taken out on either side.

These Presses are now manufactured in San Francisco by the

**Kimball Car and Carriage**

MANUFACTURING COMPANY,

Who are the Proprietors on the Pacific Coast, and will endeavor to have a supply constantly on hand.

Every Press made by them is WARRANTED to give perfect satisfaction.

PRICE, $250.

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**STEREOSCOPES,**
VIEWS,
ALBUMS,
CHROMOS,
FRAMES.

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Invite the attention of the Trade to their extensive assortment of the above goods, of their Own Publication, Manufacture and Importation.

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PHOTO LANTERN SLIDES
and
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Opposite Metropolitan Hotel,

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## Crandall Patent Spring Bed,

Received Premium for best Spring Bed at the State Fair and was on exhibition at all of the District Fairs in this State.

**IT EXCELS**

IN

**Lightness, Cleanliness, Elasticity and Durability,**

Any other Spring Bed Ever Invented.

Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

Manufactory—123 Front street, near corner of M, Sacramento; and at 1124 Market street, San Francisco. These beds can also be obtained of our agents in nearly every town in the State.

**COOLEY & GREEN, Proprietors.**

## Holbrook's Patent Swivel Plows,

**For Level Land and Side Hill.**

8 Sizes.

WON THE HIGHEST PRIZE at N.Y. State Trial, 1870, for Plowing Sod & Stubble

Send Stamp for Circular.

They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow-slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting hinged steel Cutters. Changeable Mould-boards for sod and stubble, and cast steel edged Shears, when desired.

Manufactured and sold by

F. F. HOLBROOK & CO.,
19v1-7½m Boston, Massachusetts.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., May 25th.

FLOUR—The market still continues quiet even under a material decline, with no demand, whatever, for export.

Transactions embrace 2,500 bbls. California extra, 1,500 bbls. Oregon extra, at current rates.

We quote superfine, $7.00@7.50; extra, $8.00@8.25.

WHEAT—Has still further depreciated during the week, and we quote to day 30 cents lower than our last figures. The market is quiet, under this decline. We quote fair to choice at $2.65@2.80. A sale of 2,000 sacks, strictly choice, old, to be delivered Aug. 1st is reported at $2.90.

The Liverpool market has declined one penny, to 12s. 3d. New York rates are given at $1.65.

BARLEY—The market continues quiet under a still farther decline of from 40 to 50 cents. Sales of 5,000 sacks are reported at $1.80@2.40 from fair to choice. At the close we quote at $1.80@1.95.

OATS—The market has slightly declined, in sympathy with barley, and is quotable at $2.00@2.25.

CORN—Is still lower with a weak market; quotable at $2.35@2.50 per cental.

CORNMEAL—Is quotable at $2.00@3.50. according to quality.

BUCKWHEAT—Still quotable at $3@$3.25.

RYE—Nominal at $2.50 for choice.

FEED—We note but little change, and quote: STRAW, $9@10; BRAN, $32.50; MIDDLINGS, $42.50; OIL CAKE MEAL $40.

HAY—We quote ordinary to choice at $15.00@$21.00 ₱ ton.

HONEY—But little in market and quotations nominal.

POTATOES—We quote all kinds at $2.00@$2.50. The new crop is coming in from Mission, Half Moon Bay and Lighthouse—the market has a declining tendency.

HOPS—Demand light—prices nomiual at 8@12½c. for California crop of 1870.

HIDES—We quote Dry, slaughterer's stock, 17@18½c; Salted, 8@9c. Sales during the week 2,320 Cal. dry, and 1,830 saltcd.

The steamer Idaho from Lower California and Mexicau ports brought 2,000 dry hides which were sold for export at 15¼c for Mexicau, and 16¼cts. ₱ lb. for Lower California, cash.

WOOL.—Sales for the week have aggregatcd about 500,000 lbs. at from 25@32c. The receipts continue heavy. Desirable lots are active, while inferior grades are slow. Stocks are accumulating. There is a good demand for new Cal. iu Boston, but prices do not keep pace with advauces here. It is difficult to obtain over 40c (currency); 33c here, costs 40c (curreucy) in Boston.

TALLOW—The extremes may be quoted from 7¾@8c. Sales of 30,000 lbs. are reported for thc week.

SEEDS—Flax 3@3¼c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 16@17c; Oregon, 16@16¼; Chicago 17c; California Hams 12¼@14¼; Oregon do, 16@17c; California Sugar-cured Hams, 18@19c; Oregon do, 18@22c; Eastern do, 21@23c; California Smoked Beef, 13@14c.

BEANS.—Are weak and irregular in price. Extremes of quotations—Bayo, $2.75@$3.25; Butter, $3.00@3.25; small White, $3.00; Red, last in the market has sold for $2.75; Pea, $3.00; Pink, 300 sks. $1.87½—a decline.

NUTS—California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 6@7c; Hickory aud Walnuts, 12½c; Pecan, 23@25c ₱ lb, Cocoaunts $15@18 per hundred.

FRESH MEAT—We quote prices from slaughterers to dealers with small change.

BEEF—American, 1st quality, 9@10c ₱ lb.
Do 2d do 7@ c8 ₱ lb.
Do 3d do 5@ 6c ₱ lb.

VEAL—Extremes, 7@10c.

MUTTON—Declined to 5@5½c ₱ lb.

LAMB—May be quoted at from 7@8c ₱ lb.

PORK—Undressed is quotable at 5½@7½c. dressed, 10@11.

POULTRY, ETC.—The Market unchanged, Hens $6½@7½; Roosters $6½@7½; Ducks, tame, $6@7 ₱ doz; geese, tame, $1.85@2.00 ₱ pair; live turkeys, 18@19c ₱ lb.

WILD GAME—Hare, $1.50@$2.00; Rabbits, $1.25@1.50; No Ducks or Geese in the market.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 30@33c; California firkin butter, 30@32c. Fancy brands Cal. new are held at from 2½ to 3 cts. advance.

CHEESE—In fair supply, California new, 10@14c., Eastern, 16@17c. for uew.

EGGS—California fresh, 24@26c;

LARD—California Lard, 11-lb tins, 15@16c; Oregou, 16@17c, according to package.

FRUITS—We submit the followiug prices, for which we are indebted to A. Lusk & Co.: Strawberries, 2@7c; Apricot, 12½@15; Cherries; 12½@75c; Gooseberries, 7c; Rhubard, 1@3c; Asparagus, 3@8c.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

## GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Dealers report a better enquiry than has been ruling of late for reasonable goods. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand still continues light. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Germau, 12c ₱ lb; Raisins, layer, $3.50@4.25 per box; Currants, Zante, 10½@11½c.; 50c.

### TABLE OF MISCELLANEOUS.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sugar, crsh'd, lb. | $ 14½@ | $ 15 | Hemp Seed, lb. | $ 7 | @ | 9 |
| Hawaiian, do. | 9 @ | 12 | Castor Beans, lb. | 4 | @ | 4½ |
| Coffee, Cos. R, lb | 15½ @ | 16 | Castor Oil, gal. | 1 75 | @ | 2 00 |
| Rio, do | 16 @ | | Linseed Oil, gal. | 1 05 | @ | 1 10 |
| Tea, Japan, ₱ lb. | 50 @ | 90 | Broom Corn, ₱ lb | 3 | @ | 5 |
| Green, do | 50 @ | 1 00 | Beeswax, ₱ lb | 27 | @ | 30 |
| Rice, Haw'n, ₱ lb | 8½@ | 9 | Peanuts, ₱ lb | 5 | @ | 7 |
| China, do | 6 @ | 7½ | Corn Meal, cwt. | 2 50 | @ | 4 00 |
| Coal Oil, ₱ gal. | 50 @ | 60 | Onions, cwt. | 1 50 | @ | 3 50 |
| Candles, ₱ lb | 15 @ | 18 | | | | |

## San Francisco Retail Market Rates.

FRIDAY, May 26, 1871

### MISCELLANEOUS.

| | | | | | | |
|---|---|---|---|---|---|---|
| Butter, Cal fr. lb | 35 @ | 45 | Wool Sacks, new | 40 @ | 90 |
| Pickled, Cal. lb | 35 @ | | Second-hnd do | 67½@ | 70 |
| do Oregon, lb. | @ | | Wheat-sks, 22x36 | 13½@ | 14 |
| Honey, ₱ lb | 25 @ | 30 | Potato G'y Bags. | 23 @ | |
| Cheese, ₱ lb | 20 @ | 25 | Second-hnd do | 16 @ | |
| Eggs, per doz | 30 @ | 35 | Deer Skins, ₱ lb. | 15 @ | 22 |
| Lard, ₱ lb | 18 @ | 20 | Sheep sks, wl on | 50 @ | 75 |
| Sugar, cr., 6½ lb. | 1 00 @ | | Sheep sks, plain. | 12½@ | 25 |
| Brown, do, ₱ lb. | 10 @ | 13 | Goat skins, each. | 25 @ | 65 |
| Beet, do, 7 lb. | 1 00 @ | | Dry Cal. Hides | Weak | |
| Sugar, Map. lb. | 20 @ | 25 | Salted do | Dull | |
| Plums, dried, lb. | 15 @ | 30 | Dry Mex. Hides. | 15 @ | |
| Peaches, dried,* | 15 @ | | Salted do | 9 @ | |

### PRODUCE, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Codfish, dry, lb | 6 00 @ | 12½ | Barley, cwt | 2 35 @ | 2 40 |
| Flour, ex, ₱ bbl. | 8 25 @ | 8 50 | Beans, cwt | 3 00 @ | 3 50 |
| Superfine, do. | 5 50 @ | 6 00 | Potatoes, cwt | 2 25 @ | 3 00 |
| Corn Meal, 100 lb. | 3 50 @ | 4 50 | Potatoes, new | 2 75 @ | |
| Wheat, ₱ 100 lbs. | 2 95 @ | 3 10 | Hay, ₱ ton | 18 00 @ | 24 00 |
| Oats, ₱ 100 lbs. | 2 30 @ | 2 50 | Live Oak Wood | 10 00 @ | 12 00 |

### FRUITS, VEGETABLES, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Pine Apples, † | 5 00 @ | 9 00 | Garlics | 5 @ | 8 |
| Bananas, ₱ lb | 3 00 @ | 5 00 | Green Peas, ₱ lb | @ | 6 |
| Cal. Walnuts, lb. | @ | 20 | Green Corn, doz. | @ | |
| Cranberries, ₱ g | 75 @ | 1 00 | Sugar Peas, ₱ lb | @ | |
| Cranberries, O.¶ | @ | 1 00 | Lettuce, ₱ doz. | 12 @ | 25 |
| Apples, No. 1, lb. | 4 @ | 5 | Mushrooms, ₱ lb | 25 @ | 50 |
| Pears, table, ₱ lb | @ | 12½ | Horseradish, ₱ lb | @ | 20 |
| Oranges, ₱ doz. | 50 @ | 75 | Okra, dried, ₱ lb | @ | 50 |
| Lemons, ₱ doz. | 75 @ | 1 00 | Okra, green, ₱ lb | @ | |
| Figs, dried, ₱ lb. | 15 @ | 20 | Pumpkins, ₱ lb. | 3 @ | 4 |
| Asparagus, wh.* | 12 @ | 15 | Parsnips, † bnchs | @ | 25 |
| | | | Parsley | @ | 25 |
| Artichokes, doz. | 50 @ | 75 | Pickles, ₱ gal. | 50 @ | 75 |
| Brussel's sprts, * | @ | 15 | Rhubarb, ₱ lb. | 8 @ | |
| Beets, ₱ doz. | 20 @ | 25 | Radishes, † buns | @ | 25 |
| Potatoes, ₱ lb | 2 @ | 3 | Green Peppers, * | | |
| Potatoes, sweet,* | @ | | Red, do | @ | 25 |
| Potatoes, new | 4 @ | | Summer Squash | 8 | |
| Tomatoes, ₱ lb. | | | Marrowfat, do. | 4 @ | 6 |
| Broccoli, ₱ doz. | 1 50 @ | 2 00 | Hubbard, do. | @ | 5 |
| Cauliflower, † | 2 50 @ | 4 25 | String Beans, lb. | 8 @ | |
| Cabbage, ₱ doz. | 3 00 @ | 4 50 | Dry Lima, shl. | @ | 8 |
| Carots, ₱ doz. | 10 @ | 25 | Spinage, ₱ hskt. | 25 @ | 50 |
| Celery, ₱ doz | 75 @ | 1 00 | Salsify, ₱ bunch | 12 @ | 25 |
| Cress, ₱ doz bun | 20 @ | 25 | Turnips, ₱ doz. | @ | 25 |
| Dried Herbs, b'h | 25 @ | 50 | Asparagras | 8 @ | 12½ |
| Egg Plant | @ | | | | |

### POULTRY, GAME, MEATS, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Chickens, apiece | 75 @ | 1 00 | Tongues, pig, ea | @ | 15 |
| Turkeys, ₱ lb. | 20 @ | 25 | Bacon, Cal., ₱ lb | 18 @ | 20 |
| Ducks, wild, ₱ p. | | | Oregon, do | 18 @ | 20 |
| Tame, do | 1 50 @ | | Hams, Cal. ₱ lb. | 18 @ | 20 |
| Teal, ₱ doz | | | Hams, Cross' & c | @ | 25 |
| Geese, wild, each | 37½@ | 50 | Choice D'field | @ | 25 |
| Tame, ₱ pair | 2 50 @ | 3 00 | Whittaker's | @ | 25 |
| From Chicago. | @ | | Johnson's Or. | @ | 25 |
| Hens, each | 75 @ | 1 00 | Salmon, ₱ lb | 6 @ | 8 |
| Snipe, ₱ doz | 1 25 @ | 1 50 | Smoked, new,* | 10 @ | 12 |
| English, do | 2 50 @ | 3 00 | Pickled, ₱ lb. | 6 @ | 8 |
| Venison, ₱ lb | @ | | Rock Cod, ₱ lb. | 10 @ | 12 |
| Quails, ₱ doz | | | Kingfish, ₱ lb | 25 @ | |
| Pigeons, dom. | 3 00 @ | 3 50 | Perch, s water, lb | 10 @ | 12½ |
| Wild, do | 1 50 @ | 2 00 | Fresh water, lb | 12½@ | 15 |
| Hares, each | 40 @ | 50 | Lake Big. Trout* | @ | 25 |
| Rabbits, tame | 50 @ | 1 00 | Smelts, ₱ lb | 6 @ | 8 |
| Wild, do, ₱ dz. | 1 75 @ | 2 00 | Herring, fresh | | |
| Squirrel, ₱ pair. | 25 @ | 38 | Sm'kd, per 100 | @ | 1 00 |
| Beef, tend, ₱ lb. | 20 @ | 25 | Tomcod, ₱ lb | @ | 20 |
| Sirloin and rib | 18 @ | 20 | Terrapin, ₱ doz. | 4 00 @ | |
| Corned, ₱ lb. | 10 @ | 12 | Mackerel, p'k, ea | | |
| Smoked, ₱ lb. | 15 @ | 18 | Fresh, do | | |
| Pork, rib, etc., lb | 12½@ | 15 | Sea Bass, ₱ lb | @ | |
| Chops, do, ₱ lb | 12 @ | 15 | Halibut | 62 @ | 75 |
| Veal, ₱ lb. | 15 @ | 20 | Sturgeon, ₱ lb. | 4 @ | 5 |
| Cutlet, do | @ | 20 | Oysters, ₱ 100 | 1 00 @ | 1 25 |
| Mutton chops,* | 12½@ | 15 | Chesp. ₱ doz. | @ | 1 00 |
| Leg, ₱ lb | 12½@ | | Turbot | @ | 40 |
| Lamb, ₱ lb | @ | 12½ | Crabs ₱ doz | @ | 1 00 |
| Tongues, beef, ea | @ | 75 | Soft Shell | 37 @ | 50 |
| | | | Shrimps | 10 @ | 12 |

—— * Per lb. † Per dozen. ¶ Per gallon.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, May 26, 1871.

IRON.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb

| | | |
|---|---|---|
| Scotch and English Pig Iron, ₱ ton | $32 50 @ | $33 00 |
| White Pig, ₱ ton | 40 00 @ | — — |
| Refined Bar, bad assortment, ₱ lb | — 03 @ | — — |
| Refined Bar, good assortment, ₱ lb | — 04 @ | — — |
| Boiler, No. 1 to 4 | — 04¾@ | — — |
| Plate, No. 5 to 9 | — — @ | — 04½ |
| Sheet, No. 10 to 13 | — 04½@ | — 05 |
| Sheet, No. 14 to 20 | — 05 @ | — 05½ |
| Sheet, No. 21 to 27 | — 05 @ | — 06½ |

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb.

| | | |
|---|---|---|
| Sheathing, ₱ lb | — — @ | — 26 |
| Sheathing, Yellow | — 20 @ | — 21 |
| Sheathing, Old Yellow | — 10 @ | — 11 |
| Composition Nails | — 21 | — 22 |
| Composition Bolts | — 21 | — 22 |

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

| | | |
|---|---|---|
| Plates, Charcoal, 1X ₱ box | 12 00 | — — |
| Plates, I C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 10 00 | 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | — 42 |

STEEL.—English Cast Steel, ₱ lb — 15 — 15½

QUICKSILVER.—₱ lb — — — 80

LEAD.—Pig, ₱ lb — 06 — 07
Sheet — 09 —
Pipe — 10 — 11
Bar — 08 — 09

ZINC.—Sheets, ₱ lb — 9½ — 10

BORAX.—Refined — 25 — 30
Borax, crude — 5 — —

PATENT BROKERS.—Inventors having valuable patents and needing reliable assistance in selling them should consult WEBSTER & Co., No 17, New Montgomery street, under the Grand Hotel, San Francisco.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, May 25.

SOLE LEATHER.—The demand is still equal to the supply, and prices firm.

| | |
|---|---|
| City Tanned Loather, ₱ lb | 26@30 |
| Santa Cruz Leather, ₱ lb | 26@30 |
| Country Leather, ₱ lb | 25@28 |

French Call and Kip Skins still continue firm, with a slight advance in Jodot Call and the best brands of Kips. Domestic Skins rule the same.

| | | |
|---|---|---|
| Jodot, 8 Kil., per doz | $62 00@ | |
| Jodot, 11 to 19 Kil., per doz | 82 00@ | 96 00 |
| Jodot, second choice, 11 to 15 Kil. ₱ doz. | 68 00@ | 88 00 |
| Cornelian, 16 Kil., per doz | 72 00@ | |
| Cornelian, 12 to 14 Kil., per doz | 68 00@ | 70 00 |
| Ogerau Call, ₱ doz | 54 00@ | |
| Mercier Call, 16 Kil., per doz | 65 00@ | |
| Common French Calf Skins, ₱ doz | 35 00@ | 75 00 |
| French Kips, ₱ lb | 1 00@ | 1 30 |
| California Kip, ₱ doz | 60 00@ | 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ | 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ | 1 25 |
| Eastern Calf lor Backs, ₱ lb | 1 15@ | 1 2 |
| Sheep Roans for Topping, all colors, ₱ doz. | 8 50@ | 13 00 |
| Sheep Roans lor Linings, ₱ doz | 5 50@ | 10 50 |
| California Russett Sheep Linings | 1 75@ | 5 50 |
| Best Jodot Ca 1 Boot Legs, ₱ pair | 5 25 | |
| Good French Call Boot Legs, ₱ pair | 4 50@ | 5 00 |
| French Call Boot Legs, ₱ pair | 4 00 | |
| Harness Leather, ₱ lb | 30@ | 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ | 72 00 |
| Skirting Leather, ₱ lb | 34@ | 37½ |
| Welt Leather, ₱ doz | 30 00@ | 50 00 |
| Buff Leather, ₱ foot | 20@ | 24 |
| Wax Side Leather, ₱ loot | 18@ | 20 |

## Our Printed Mail List.

Subscribers will notice that their names are printed on colored paper and pasted npon each copy of the PRESS. This is done by machinery, to expedite the issne of our paper, the regular edition of which has become too large to be convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriber has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4jl0, to the 4th of July, 1870. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

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M. K. LAUDEN, President, San Francisco, Cal.

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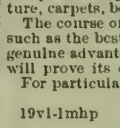

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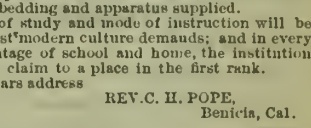

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PACIFIC RURAL PRESS

Volume I] SAN FRANCISCO, SATURDAY, JUNE 3, 1871. [Number 22.

## The Crown of New England.

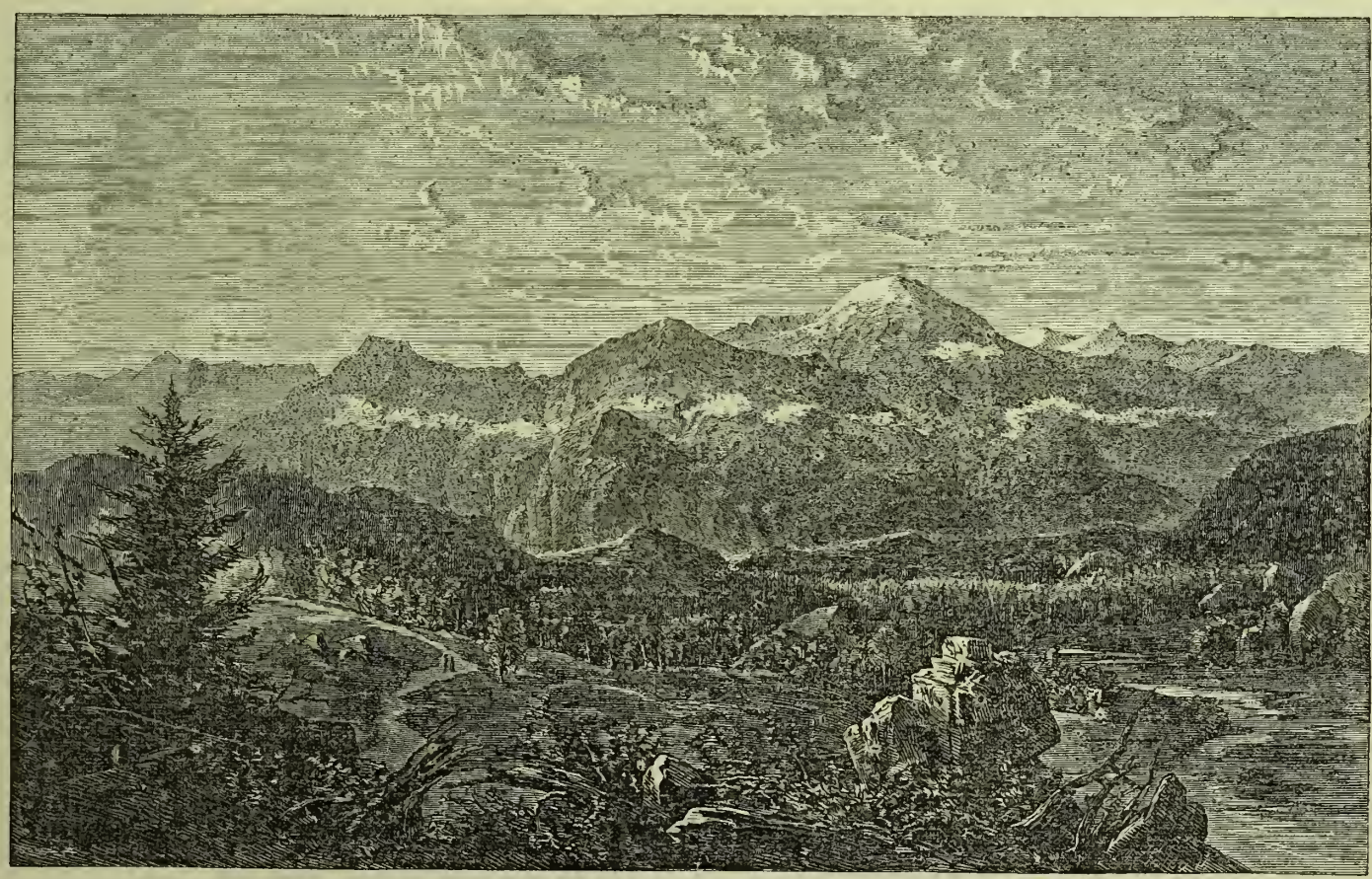
We gave, some time ago, an illustration of one of the glories of the Pacific Coast,—of the Yosemite Valley. To-day we give an engraving of a scene of grandeur of the Atlantic Coast. Both of these are from chromos of Prang. The engraving to-day, however, hardly does justice to the original which was shown us by Messrs. Snow & Roos, at their art gallery, 21 Kearny street. The green of the foliage, the azure of the mists, the glowing and fading colors of clouds and distant hills, cannot of course be depicted in the engraving. Still a very fair idea is given of the grandeur of Mt. Washington and its brother hills.

The chromo in question is after an exquisite painting by Geo. E. Brown. To give an adequate description of the work, or of the scene it represents, demands an abler pen than ours. We prefer, therefore, to recall the words of one whose name is dear to our coast,—who has written of our mountains and hills as he has written of those of New England. Thomas Starr King thus speaks of one point of view of the White Mountains of New Hampshire:

Such is the invitation with which North Conway coaxes us from the gaunt and grizzly peak which peers over one of its southwesterly walls. It is a short task to give the topographical dimensions and to describe the mountain framing of this village. We can say easily that it is a level bank about thirty feet above the channel and the meadows of the Saco River, extending some four or five miles, and measuring, perhaps, three miles in breadth. On the west, the long and noble Mote Mountain guards it; on the east, the rough, less lofty, and bending Rattlesnake ridge helps to wall it in, unattractive enough in the ordinary daylight, but a great favorite of the setting sun which loves to glorify it with Tyrian drapery. On the southwest, Chocorua manages to get a peep of one corner of its lovely meadows. Almost the whole line of the White Mountains proper, crowned in the center by the dome of Mt. Washington, closes the view on the northwest and north. And nearer, on the northeast, swells the symmetrical Kiarsarge, the queenly mountain of New Hampshire, which, when the Indian titles were expurged from the great range, should have been christened "Martha Washington." And far to the south, the hills "soften away in a series of smaller and smaller darkening mounds or humps, that answer to the description of the sea-serpent's back."

But what suggestion of the exquisite loveliness of the village is given by the most accurate report of its meadow farms and mountain guards? We well remember driving into it, some three years since, about sunset, under waving hangings of vermilion and gold. The sinking sunlight was shedding yellow splendor over the meadows, tinging the higher edges of the azure mists that settle in the ravines of Mt. Washington with tender rose-color, and flooding the upper half of the Rattlesnake ridge with purple, sharply ruled from a basis of deep bronze green. * *

One of the prominent pleasures of a cool day is to find different points for studying Mt. Washington. In what novelties of shapes, dignity and effect he may be thrown by the rambles of a morning! We may see his steep, torn walls rising far off beyond a hill which we are ascending, and which hides from us most of the foreground in the village and the base on which the mountain stands; or may catch a glimpse of him through a couple of trees that stand sentinel to keep other mountains of the range from an intrusion that will reduce his majesty; or may seek a position in a grove whose breezy plumes afford the cheerful contrast of motion and color to set off his gray grandeur and majestic rest; or from different points near the Saco may relate him, by changing angles, into fresh combination with the level verdure of the meadows, or with some curve of its brooks or some graceful thicket of its maples.



THE CROWN OF NEW ENGLAND—AFTER G. E. BROWN.

## What Becomes of the Sulphur Used upon the Grape Vine?

This question has been answered by Prof. C. Wideman, in the New York *Journal of Applied Chemistry*, who says that recent analyses of the soil taken from the foot of vines which have been treated with powdered sulphur, shows that the sulphur so employed, after performing its office of warding off disease to the leaves, falls to the ground, and unites with the lime there to form sulphate of lime—gypsum—the substance now so highly recommended for its fertilizing or rather irrigating qualities. This sulphate of lime has been found at a depth of fully three feet from the surface, and under circumstances where no other probable origin can be thought of. The transformation is thought to take place within a period of one month from the time of putting the sulphur on the vines. This important fertilizing result affords an additional reason for the use of sulphur on the vines, and wherever else it may be of use in destroying insects or disease. The formation of the sulphate of lime is found to be more active in well manured vineyards than in those free from decaying organic matter.

---

The Cochineal Insect.—The following paragraph, which we clip from the *Alta*, has an especial interest when read in connection with the paragraph on this insect, which we give in our issue of the 6th ult.: "Mr. A. K. Vanton, at present connected with the Central Pacific Railroad, in 1869, at Lancha Plana, in this State, collected, in a short time, more than an ounce vial of the real cochineal bug on the chemizel bushes which grow on the slopes of the Mokelnmne river. He says that on that occasion he took them to an apothecary's shop, compared them with the imported insect, and found them to be in all particulars and essentials the same. If this be so, it is evident that, while no great quantity has yet been discovered, the cochineal bug is a native of this country. We have no reason to doubt, in any particular, the statement of Mr. Vanton. If cochineal could in time be added to our other exports, the prosperity of the State would be greatly promoted. The resources of California, truly, would seem to be inexhaustible.

---

The Wine Crop.—The California wine crop for the present year is variously estimated at from seven to ten millions of gallons. Probably the latter figure is about correct.

---

Seeds.—We acknowledge the reception of a very liberal supply of garden and flower seeds from Hon. Horace Capron, of the Agricultural Department at Washington. Many of these seeds were grown in France especially for the Department.

---

Blooded Sheep.—Forty-two sheep, of choice breed, the property of Robert Beck, Secretary of State Agricultural Society, arrived at Sacramento from the East, last week.

## MECHANICAL PROGRESS.

OZOKERIT.—This is a vegetable wax from the Caucasus. Its manufacture into blocks for candle-making, is patented in England, and the process, as carried on at Battersea, by the Messrs. Field, is thus described by *Engineering*:—"Commencing at the river end of the premises, we found a large store of the ozokerit in two conditions, in the one as dug from the earth, and in the other as roughly melted down for convenience of storage in transit. In the latter condition it forms a dark-colored mass, and is packed in barrels, the native or unmelted ozokerit being sent over in canvas bags. From the stores the crude material is conveyed into melting tanks, holding from 2 to 3 tons each, and where it is melted down by means of a steam coil. From these tanks, which are situated in a gallery some 15 ft. above the ground level, the ozokerit is run off by gravitation to a series of stills placed outside the main building, and holding from 2 to 3 tons each, and in which it is distilled over, partly by steam, and partly by bottom heat. The dirt and bottoms from the crude ozokerit are run off from the melting tanks into another set of tanks beneath them, where they are remelted, the finer products being afterwards distilled over. The ozokerit comes over from the stills in the form of an oily distillate, which is run from the condensers into moulds and allowed to cool. This gives a deep yellowish wax-like substance of a spongy nature, the pores being filled with oil, which exudes under a slight pressure. These cakes are packed between oil-skins and canvas cloths and placed in hydraulic presses, of which there are three of large capacity. The pressed cake after removal is put into reheating tanks and again melted down, and pumped from these tanks by a steam pump into the acidifiers where it is treated with a sulphuric acid. These acidifiers are steam jacketted and are fitted with revolving agitators by which the ozokerit and acid are agitated together for a certain time, after which the mixture is allowed to settle. After settling, the purified ozokerit is drawn off from the lower part of the acidifiers—the acid remaining on the top—and run into vessels which are heated by bottom heat. This is the final heating, and from these vessels the fine stuff is drawn off into moulds, the result being a hard white wax, the melting point of which is 140°, that of paraffine wax being only 128°. These blocks are sent to Messrs. Field's works at Lambeth, and from them the now well-known ozokerit candles are made."

RANSOME'S NEW STONE.—*Engineering* for May 5th gives the results of experiments made to ascertain the power of resistance to crushing, possessed by this material. Sixteen specimens, cubes of four inches, prepared ten weeks before, and therefore well hardened, showed an average strength of 51 tons. The average strength of Mr. Ransome's old stone, at the age of 3 months, was 30 tons, on the four-inch cube. The same journal of the preceding week says a new and doubtless important suggestion has been made in regard to the use of this stone for caissons in the construction of hydraulic works. A calculation is gone into which shows it to have an advantage of nearly 50 per cent., as regards cost, over iron for the same purpose.

PROGRESS AT HELL GATE.—The extent to which the ten headings radiating from the vertical shaft have been pushed, amounted in all to 529 feet on May 7th, averaging some 53 feet each. The headings average 20 feet in hight by 13 feet in width. The rock is extremely hard. Most of the drilling has been done by Cornish miners with hand drills. A diamond drilling machine has been at work since January in one of the headings. There will ultimately be concentric galleries crossing the headings at intervals, and the piers between these will contain T-shaped chambers, to receive the final charges of powder, which will be simultaneously fired by means of electricity.

NEW COMBINATION BANK LOCK.—At the meeting of the Polytechnic Club, April 27th, was exhibited a lock which is thus described:—"The outside of the lock has two knobs or handles, the larger being set to any given position by a circle graduated to 300 divisions. In the interior of the lock are four wheels, each capable of 1,380 positions, (having forty-six teeth, and set by a pinion with ten teeth moved by the graduated handle,) affording, therefore, more than three millions of millions of changes. The pinion is connected separately with the four wheels and with the ratchet which moves the bolts by the smaller knob. As the bolts cannot be opened unless all four wheels are in exact position, and it cannot be known on trial which is out of position or whether any one or more are in position, and as it cannot be known except by trial of the bolts whether the wheels are all in position or not, there is no chance to "feel," and no mitigation of the full number of trials to be made. Yet the lock may be closed in an instant; and in case the lock is to be closed for a short time only, as in a safe during office hours, one wheel only need be thrown out of position in locking, so that it may be opened in five or six seconds with a knowledge of the mode of locking, and yet a person not knowing that it was so locked would probably disarrange the other wheels, involving all the changes. The combination can be easily changed, by changing the position of a screw in one or more of the four wheels."

HOOPER'S INSULATION OF SUBMARINE CABLES.—It is said that the Hooper core, from its superior insulating properties, will transmit thirty per cent. more words in a given time than a gutta-percha core. The following description of the manner of preparation is from an article in *Nature*, by N. J. Holmes:—"The copper conductor, after being tinned, is coated with pure india-rubber applied in the shape of a ribbon, lapped spirally round it. Next, two strips (one laid above and the other below) of india-rubber, chemically prepared to resist the action of sulphur, and called the "separator," are applied so as to completely surround the first rubber-covering, as it were with a tube; a pair of grooved die-wheels giving the contour, and at the same time regulating accurately the gauge of the core. Exterior strips are then similarly applied of a compound of rubber and a small percentage of sulphur. The whole is then lapped round with water-proof felt tape, and exposed for some hours in an oven to a heat of about 383° F. By this process the three successive coatings are welded into one solid, dense, homogeneous mass, having its distinctive features preserved as regards the individual character of the several layers. Thus the heat, in driving off the sulphur from the outside coating, has converted that envelope into an indestructible vulcanized rubber jacket. The second layer, or "separator," has intercepted the passing of the sulphur by reason of its chemical properties, while at the same time it has allowed an infinitesimal trace of the sulphur to combine with the internal coating of pure rubber round the conducting wire, sufficient to change its character into an indestructible and non-liquifying material, without its becoming in any way vulcanized."

DESACHY'S FIBROUS PLASTER.—A great portion of the interior architectural decoration of the present day is simply sham. But it answers every purpose. *Papier mache* (pressed paper), and *carton pierre* (stone made of card-board), are largely used. But the *London Architect* notes another material,—named in the heading of this item. We quote:—"It is a combination of ordinary fine or common plaster and canvas. The plaster is cast very thin, less than one-fourth inch, in a mould, and then upon the back of it is laid the canvas, which becomes incorporated with it as it sets; the shape is supported by light strips of wood, laid on at the same time; and for the plain mouldings and large panelling, this system gives all the usual effect, combined with extreme lightness and facility for fixing. As an instance, we saw a large circular moulding, more than seven feet in diameter, for surrounding a light, made in one piece, ready for fixing, no portion of the face of which was more than a quarter of an inch in thickness. We may mention the ceiling of the library of the new Record Office, as an instance of its use, the apparently massive Gothic ribs, forming the groins between the skylight, being of this material, screwed to wrought-iron girders inside, which really do the work."

## SCIENTIFIC PROGRESS.

THE MECHANICAL CORRELATIVE OF THOUGHT.—Following is an extract from Prof. Tyndall's lecture on the "Scientific Uses of the Imagination:"—"The philosophy of the future will assuredly take more account than that of the past of the relation of thought and feeling to physical processes; and it may be that the qualities of the mind will be studied through the organism as we now study the character of a force though the affections of ordinary matter. We believe that every thought and every feeling has its definite mechanical correlative; that it is accompanied by a certain separation and remarshaling of the atoms of the brain. This latter process is purely physical; and were the faculties we now possess sufficiently strengthened, without the creation of any new faculty, it would doubtless be within the range of our augmented powers to infer from the molecular state of the brain the character of the thought acting on it, and, conversely, to infer from the thought the exact molecular condition of the brain. We do not say, and this, as will be seen, is all-important—that the inference here referred to would be an *a priori* one. But, by observing, with the faculties, we assume, the state of the brain and the associated mental affections, both might be so tabulated side by side that, if one were given, a mere reference to the table would declare the other. Our present powers, it is true, shrivel into nothingness when brought to bear on such a problem, but it is because of its complexity and our limits that this is the case. The "quality" of the problem and the "quality" of our powers are, we believe, so related, that a mere expansion of the latter would enable them to cope with the former. * * * The territory of physics is wide, but it has its limits from which we look with vacant gaze into the region beyond. Whence come we; whither go we? The question dies without an answer—without even an echo—upon the infinite shores of the Unknown."

THE NUMBERING OF RAPID VIBRATIONS.—Prof. Tyndall exhibited at a late lecture before the Royal Institution, an instrument called a syren, for determining the number of vibrations, in a given time, of an insect's wing, or any other vibrations which produce a musical sound. A current of air produced by a bellows is driven through a tube so constructed that the current is cut up into puffs by a rotating arrangement, giving a musical note which is more or less high, in pitch, as the puffs are more or less rapid. An index shows the rapidity of the rotation, and therefore of course the number of vibrations of the body of air; and it is therefore only necessary to urge the rotation until the pitch of the tone produced agrees with that of the sound produced by the vibrating body, when the index points out the number of its vibrations in a second.

NEW PYROMETER.—At the late *soiree* of the Royal Society, in London, C. W. Siemens, C. E., exhibited a pyrometer, in using which a spiral of platinum wire is heated in a furnace; as the wire grows hotter its power of resisting the passage of a current of electricity increases, hence the temperature of the furnace can be determined by means of a galvanometer, which measures the electrical resistance of the platinum spiral.

VARIABILITY VS. NATURAL SELECTION.—Edward Fry, in a communication to *Nature*, remarks upon the showing by Mivart that Darwin has ignored the existence of the law of Variability in favor of his pet law of Natural Selection, and attributed to the latter exclusively, the origination of new species. Mr. Fry agrees with Mivart in his demonstration that, in the struggle for existence, the numerical superiority of the original form gives it an immense advantage over the new variation; and adds, that the useful variety has not only this advantage to overcome, but has also to overcome the tendency to reversion to the original form. He goes into a course of reasoning by which he shows, that in the second generation the chances against the continuance of the new variety are 79 to 2; and remarks as follows:—"These chances express the force of the tendency against which Natural Selection has to operate, assuming that the numbers of each variation at starting were equal to those of the original form; but this is, on the assumption that variation is accidental, infinitely removed from the truth; and if the difference between the numbers of the original form and the variation be introduced into the case, the odds are indefinitely increased against the accumulation of a casual variety. None of these observations go to show that Natural Selection does not exist (I have no doubt that it does), but they show that it has a most uphill game to play, and one in which it is improbable for it to win without help from some other principle."

POISON OF THE COBRA.—At a late meeting of the Boston Society of Natural History, Mr. George Seeva, who has been attached to the India Museum at Calcutta, and assisted Dr. Fayrer, Professor of Surgery in the Medical College there in his experiments upon the venomous snakes of the country, read an acount of one performed upon the Cobra. We find it in the *American Naturalist* for May. The inguinal fold of the skin of a dog was held by two pairs of long-bladed forceps in such a manner as to include a triangular piece of about three inches in length. The Cobra's fangs were applied to the middle of the free edge, and with a sharp scalpel, held in readiness, the fold of skin was at once cut out, and yet the dog died from the effects of the poison in fifty-nine minutes. Dr Fayrer, in his report, made the following comments: — "The bitten part was not merely excised, as we speak of excising the parts around the spot which the fangs had penetrated, but the fold of skin into which the fangs had injected the poison was removed within a second after the bite; for the knife had entered almost before the fangs had left. In fact, it could not have been done more rapidly, and yet, within one hour, the animal was dead from the effects of the poison. The infinitesimal portion of time during which the Cobra's fangs were inserted in the tissues was sufficient to have sent the poison through the circulation beyond the reach of incision."

COLOR OF THE SKY.—The following is from Mr. Glaisher's "Travels in the Air,"—just published by Bentley, London:—"The azure color of the sky, though resembling the blue of the first order when the sky is viewed from the earth's surface, becomes an exceedingly deep Prussian blue as we ascend, and, when viewed from the hight of six or seven miles, is a deep blue of the second or third order. 2. The maximum polarising angle of the atmosphere, 45°, is the same as that of air, and not of water, which is 53°. 3. At the greatest hight to which I have ascended, namely, at the hight of five, six, and seven miles, where the blue is the brightest, the air is almost deprived of moisture. Hence it follows that the exceedingly deep Prussian blue cannot be produced by vesicles of water, but must be caused by reflection from the air, whose polarising angle is 45°. The faint blue which the sky exhibits at the earth's surface is therefore not the blue of the first order, but merely the blue of the second or third order rendered paler by the light reflected from the aqueous vapour in the lower regions of the atmosphere."

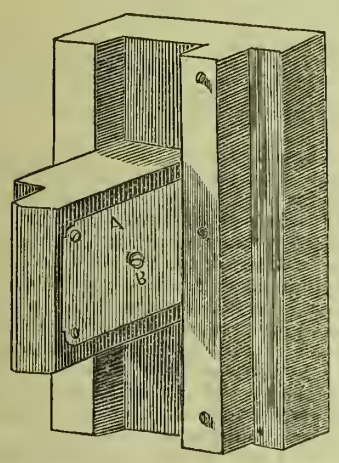
INGENIOUS APPLICATION OF THE SPECTROSCOPE.—Says the *Quarterly Journal of Science*:—"The water used by the people of a crowded court, amongst whom several cases of typhoid fever had appeared, was drawn from a rather shallow well, and was highly charged with various unoxidized compounds of nitrogen. It was suspected that, from some defect, the contents of a public urinal obtained entrance to the well. The fact that the well-water contained seven times as much common salt as the normal water of the vicinity was some confirmation of the suspicion. Prof. Church obtained absolute proof by the following method. He introduced two grammes of a lithium salt into the urinal, and, two hours later, was enabled readily to detect with the spectroscope the presence of lithium in a litre of the well water, which by previous examination had shown no trace of this substance."

## Useful Inventions.

### Sash Tightener.

This device is for the purpose of preventing the very disagreeable rattling of windows in their casings, is very simple in its construction, and its object is of really very considerable importance. It may be said that it ought not to be needed, that the windows ought to be so constructed as to fit nicely in the casings, so that no rattling is possible. This is very true; but as the construction is not so nice as this in very many cases, and as, where originally properly arranged, a shrinkage of the wood, or other cause, leaves too often a space between sash and casing, the fact remains that a sash tightener is very frequently a desideratum.

The accompanying illustration shows the device applied to a sash. It consists of a metal plate, *A*, fastened to the sash by two screws on the inner side. The outer edge of the plate extends into the grooves of the casing, and is made to press against the casing by means of a short spiral spring which, placed under the plate, surrounds the screw, *B*. By means of this screw, *B*, the pressure of the plate against



the casing may be regulated if found desirable.

The device can be manufactured at small cost and easily attached to any window. It is the invention of Mr. William Swett, of San Francisco, who has taken steps to secure his right through the Scientific Press Patent Agency. The sash tightner may be seen at the hardware store of H. Rosekrans & Co., 135 Montgomery street, S. F.

Ink Plant.—There is a plant in New Grenada, which, if the ink-makers could only grow it would be a fortune to them. It is commonly known as the ink-plant, and the juice which is used without any preparation is called "chanchi." It is said to be superior to any ordinary ink for durability and distinctness. It has been in use since the first settlement by Europeans, and documents which have been long written with it hold their color better than those written with ordinary ink. By a special decree it is required that all public documents shall be written with this ink. It is of a reddish color when freshly written, becoming perfectly black after a few hours, and it has the recommendation of not corroding a steel pen so readily as ordinary ink. We have no knowledge of the name of this plant or family to which it belongs.

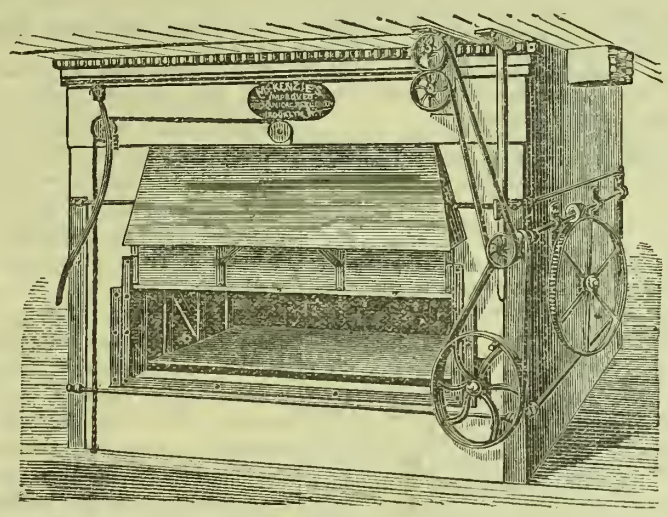
According to the Los Angeles *News* there is a variety of cactus, growing near that city which makes a splendid *red ink*, which flows freely, dries quickly, is free from sediment, and is every way superior to the red inks commonly in use.

A City of the Future.—A new town is soon to be started on the line of the Southern Pacific Railroad, below Hollister. The exact point is kept a secret, but several men of influence and capital have combined for the purpose.

### Baking by Machinery.

The introduction of machinery for preparing and baking bread on our coast, is an event of no little interest and importance. We believe that several unsuccessful attempts have been made previously, but it has been reserved for the enterprise and skill of the proprietors of the California and Boston Cracker Works to successfully inaugurate this important addition to our home manufactures.

The bakery is at No. 803, Battery street, near Broadway. At the entrance, one's attention is attracted by the lofty piles of flour sacks and by a most agreeable and appetizing odor. As we pass into the large room on the ground floor, we see hoppers, and mixers and rollers, all driven by machinery, and arranged so as to save manual



MECHANICAL REEL OVEN OF THE CALIFORNIA AND BOSTON CRACKER COMPANY.

labor. The various raw materials are put into a hopper and thence pass into the proper apparatus for thoroughly incorporating the ingredients.

A final roller rolls the dough, when properly prepared, into thin sheets. At the time of our visit crackers were being packed. The sheet of dough slid down an inclined plane and under a peculiar cutter which divided it into pieces of proper size and punched the holes which are requisite to prevent distention in baking. An apron then carried the sheets to the man who charges the oven.

In this oven, a representation of which is here given, are ten shelves, 10 x 3½ feet, suspended on revolving arms in such a way as to retain their horizontal position during the circuit. A shelf being loaded, the touch of a lever causes a partial revolution of the arms, carrying the loaded shelf into the hotter regions of the apparatus, and bringing down to the opening of the oven another full of delicately baked crackers, which are raked out into a basket, the shelf being again charged with a fresh lot.

Underneath the oven is the furnace so arranged that the smoke is all consumed, and the temperature is kept under perfect control. This is regulated so that the crackers are "done to a turn" in one revolution,—neither too much nor too little.

The yield of the oven is carried upstairs to the packing room, where are barrels and boxes of excellent food. For transportation of material from one story to another, there is used an elevator, constructed by Messrs. Hobbs and Gilmore, the simplicity of which forms a strong recommendation for it and for San Francisco manufactures.

In the factory, the use of machinery tends to cleanliness and to diminish the traditional peck of dirt which we are supposed to receive into our stomachs during each moon. Order reigns everywhere, and neatness prevails. Yet in the course of every ten hours, fifty barrels of flour are transformed into the various forms of crackers, cakes and biscuits, and sent off to hungry mortals. Of the excellent quality of the manufacture, we satisfied ourselves during our visit by personal tests.

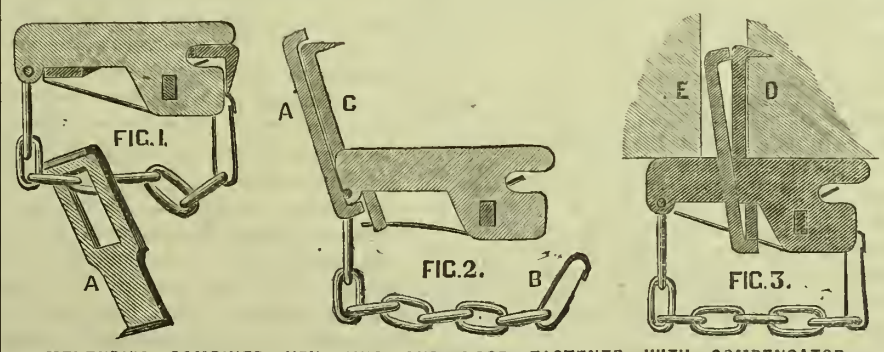
The proprietors of the bakery are Messrs. F. Clay and H. T. Fairbanks, who have spent a large amount of money in establishing their factory, and who have evidently used their money to the best advantage.

### A Pocket Door Fastener.

This is a neat little device, which is exceedingly simple in its parts, intended as a secure fastener of doors, and as such is said to be very popular, while, being exceedingly light and small, it can be carried in the pocket during the day, and used as a key ring.

Fig. 1 shows the device closed, as carried in the pocket.

Fig. 2 shows the device ready for use as a door fastener, and Fig. 3 shows it after




MELENDY'S COMBINED KEY RING AND DOOR FASTENER WITH COMPENSATOR.

the door is fastened. When needed for this purpose, the claw-hook, *C*, is opened and placed between the edge of the door and the casing, with the jaw towards the casing. By closing the door, the jaw is driven into the casing, as denoted in Fig. 3, where *E* is the door and *D* the casing. The body of the apparatus is then slid along to the position shown in Fig. 3, and the door cannot be opened by any one outside, unless the wood of the casing is torn out.

The device is exceedingly simple and easily manufactured, so that it can be furnished at a low price. Mr. B. H. Melendy, of Manchester, N. H., may be addressed for further information.

Brigham Young was once Wm. H. Seward's gardener. Mr. Seward was ignorant of the fact until reminded of it by Brigham, during his—Mr. S.'s—visit to Salt Lake, on his overland trip hither, previous to his departure for the Orient.

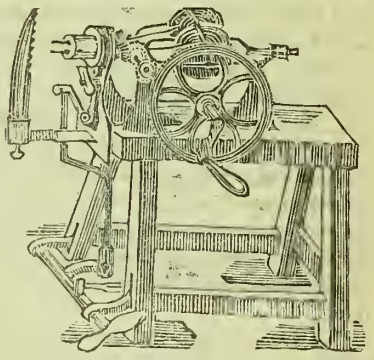
### Machine for Screwed Boots and Shoes.

We have been shown what appears to be a very useful device for the manufacture of screwed boots and shoes. The accompanying cut has been furnished us, which, although only a rough sketch, may yet aid in understanding the description.

The device is a double apparatus which forms and puts in two screws at a time.

The proper wire is placed on the two reels, one coil on each reel, which are shown at the top of the machine, which are so mounted that their frames converge to a point, and which are actuated through gear wheels by a hand wheel. The wire passes from the reels into peculiar dies, whose action, in cutting the screw threads, draws the wire from the reels. After leaving the dies, the screws pass out through openings in the face of a cylindrical device (which holds the dies) into the sole of the boot which is placed on the vertical serrated standard shown in front of the machine. The wires are here denoted as projecting from the cylinder mentioned. On the face of this cylinder is a rotary cutting plate which is actuated through a series of levers by a treadle, and which cuts off the screw when inserted a proper distance into the boot.

The device is simple and its advantages will be readily appreciated by those engag-



ed in the manufacture to which it refers. Steps have been taken, through the Scientific Press Patent Agency, to secure the rights of the inventor, Mr. Andrea Cavalli, of this city. Patent rights may be obtained from Mr. V. Noly, Office *Courrier de San Francisco*, 515 Jackson street, S. F.

Merited Rebuke.—A lady was recently riding in a New Orleans street car and fondling a pet lap dog. A dandified youth who sat opposite remarked to a friend by his side, with the evident intent of being overheard by the lady, "It is something pleasant to be loved; I wish I was a lap dog."

"Sir," said the lady, "If that is all the requisite to obtain affection, you may be happy yet; for you are a puppy now—and you may soon become a dog."

The young man tried to laugh it off; but the effort was a failure, and he took early occasion to leave the car, and hurried on to find a better expression.

The Ornithological and Piscatorial Society.—The 50,000 eggs recently imported by this Society and now hatching in their tanks, at the corner of Gough and Franklin streets, came to maturity much sooner than expected. In the cold water of Lake Tahoe they would take seventy days to hatch; here it is proved that they only take thirty. Send on your eggs, outsiders; we will hatch them.

The "Japs" Waking Up.—The Japanese silk buyers of Yokahama recently held a meeting for the purpose of impressing upon the minds of their silk growers that they must improve their silk productions, or they will see that important branch of their trade destroyed. The Japanese have an eye to the probabilities of California becoming the favorite source of the world's silk production.

In Earnest.—It is said that 10,000 men will be put to work on the California Pacific eastern extension road within sixty days, and that its completion is to be hastened with all possible dispatch.

# Mechanical Industry.

## California Wagons vs. Eastern Wagons.

In considering whether our California mechanics can successfully compete with eastern mechanics in supplying the demand for farm wagons on the Pacific coast, let us first direct our attention to the materials with which both have to deal—or to the elements of expense which enter into the manufacturing of wagons wherever that business may be carried on. These are,—first, hard wood for all the running gear of the wagons, embracing all the wood used about the wagon, except that for the box. Second, soft wood for the box. Third, the iron, bolts, etc., for all parts of the wagon. Fourth, oil and paint. Fifth, coal, used in working the iron and fitting it to its place. Sixth, the labor.

We will consider each one of these elements of expense in the order in which they are above named. The first great fact that demands our attention is that we have but very little if any hard wood fit for use in wagons on this coast, and to obtain that hard wood for use here, we are compelled to go into the immediate neighborhood of our most formidable competitors and purchase it. Upon this fact, our competitors rely, more than upon any other, to give them the advantage and success over us. That this fact is very much against our State, in a commercial point of view, is very plain. That we have to send, annually, large sums of money to the Atlantic States, to pay for hard timber used here in wagons and other agricultural machinery, is just so much against our general interest and prosperity, and just so much in favor of the general interest and prosperity of the States that obtain our trade in this line.

But does this general fact play any figure in the competition now going on between the California and the eastern wagon makers? Certainly not. Why? Because, if we go into the eastern hard wood country with the cash or with good and undoubted credit, we can buy lumber upon equally as good terms as eastern buyers. We can have all our hubs, spokes, felloes, tongues and all other parts of the wagons got out there at the mills, on the ground, with equal facilities and upon equal terms with the eastern manufacturers. It is true that after they are thus got out they have to be freighted to California, at great expense. This, as we said before, must be charged to our general disadvantage, as a State, and not to the particular disadvantage of our wagon makers. For what difference does it make whether the California manufacturer pays the freight on these articles in a raw state, or the eastern manufacturer pays freight on them after they are in the wagon? This freight money in the end has all to come out of the *consumer* on the Pacific coast, and not out of the *manufacturer*, either here or there.

If this freight money be equal, taking the hard wood in the completed wagon, as the standard upon which freight is to be paid, then certainly there can be no advantage for either of the manufacturers arising out of the location of that timber. If, however, the hard wood can be laid down here in the rough state, by which we mean in wagon lumber style, hubs, felloes, spokes and planks for the other parts of the running gear, so that the freight on that which actually goes into the wagon, is less than the freight on the wood part of the imported wagon, then the California mechanic has the advantage on this one point.

What are the facts in the case? The average freight on hard lumber, for New York and other sea ports of the East to San Francisco, is ¾ of a cent per pound. Being shipped in a rough state, as above indicated, there is freight paid on a considerable amount of lumber that is wasted in the manufacture. Suppose this waste to be equal to one-fourth of the lumber shipped for each wagon, then the freight on the lumber actually used would be increased to one cent per pound. This calculation is based on the water route by the Horn. And we suppose that it will cost no more, aside from the purchase money, to place eastern hard lumber at the sea board, than it will to place western hard lumber at the shops of the western manufacturers—our real competitors. Then our next inquiry is as to the freight overland,—the route the imported wagons come.

The Studebaker company get their cars from South Bend to Sacramento and other principal points in the State at $450 each. Each car brings about eight tons in weight on an average. This makes the freight on these wagons come at an average of two and a half cents per pound. Then the freight on the lumber, actually used in the imported wagons, costs the eastern manufacturer one and one half cents a pound more than the freight on the lumber actually used in the California-made wagon costs the California manufacturer.

Allowing the wood work of the average farm wagon to weigh four hundred pounds, the California mechanic has, on the item of freight, on hard wood alone, $6 advantage on each wagon, over the eastern manufacturer.

On the second item of expense, soft wood for boxes, there is no difference, since the boxes for all the wagons are made here.

As to the third item of expense, iron, we will next inquire.

The English refined iron is the kind mostly used in farm wagons manufactured in California, and the price of this iron regulates the price of American iron of similar quality throughout the United States. We will take this kind of iron then as a basis. This iron comes direct from London and Liverpool to San Francisco, and the freight on it, from those ports to San Francisco, is the same as to New York. This advantage in favor of San Francisco (the distance being greater than to New York,) arises from the fact that it is brought here as ballast, in vessels taking grain. We have a little more interest, insurance and other expenses to pay in laying this iron down in San Francisco, than do the New York importers in laying it down there, making the actual cost in San Francisco about one-fourth per cent. greater than in New York. As against this we may place the freight to the western manufacturers, from New York to their shops, so that as to the expense of this item at the shops of the California and Chicago or South Bend manufacturers, there is no advantage on either side. But after the South Bend or Chicago manufacturer has put the iron into his wagon he has to pay two and one-half cents a pound freight on it to California, to place his wagon in the California market by the side of the California made wagon. If the average weight of the iron on a wagon is 400 pounds, it will be seen that the California mechanic has an advantage over his eastern competitor, on the item of iron, of 10 dollars on each wagon. Add this to 6 dollars the advantage in his favor on the freight of the lumber and we have 16 dollars on each wagon in the California mechanic's favor. The other three items of expense—paints coal and labor we will consider in our next.

## The California Silk Manufacturing Company.

Those who have hesitated heretofore to buy stock in this company, being desirous of first seeing the factory of the company equipped with machinery, would do well to take a run out to South Francisco on the street cars, and examine the prospects for themselves. The new manager, Mr. James Leigh, who has but recently arrived from the East, has been engaged now during the last two weeks in placing the machinery in position. Everything necessary to the skillful and successful working of the factory depending upon the operative superintendent, the company are certainly fortunate in having secured the services of Mr. Leigh who resigned a lucrative position as manager of the Singer Sewing Machine Silk Factory at the East. With a reliable President, Secretary, and Treasurer, and an efficient Board of Trustees, this company, after emerging from the difficulties which invariably beset all new enterprises, may be found establishing itself as the foundation of a fortune to several and a means of competence to many.

We opine that many years will not elapse before several rival Silk Manufactories will have sprung up in San Francisco, and at several other portions of the State. The experience of the silk trade throughout the world is one of unquestioned profit to the owners of the stock. We cordially recommend this progressive enterprise to the patronage of our friends, who, to increase its efficiency, should liberally purchase in the company. The capacity of the California Silk Factory is rated at a consumption of 500 pounds of raw silk per week, or 25,000 pounds per annum.

# Sheep Husbandry.

## Sheep and Wool Washing.

It is a question upon which there is much difference of opinion as to whether sheep should be washed or not. The general sentiment in this State is against washing. It is said that many shepherds in the older States estimate the damage to the health of sheep by washing in the ordinary manner, in rivers or ponds, at fifty cents per head.

On the contrary, it is held by others that when the operation is put off until the weather and water is of a proper temperature, and the washing is properly performed, and by one who will not let them struggle to weariness, the animals are all the healthier for the cleansing.

In Australia, sheep washing is very generally practiced, and an apparatus is much used there which is said to perfectly cleanse the wool, and render it suitable to go at once to the manufacturer. A portable engine or other power is employed to throw water into a tank, whence it may receive eight feet fall; several spouts are then provided, which throw into the living wool thin films of water two and one-half feet wide by one-eighth of an inch thick. This searches well into the wool and deterges it perfectly for the shearer.

A modification of this system has more recently been introduced, whereby the sheep, after being first subjected to showers or jets of moderately cool water, by which a considerable portion of the earth, sand, etc., is removed, are subsequently placed under jets of water, warmed to a temperature of 110° F., whereby all the dirt remaining from the first washing, as well as the "yolk" or grease is removed.

An establishment of this kind involves the construction of yards, tanks, power for elevating the water, etc. For heating, the exhaust steam of the engine is employed. The works are put up at some central locality where the sheeep are driven for washing and shearing; each herd having its own pens, and taking its turn at the washing machine. The whole arrangement is minutely described in the Mount Gambier *Standard*. Conveniences for assorting and baling are also connected.

Fourteen men, by the use of this machinery, can wash about 1,200 sheep per day. One man's labor is thus equivalent to the washing of 85 sheep, which, at 5 pounds to the fleece, would give 425 pounds of wool, less the wastage, thoroughly cleansed, at the cost of one man's labor.

The question of wool washing is an important one to the wool growers of this State; and there can be no doubt as to its economy. The only question which needs to be considered is whether the fleece should be washed upon the animal or after it is taken off. It is perfect folly to pay railroad freight from this city to New York on 100 pounds or thereabout, of dirt and grease for every 100 pounds of wool shipped hence to that city. The above facts with regard to the cost of washing the fleece upon the animal, as now largely practiced in Australia, may afford some data for comparison with the cost of washing the wool as just beginning to be practiced to some extent in this city.

## Profits of Sheep Raising in Monterey County.

Editors Press:—I heartily indorse the sentiments of your correspondent, "E," that it is "not kind," either to ourselves or our neighbors, "to publish glowing accounts of over-estimated products and rapidly accumulating fortunes." I do not know on what your estimates of the profits of sheep farming were based. Perhaps in some parts of the State profits may be higher than in the Southern counties; but subjoined is an account, in black and white, of the ordinary expenses on, and the income derivable from, a flock of 1,200 ewes of the quality common in this section—say half-breed merinos. The profits are certainly *not* $1.00 a head, over and above the increase:

| Dr. | | | Cr. |
|---|---|---|---|
| To rent of range... | $100.00 | By spring clip, 4 lbs. a fleece, from 1,200 ewes, will be 4,800 lbs., at 18 cents..... | $864.00 |
| To herder's wages. | 300.00 | | |
| To provisions..... | 120.00 | | |
| To taxes..... | 35.00 | | |
| To loss by disease, wild animals, or lambing, 2 per cent..... | 72.00 | | |
| To shearing 1,200 ewes, at 6 cents the fleece..... | 72.00 | | |
| To fall shearing, 900 lambs..... | 54.00 | By fall clip, 1,500 lbs. at 14 cents.. | 210.00 |
| To bags provisions for shearers, etc. | 70.00 | | |
| To hauling from ranch to landing | 45.00 | | |
| To freight..... | 20.00 | | |
| To commission... | 25.00 | | |
| To interest on $3,600, prime cost of flock, at 1 per cent a month.... | 432.00 | By 900 lambs, at $1.50 each..... | 1,350.00 |
| Total..... | $1,345.00 | Total..... | $2,424.00 |

Profit—$1,079.

These figures, if correct, show that after allowing a low rate of interest on the capital invested, the entire profits, including the value of increase, are not a dollar a head. Some may consider the percentage of increase too low; but actual experience in large ranches, proves that 75 per cent. is a full average increase. I have heard of an increase of 150 per cent.; but it was in a flock of some 200 or so, cared for by the family to whom it belonged; and, as a set-off to this I have known a loss of 500 lambs to occur on one ranch during a single cold storm.

Wool, too, stands at present far above my valuation; but from 15 to 20 cents has been the price realized in the main by growers during the last few years.

If my figures are wrong, it is easy for any one to correct them according to the circumstances, more or less advantageous, under which he expects to enter into the business. But I can assure those who, on account of present high prices of wool, may be getting "sheep on the brain," that from an ordinary management their profits will not be $1 per head. I accept the "wisdom of Solomon" (Jewett), as expressed in one of his letters to you, and sign myself in full.

Edward Berwick.

Carmel Valley, Monterey Co., May 19th.

We are much obliged to our correspondent for the above figures, notwithstanding they go to show that our estimates on the profits of sheep raising in this State have been too high. What we are after is practical information for the people; and the above appears to be just what is wanted. The results of actual experience is always valuable and instructive. Although much lower than the figures we have given, the exhibit is nevertheless an encouraging one for the business. A profit of $1,079 on an investment of $3,600, over and above all expenses and interest at one per cent. a month, is as good a showing as any one need ask for any kind of business; especially for a business which there is no chance of overdoing—for some years to come, at any rate. The same number of sheep this year, with the increased price of wool, would show an additional profit of over $700.

Rabbits vs. Sheep.—Some few years since an enthusiastic individual imported some rabbits into the sheep ranges of Australia, and, in the absence of enemies, they have multiplied to such an extent that they are beginning to dispute the herbage with the great sheep herds of that country to such an extent that their extermination has already become a serious problem.

# Agricultural Notes.

## CALIFORNIA.

### Condition of the Crops.

The weather, for the last two or three weeks, although but little rain has fallen in the time, has been otherwise highly favorable for maturing the crops. The absence of cold, drying winds and hot days has allowed the grain to fill out much better than was anticipated three weeks ago, and many localities where the wheat was considered a total loss, will now yield nearly or quite half a crop. The rain of Sunday last, contrary to expectations at the time, has done a large amount of good. A farmer near Stockton, where the wheat crop was thought to have been utterly destroyed by the drouth, reports to the *Independent* that the late favorable weather has so improved it that he now expects a fair average yield.

The hay-cutters are at work and shaving close. Many fields are cut where but half a ton to the acre is expected, which in ordinary seasons no one would think of cutting. There is a general disposition manifested to gather and save everything that will help out in the way of either grain or hay.

The fruit crop still continues to promise unusually well, and no very extensive damage has occurred anywhere to either vineyard or orchard. The frost has nipped a little in the extreme north and southern portions of the State, but no very serious damage is reported.

In the Foot-Hills of the Sierra Nevada, says a correspondent of the *White Pine News*, the grain fields are far in advance of those on the plain. The red soil of the mountain is far better than it has been credited for. The great vineyard of Bugbee, near Folsom, now worth near a quarter of a million of dollars, and which has almost made itself within the last ten years, is proof of the capacity of the region, and of what may be accomplished by a little well-directed industry. There are countless thousands of acres of such lands, now vacant and neglected, upon which such vineyards, or superior orange or walnut, or other valuable fruit-bearing groves, might be grown. The planting of such vineyards is now engaging the attention of the people, and they are extending, in some localities, quite rapidly. No better prospect offers to a young man than the acquisition of a few acres of orchard and grape-bearing lands on the western slope of the Sierra, and planting upon it trees and vines. A lovely home is soon made, and future wealth is certain.

Most of our people, however, prefer to seek their fortunes in gambling at the Stock Board, or other uncertain means of profit, so that only slight comparative availment is made of the great opportunities presented on our mountain slopes. The ranches or locations there, in a majority of cases show unthrift, untidiness and neglect, as if the country was in the decline, worn out, and about to be abandoned; fences, barns and dwellings are rotting away; the streets of former busy towns are gullied and neglected; the black embers show where stores, hotels and saloons once were, and young pines and chapparel grow rapidly over the rich placers of other days.

But this decay need not have been, neither will it long continue. The mineral and agricultural wealth of the western slope cannot be doubted, and the attention of capitalists has latterly been drawn to it with much force.

Broom Corn Seed.—The Sacramento *Bee* of May 29th, says:—The raising of broom corn appears to be one of the industries of El Dorado county. This morning the train from that county brought down 22 sacks of seed raised there, which was sent to the San Francisco market.

Frost in Los Angeles.—There was quite a smart frost in Los Angeles on Sunday last, and much of the young fruit, such as peaches, apples, oranges, etc., was strewed upon the ground beneath the trees.

A Mine and Ranch.—The *Stars and Stripes* describes the location of Mr. Ralph Boles, near Rattlesnake Bar, Placer county, where he has located 320 acres of land, commencing with a mining claim on the river, and running back, so as to embrace a lovely, fertile tract of low land and sloping hill side, the latter heavily timbered, and the whole peculiarly favored as to water privilege, and admirably adapted to bountiful production of grapes and all descriptions of semi-tropical fruits.

Along the small ravines upon the place there are dense thickets of wild blackberries, grapes, etc., and in their season a profusion of wild orange blossoms and other beautiful wild flowers which give an air of enchantment to the scene. Mr. Bole's residence is embowered in a mass of moss-roses, honeysuckles, passion-flowers, etc., growing with a luxuriance rarely equalled. His orchard is a marvel. His fruit trees are of forest-like proportions. One of his apple trees—a Rhode Island Greening—last year yielded a ton of fruit; one pear tree yielded fully thirty bushels; grape vines of the White Muscat variety yielded as high as 40 pound each, and cherry, peach and other trees in proportion.

Our foot-hill and mountain regions ought to abound with such ranches. The opportunity for them is ample, and the profits derivable therefrom, in connection with the yield of the mines, might render our mining counties the most prosperous portions of the State, instead of being as now, many of them, at least, almost hopelessly involved in debt.

Peanuts Going East.—A car load of peanuts was recently shipped from Sacramento to Omaha—the first shipment of the kind, we believe, ever made from this coast.

Chico has subscribed $4,500 toward liquidating the debt of the Upper Agricultural Society.

Tea Seed from Japan.—W. W. Hollister, of Santa Barbara, has just received a large quantity, fifteen or twenty bushels, of seed from Japan, which he will plant on his farm near that town.

Sheep for Nevada.—A party of men and five teams, says the Stockton *Independent* of the 26th inst, started out from this city yesterday for King's River, for the purpose of collecting a flock of 25,000 sheep, belonging to Louis Hass, of this city, and driving them to "pastures green" in the State of Nevada. The flock will be divided into five droves, each accompanied by six men and a team.

Farming on a Large Scale.—We learn that Mr. Applegarth, says the Stockton *Independent*, is the owner of some fifty thousand acres of land in the southern part of the valley, has organized a company, or working force, in England, for the purpose of cultivating said lands and farming on a more extensive scale than has heretofore been undertaken by any single innividual in California. He proposes, we are told, to bring into use the most approved agricultural implements and to make the necessary preparations for irrigating every acre of the lands.

The Mountains After All. — Mr. Elijah Tompkins, of Bear Valley recently fitted up a camp wagon, and with his wife started on a hunt for a ranch somewhere in the valleys; because he was "growing old and wanted to find a place for a permanent home." He went as far north as Colusa, and as far south as Santa Cruz; but he failed to find any place that suited him so well as his old ranch in Bear Valley. During his visit to Monterey county he purchased a lot of Cashmere goats of Butterfield & Son, of Hollister—2 pure bloods; one 15-16 blood, and 200 half and three-quarter bloods. Mr. Tompkins thinks the mountains peculiarly adapted for this animal, which is a native of a mountainous country.

Sheep in the Mountains.—Mrs. Stewart, of Penn Valley, says the G. V. *Union*, lately took 1,800 pounds of wool, from her flock, which sold for 30 cents per pound. There are scores of valleys in every part of the lower Sierras and the foot-hills where small flocks of sheep might be kept with very little care and expense and thus add materially to the items hat go to make up the annual revenue of esidents in those parts of the State.

Rice-growing in this State.—The Sacramento *Bee* says: According to the report of G. L. Johnson, Clerk of our Board of Swamp Land Commissioners, rice growing has been commenced in this country with gratifying results. The rice is growing upon Swamp land, and with our present system of leveeing can be carried on extensively. In District No. 28, Hugh Davis and Wm. Gwynn last year planted a few acres with rice, and the result was so satisfactory that this year they will enter largely into the cultivation of that article. We do not see any obstacle in the way of turning our vast meadows into rice fields, and thus furnishing this coast and the East with that article, instead of importiing it from China, and other foreign countries. There are different kinds of rice, requiring different methods of cultivation.

Maccaroni Wheat.—Mr. S. Baker, who lives about four miles from Hollister, in Monterey county, has about 30 acres of this wheat growing on his place. Its yield is much greater than that of common wheat. A Mr. Nash, a year or two ago, sowed fifty pounds of this grain somewhere in Santa Clara Valley, and it yielded him fifty sacks. If the thirty acres which Mr. Baker has in does well, it is his intention to sow more next year. There is a mill in this city which prepares it for use. The grain is about three times the size of common wheat. In France this kind of wheat is ground into flour; here in California, and other parts of the United States, it is used for maccaroni soup.

The Wheat Yield of San Joaquin.—The *Republican* of May 17th says that the San Joaquin Valley, the great region of the State will not produce more than one bushel where ten were expected. It is only along the foothills in the Eastern side of the valley that there is any promise of grain. Out in the valley not a green blade is to be seen—all is dry, parched and desolate.

Suisun.—Reports from the vicinity of Suisun say that the grain crops are maturing far better than was expected three weeks since.

Large Strawberry Yield.—There are some 500 acres of strawberries cultivated in and around San José, the average yield of which, the present season, according to the San José *Patriot*, will be fully seven tons per acre!

## OREGON.

The Crops in Oregon.—Favorable reports of the crops in Oregon still continue to come in. Although owing to the late and heavy rains a less breadth of land has been sowed than last year, the opinion is confidently expressed that the coming harvest will carry off the palm for producing better and more wheat to the acre than any other State in the Union.

Improving Stock.—The Willamette *Farmer* advises that arrangements be made for improving the stock generally in Oregon. Of those who have made such improvements, no man can be found who regrets the extra expense which such improvements cost, or who will not make further efforts in that direction. This latter argument in favor of the improvement of stock is of universal application, and no better one need be sought for.

Fine Wool.—E. N. Cook, Esq., has left at the office of the Willamette *Farmer* some fine specimens of wool, 16 inches in length, taken from Leicestershire and Lincolnshire sheep, lately imported into Oregon from Canada.

The Late Frosts, which seriously injured the fruit in some of the northern parts of this State did no damage in Oregon.

Wheat Exports from Oregon.—Since the 1st of October last, the value of wheat shipped from this port to England direct, has been $283,502.42. One cargo has been shipped to Rio Janeiro, valued at $35,327.25. Considerable quantities of wheat and flour have also been shipped to British Columbia, Honolulu, etc. One whole cargo and several parts of cargoes sent down the river on steamboats, transferred to sea-going vessels and cleared from Astoria for foreign ports, are not included in the above values. The total value of wheat and flour shipped from this river to foreign countries since the 1st of October last, will fall little if any below $350,000. Of coastwise shipments, no complete account can be obtained, but undoubtedly they must exceed the foreign. —*Oregonian.*

Grain Area of Oregon.—The three great valleys—Willamette, Umpqua, and Rogue River contain an area of nearly 8,000 square miles or 5,120,000 acres of good wheat land. If only one tenth of this area was devoted to wheat, it would produce over 10,000,000 bushels—more than enough to feed the entire population of the Pacific coast. The Willamette valley is scarce inferior in extent and fertility to the famed valley of the Nile.

The Rainfall of Oregon.—The idea has to some extent prevailed, says the Willamette *Farmer*, that Oregon is a wet, rainy country. That we have more rain than falls in California is very true; but no more than is needed. In the last year there has not been as much rain fall here as is usual in the Western States; and what is of great importance is the fact that the rains fall at seasons when they will do the most good and the least harm; and at those seasons when crops are maturing—when rain would injure—we have very little. Take all things into consideration, we do not think that we could make any general improvement in regard to the amount and the period when the rain falls. Rains are very destructive to crops in other countries where they fall when grains are near and after their maturity. Our wheat, and barley, and oats are always bright. Then let us not complain of rain in winter or early spring. It insures fruit, and wheat, and oats, and barley, and all the cereals, and grasses, and all esculents, and it fills our "horn with plenty."

The following Meteorological Journal for 1870 is worth preserving and examination, and a good thing to send to our friends East:

**Meteorological Observations for the year 1870, taken at Portland.**

| | Snow. Inches. | Rain. Inches. | Highest Temp. | Lowest Temp. | Rainy Days. |
|---|---|---|---|---|---|
| Jan | .50 | 4.85 | 63 | 21 | 16 |
| Feb | | 4.30 | 58 | 32 | 18 |
| March | 9.50 | 4.30 | 63 | 18 | 14 |
| April | | 4.30 | 80 | 41 | 12 |
| May | | 1.95 | 87 | 45 | 7 |
| June | | 1.95 | 95 | 55 | 4 |
| July | | .20 | 102 | 61 | 1 |
| Aug | | .20 | 87 | 57 | 1 |
| Sept | | .45 | 91 | 53 | 3 |
| Oct | | .55 | 77 | 36 | 2 |
| Nov | | 6.05 | 66 | 37 | 7 |
| Dec | | 4.40 | 61 | 18 | 12 |

## ATLANTIC.

The Wheat Crop of the United States.—The Report of the Department of Agriculture for March and April, represents a very favorable condition of the winter wheat crop, with some trifling exceptions, through the country.

Crops in Tennessee. — Reports from Memphis says the crops are very discouraging. Owing to continued rain, cool weather, caterpilars and vermin, the young cotton is destroyed and many planters are without means of replanting.

Drought in Illinois.—According to reports the crops of Central and Northern Illinois are suffering from an unprecedented drought. Previous advices represented Southern Illinois as suffering from swarming hosts of caterpillars, which were consuming everything green in their devastating march.

Cranberry Crop of 1869.—The following statistics give the amount of cranberries raised in 1869 in some of the Eastern States: Maine produced 1,000 barrels; Massachusetts, 8,000; Connecticut, 2,000; New Jersey, 50,000—principally from cultivated fields. At nineteen stations on the St. Paul and Milwaukee Railroad 14,585 barrels were freighted during the berry season of the same year. A ten-acre lot in N. J. produced in one year 900 bushels—value $6,000. The owner was offered and refused $2,000 per acre for his lot.

Large Fruit Plantations.—One gentleman of Sioux City, Iowa, it is stated, will plant 200,000 trees on his farm this year; another has commenced planting 250,000 trees in Lyon County, and still another is planting 30,000 trees—chestnut, larch, maple, and cottonwood—in Ida county.

The Trophy Tomato.—The Horticultural Society of Western New York, at a late meeting, recommended the Trophy Tomato, as one of the very best; the Egyptian Beet, as a vegetable of great promise; and the Early Rose, as the best early potato.

Russian Apples. — The Horticultural Society of Iowa, have recommended an extensive cultivation of Russian apples. A report of that Society says that our common apples come from the southern part of Europe, and to some extent are tender in our northern climates. It also says that the wood and leaves of the Russian tree are different from those of the southern tree, and capable of withstanding more cold. The Dutchess of Oldenburg and the Red Astracan, we believe, are Russian trees. They produce very fine apples. Are these trees more hardy, do they grow larger, and live longer, than the varieties said to come from the south of Europe? If so, it seems to us that the cultivation of the new variety of Russian apples, scions of which have been lately received from Russia, would promise well.

A Valuable Cow.—A Vermont cow is said to have furnished 350 pounds of butter, "besides milk" in one year.

Another.—Mr. Q. Colin, of Oakland, Wisconsin, has a cow which gave in the seven days succeeding the 9th day of April last, 336½ pounds of milk. The cow during the time was fed upon ordinarily dry winter food.

# Home and Farm.

## A New Road Steamer.

That we have not made more extended mention of the road steamer which has been in the course of construction in this city, is due simply to the fact that we wished to have some tangible evidence of its powers and to be satisfied from personal observation as to its capabilities. Having now had this evidence, and being satisfied that it can do what we were told it was capable of, from seeing it at work, we are better prepared to speak of its merits.

The "American Overland Steamer," as it is called, is the invention of Oliver Hyde & Son, of this city. The machine was built at the Ætna Foundry, and has been tested a couple of times,—the last time on the 20th ult., when it acted in the most satisfactory manner. It is in many respects similar to the Thompson steamer, yet differs therefrom in several important points, in which it appears to be an improvement on its predecessor.

The steamer weighs 20,500 pounds. The boiler is four feet in diameter and six feet high, with 180 tubes, furnishing steam for two engines, with link motion and variable cut-off, running about 200 revolutions per minute, reduced by the gear 16 times, and giving the steamer a speed of some three miles per hour. It has a very neat donkey steam pump, invented by Mr. W. W. Hanscom of the Ætna Foundry, which is so arranged that it can be used for filling the tanks from wells, springs or creeks. The steering apparatus is simple and effective, a hand wheel operating on a segment of a screw gear, on the top of the pintel of the guiding wheel.

The most noticeable improvement is in the construction of the rubber tires of the wheels. In place of the rubber band of the Thompson steamer, there is a series of rubber rolls placed side by side across the face of the wheel. The triangular spaces between the inner parts of these rolls are filled with iron wedges, bolted to the metallic rim, and the corresponding spaces between the outer parts are filled by similar wedges, each one bolted to an iron bar somewhat similar to the protecting bars on the Thompson steamer.

This construction, gives a grip on the ground somewhat like that, as has been remarked, of an elephant's foot. The tires yield sufficiently under the pressure to give a traction tread of 15 inches square on the ground under each wheel, equal to a pulling power of about 4,000 lbs. If we take the power required to draw one ton at the rate of one mile per hour over a level, clean, McAdam road as 68 lbs., this would make the steamer capable of hauling a weight of 60 tons over such a road at the speed mentioned. The power required for the same over a level newly gravelled road being given as 320 lbs., the steamer would pull 12 tons. It is stated that in practice, over a fair road, it will draw with ease 40 tons.

At the trial on the 20th inst., the steamer hauled two large columns (cast for the State Capitol), of a total weight, including trucks, of 26 tons, from the Miners' Foundry to the Central Pacific Railroad station at the foot of Second street. There are varying grades on the route, some quite steep, and varying character of ground, but the machine traveled on steadily and easily with its heavy load, turning the corners nicely and otherwise acting to the satisfaction of the observers and managers. A severer test will hardly ever be met with in practice than that over the loose cobble stones and the railroad track on the steep grade of First street.

The steamer in question is intended for work in Utah. Another will be built for the competitive trial at the coming State Fair at Sacramento. It will be a matter of sincere congratulation for our coast, if California can, as now appears to be the case, invent and build a practical traction engine for hauling freight, for deep plowing, and for other agricultural and general purposes.

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Wealth comes not only with economy in money matters, but is as surely the result of economy of time in the disposition of labor.

## The New Pacific Railroad.

The extension of the Union Pacific Railroad westward is an old project, which has, however, had no prospect previously of becoming a speedy fact. The (comparatively) recent change of management of the California Pacific, and the acquisition of the other approaches to this city by the Central Pacific, have apparently led to the earlier undertaking of an enterprise of the greatest importance to the coast.

The route of the new line, as given, is about as follows: From the northern end of Salt Lake to the Snake River, Idaho; along this river, some 300 miles, to its bend to the north near the boundary of Oregon and Idaho; thence, some 300 miles, to Christmas lakes, north of the north-east corner of California; thence one branch north-west to connect with roads in Oregon, and another south to join the California Pacific. Whether this last will run to the east, or cross immediately and run along the west, of the Sierra Nevada, is not agreed on by journalists, who otherwise coincide as to the route here given.

The building of this road will lead to the extension of the Central Pacific eastward. It must have some effect on, or be affected by, the North Pacific, as well. In fact, the project has the most important bearing not only on our State, but also on Idaho, Montana and Oregon. But we must remember that there is no real certainty as yet concerning the road or concerning the route. That it will be of the greatest advantage to the coast, if built, is certain; but that it will be equally advantageous, with competing routes on each side, to the builders, is not so certain; and this renders us doubtful until we see work actually commenced.

It is stated that the entire capital stock of the company has been subscribed, and work will be commenced within a short time on the extension from Davisville northward, and the surveying of the balance of line will be pushed vigorously, preparatory to commencing the construction of the road at various points. The company are of the opinion that the road can be constructed and put in working order to Ogden within two years from this date.

## Santa Cruz Farmers' Club.

[Reported for the Press by Roger Conant.].

The Club met on Saturday afternoon, May 20th.

The committee appointed to examine Judge McCann's calf, reported that it was not expedient for the Club to make the purchase, as the animal was not thoroughbred.

Mr. Locke asked if the committee appointed to examine the questions in the Pacific Rural Press had done anything in the matter.

Mr. Morgan, from the committee, stated that on account of sickness in his family, he had not been able to meet the other members, and requested further time, which was granted.

### The Jerusalem Artichoke.

Mr. Locke, from the committee on the Jerusalem artichoke made the following report:

"The Jerusalem or sunflower artichoke or, in America, the artichoke, is a species of sunflower,—so says Webster, and the word Jerusalem is a corruption of the Italian for sunflower. It is cultivated for its root, which is said to be as nutritious as potatoes, bulk for bulk, and very palatable. The tops, cut and cured early, make good fodder and when left to mature, form excellent kindling wood. It thrives upon a dry soil, which should also be rich. Plant as soon as the soil will permit, about the same as potatoes, covering them three inches deep. Cultivate clean. They can remain in the ground all winter, and may be dug as required. It seeds itself after the first year. A good crop yields 1,500 bushels per acre. When ground is needed for other purposes, turn in the hogs and they will clean it."

We gather this from the books, and it certainly seems odd that a root containing as much of the elements of nutrition as the potato, and yielding 1,500 bushels to the acre, seeding itself year after year, and whose tops make good fodder should scarcely be known among farmers.

Many of the members of this Club well remember with what persistance they grew along the fences of their fathers' gardens, in spite of all diligent search for them by their enterprising sons. And how young eyes glistened as the big whoppers rolled out, and sharp young teeth proved their edible qualities.

Mr. Humphrey stated that when raw, the artichoke was a more palatable plant than the common potato. The report of the committe was accepted and adopted.

[The artichoke is undoubtedly a most valuable field crop, and is deserving of far more attention than it has heretofore received. In some parts of the Western States it is cultivated with success and profit. All kinds of stock—horses, cattle, sheep, hogs and chickens are fond of them. They are considered, by those who have tried them, a healthy food, and a valuable addition to grain and hay. They have been fed to milch cows with the best of results. They yield enormously.—Eds. Press.]

Mr. Dakin presented a pamphlet advocating the use of gypsum in place of plaster, and stated that it could be obtained in San Francisco, for 75 cents a hundred pounds.

Mr. Humphrey offered a proposition to tax the members of the Club 10 cents a month, the amount so taxed to constitute an agricultural library fund, to be devoted, at the end of the year, to the purchase of books. It was amended, making the tax $1 a year to each member and laid over to the next meeting.

On motion of Mr. Dakin a committee of three, consisting of Messrs. Dakin, Locke and Sawin were appointed to recommend books to the Club for purchase.

Article 3d of the constitution was so amended as to create the office of librarian and Roger Conant was elected librarian. S. S. Roberts and C. P. Batchelder, were proposed for membership.

Mr. Locke offered a specimen of wild rye grass, for the inspection of the Club.

A vote of thanks was returned to James O. Wanzer for a copy of J. Ross Browu's mineral resources of the States and Territories west of the Rocky Mountains. Adjourned to the first Saturday in June.

## Adulteration of Milk—How to Detect It.

Mr. C. M. Bates, M. D., Health Officer, of this city, has published a communication upon the above subject, in the *Bulletin*, from which we extract as follows,—:

The last Legislature of California enacted a law intended to cure the evil of adulterating milk, which *crime*, as it ought to be called, takes off so many of our children every year; this law was intended to be very stringent, yet the technicalities admitted in our Courts make it almost useless. The purchasers of milk however can, if they will take the matter in hand, and to a very great extent, reform this evil and save the lives of many of their children.

The common mode of adulterating milk for this market is with water, burnt sugar and table salt, by which process the bulk is increased from one-eighth to one-half, and can scarcely be detected by sight or taste.

Ordinary water, in almost any proportion, will cause milk to ferment and sour much more speedily than pure milk will, and this putrefactive fermentation renders milk, as food for children, exceedingly productive of disease. Water, if added to milk at all, should be put in only a few minutes before, or at the moment of using. It would be economy and a saving of life, for purchasers of milk to secure a pure article by paying a little more than the current market price.

Milk may be tested by the "Lactometer," a specific gravity instrument for fluids from 0 to 25, 30 or 40. Ordinarily 33 will indicate pure milk. Twenty-five is the point at which the instrument floats in milk with one-fourth water; 18 will show the presence of one-half, and 9 three-fourths water. The milk should be of a temperature of about 60 degrees, Fahrenheit.

The reliability of the "Lactometer" is a somewhat mooted question, based upon the theory that milk, usually rich in cream, will range low upon its scale, whilst milk entirely deprived of cream will mantain its specific gravity, or will even appear more dense than unskimmed milk—all of which is correct.

If it is suspected that cream has been removed, a small quantity may be set aside in a large phial, for 24 hours, and the accustomed eye will soon detect if there is a lack of the proper quantity of cream; or it may be compared with milk similarly treated, and known to be pure. It should first be well shaken so as to mix thoroughly all its component parts.

Pure fresh milk (not swill milk) is always alkaline, which will be shown by dipping into it a piece of "tumeric" yellow paper," which will turn brown; and if the milk contains acid (which it should not,) a piece of "litmus blue paper," dipped into it, will disclose the fact by the paper changing to a red color.

Milkmen sometimes use common salt to increase the specific gravity of their milk, which, if used in sufficient quantity to raise the lactometer more than one degree, can be, in most cases, detected by the taste, and certainly so by boiling the milk down one-half in quantity.

Chalk is said also to be sometimes used, which can readily be detected by setting some of the milk aside in a glass vessel to settle, and in a very short time it will be discovered at the bottom.

A small book, by Thos. M. Hoskins, of Boston, entitled "What we Eat," contains full and specific directions of substances used in adulterating many articles of human food, and every housekeeper would be profited by its careful perusal. This work and the lactometer, together with the test paper spoken of, can be had for from $3 to $5. The writer offers to aid any one who will call upon him, in determining the correctness of the lactometer; and persons who feel that they cannot afford the expense of the test, as I suggested, can have the test applied to any milk they may bring to the Health Office, 521 Jackson street, from 11 A. M. to 12 M. any day except Sunday, free of charge. Half a pint is sufficient for the test.

## Farmers' Sons.

Last week we had something to say, in this department, about farmers' wives. To day we have a word of advice for farmers' sons, as given originally in the Philadelphia *Commercial List*:

Our cities are everywhere crowded with young men who come to enter some "genteel business." So, too, in the country districts there is a rush for "genteel business" among the sons of farmers. It is not the custom now for a farmer's son to grow up on a farm, work as his father worked before him, and bring up his family at the old homestead, or, what is better yet, in a new one. Young men seek the cities. They wish to dress in fine clothes and stand behind counters. They get an education, and consider it wasted unless they engage in commercial pursuits and become "citizens" instead of "country men." We have a great respect for the commercial interests of the nation, and do not wish to join the popular sneer at counter-jumpers, and clerks. We have need for young men in every department of honest labor. But we do not think that the hard, out-door work of agriculture is better calculated to develop manliness of character than confined labors of the counting house or shop. Farming is not enough respected by the nation in comparison with the mineral pursuits. Young men, too, in a majority of instances, desert the farm and seek the city because they wish to escape the harder labor which is supposed to be the lot of the farmer. They wish to live an easier life than their fathers led, and attain the same success. A few years of experience behind the counter or the desk dissipates the idea that mercantile life is the easier one; but at first view it has fascinatious to the young man's eye which agriculture has not. Is there not considerable of laziness in this rush to the city of farmers' sons? We need a certain amount of fresh blood and fresh brain from the rural districts in every branch of metropolitan industry; but we do not need the rush of applicants for positions which lowers the salaries here, while the rural districts are suffering for working hands.

Horace Greeley has always urged young men to stay in the country, and his advice has been a blessing to both city and country, as far as it has been followed. Let farmers' sons face work manfully and not try to shirk it by coming to the city. The country is where they are needed. Let us have more of the spirit of our fathers who broke the ground and leveled the forests. Work is what the country needs—straight forward, manly, honest work. Leave "genteel business" for the city and work up the farms.

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An excellent suggestion is made by an English druggist in relation to the dispensing of poisionous substances. He proposes that, in addition to the word "poison," the labels should have printed on their margin the appropriate antidotes for each class of poisons. A bottle containing a mineral acid, for instance, would have on its label, "Poison!—If taken by accident, give (mixed with water) chalk, or soap, or whiting, or ceiling scrapings."

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Be temperate in diet. Our first parents ate themselves out of house and home.

## Santa Barbara as a Sanitarium.

EDITORS PRESS:—A considerable break having occurred in my weekly meteorological reports, in consequence of my absence from Sacramento, in search of a retreat for invalids, I propose filling up the gap with some account of the climate, topography and surroundings of this interesting region from a sanitary point of view. In doing so, I purpose confining my remarks chiefly to that portion of Santa Barbara which consists of a coastwise strip of land, averaging about three miles in width and some sixty or so in length, and extending in a due westerly course from Point Conception to Point Buenaventura. Bounded on the north by the Coast Range mountains, of an average hight of 3,000 feet, which prove an insurmountable barrier to the peculiar harsh oceanic winds, and on the south by a channel formed by the Santa Cruz and other islands, some 20 miles distant, which serve as well to deflect the cold current that sweeps down from the Arctic seas as to afford protection from the concomitant cold fogs that roll in so uninterruptedly in other parts of the coast, this portion of California stands out pre-eminently the land of promise to the weary desponding invalid.

The very conformation and topography of this section, while it explains the cause, speaks to the intelligent reader of a climate that cannot be otherwise than even, mild and soft, and, at the same time, invigorating with the moist, but refreshing, sea breezes, which the thirsty land sucks in. In vain, heretofore, since my appointment to the responsible position of Health Officer to the State, have I sought for such a combination of sanitary qualities as are now presented. Here in this mountain and island locked valley, rising but a few feet from the blue waters of the grand old Pacific, all the pre-requisites of health are to be found in measure so profuse, that I would be accused of poetic extravagance, were they duly portrayed. The instrumental and numerical proofs must be left to sustain all I have advanced; but before stating these, which I can only now do in part, (reserving the fuller details for a State report,) I proceed to speak more particularly of the town proper, which furnishes the type of the whole region reviewed, and where the statistical and meteorological data have been carefully compiled by trustworthy observers.

### Description of the Place.

Santa Barbara is the county seat and principal town of the county of the same name. It is built upon a beautiful slope, rising from the sea-beach, at the southeastern extremity of a gently ascending valley, some fifteen miles in length and two in width, but gradually spreading out to five miles, as it extends into the interior. The beautiful harbor consists of a cove, or semi-ellipse, about one and a half miles wide from point to point, indented into the curving shore and protected by the overlapping San Rafael and adjoining ranges. The gently sloping beach for several miles affords safe sea-bathing at all seasons of the year. At low water an admirable and pleasing drive, equal to that of Newport, may here be had, and the interesting drawing of the seine, full of every variety of fishes, may be witnessed,—a most important item in the dietary of the feeble, from the warmth-giving phosphorus it contains.

The historical feature and nucleus of this old Mexican town, now in an active transition stage, is the old Mission Cathedral, about one mile and a half from the shore and at about 300 feet elevation from the sea level. It is built of sandstone of the surrounding hills, and one is struck with the ancient grandeur of its imposing Moorish style of architecture. The main nave of the building is 200 feet long and 40 feet wide, supporting two lofty domes in front, with belfries of solid masonry, which are seen at a great distance in all directions, both on land and ocean. To the left is a wing 130 feet long, with porches supported on pillars and arches, all in a good state of preservation. I call attention particularly to this monument of the zeal of the Franciscan Friars, who, in 1786, here first raised the emblem of the cross, because, in keeping now with this progressive age, these self-sacrificing fathers are strenuously conducting a flourishing college, which is making rapid strides in its course towards the noble position which it is destined, at no very remote day, to occupy among the literary and scientific institutions of the country.

Among the works, stupendous for the times, constructed by the well ordered labor of 3,000 Indians attached to this mission, are reservoirs, basins, fountains and aqueducts, running over with pure spring water from the adjacent mountains. These, it is contemplated (as I am informed), to extend into the city, by a system of water works, and thus provide for one of the most essential elements of health.

### Schools and Churches.

Besides the missionary system just noted for the education of boys, there are also the St. Vincent's College for girls, and the Santa Barbara (Protestant) for both sexes. In addition, there are two good public schools which are well attended. These institutions attest the intellectual basis on which the future prosperity of the city is to be built. The religious element, too, is not wanting, for there is a larger proportion of churches to the population than I have witnessed in any other California town, some of which are built in good architectural taste. Besides the old Mission, the Catholics have still another church in the town, and the Congregationalists, Episcopalians and Methodists have each a brick edifice. The Presbyterians have as yet only a small wooden chapel, but contemplate erecting a more imposing structure at an early day.

About one-third of the town consists of the primitive tile-roofed adobe houses, which, however, are fast disappearing before the encroachments of modern wood and brick buildings. A large three-story hotel is now in process of construction, which will be furnished with all the modern appliances necessary for the comfort of travelers.

In fact, nothing can now check the march of improvement, which, in the last three years, has advanced in a geometrical ratio, going on at the same rate towards building up this, the promised land, into a health resort, unsurpassed in artificial, as it is in natural, advantages by any place on the coast, the continent, or the world.

Were I writing from any other than a sanitary standpoint, I could dwell with rapture on the refined and cultivated society to be here met with, and of whose prodigal hospitality I have been the surprised recipient. I could also speak of gardens redolent with the perfume of every kind of flower, of tasteful cottages, and still more ornate residences, from which the sweet accord of music floats upon the balmy air, and of landscape views, which, for loveliness and variety, are rarely equalled. These meet one at every turn, and almost tempt me, while I write, to stray into the paths of descriptive romance. But I have taken up my pen to speak of facts—of climate and of vital statistics—and to those I must confine myself.

### Agricultural Features.

I cannot, however, refrain from alluding to the prolific yield of the soil, which, as it depends upon a peculiar climatic feature, comes within my scope. I have seen for myself, and have conversed with producers from all parts of the world, and with them am satisfied that for richness and depth, varied productiveness and yield, the land has no superior. I have been shown Indian-cornfields, with the grain just germinating at this late date, when the rains are all over, and which, I am assured, will produce without irrigation from 100 to 150 bushels to the acre; and this in consequence of the absorbent properties of the soil from the moist sea air. Vegetables, with no exceptions, are readily produced in quantity and size that might challenge the credulity of an upper Californian. Every kind of tropical and other fruit grow to perfection, and the orange and the apple may be seen bearing fruit side by side. As a special proof of the prolific character of the soil, I will mention a grape-vine, some three or four miles out of the town, which, on actual measurement by myself, was found to be four feet three inches in circumference, 4½ feet from the ground, at the point of beginning of the first branch. This vine, still healthy and vigorous, was planted from a cutting some forty odd years ago, and its branches now spread over a trellis 76 feet long and 61 wide, which they completely cover. It produces from 12,000 to 15,000 pounds of fruit annually—some of the clusters weighing five pounds. I have seen large grape vines in France and other parts of the world, but this beats them all; and so said the great traveler, Mr Seward, when he measured it a year or so ago.

### Mineral Feature and Influences.

This must suffice to give some idea of the wonders of the vegetable kingdom. Let us now turn to the mineral, which, as will be shown in the sequel, even mingles with the air we breathe. About four miles from the town, picturesquely located in one of the cañons of the mountains, are the Hot Sulphur springs, which have become favorably known as a place of resort for invalids, especially those suffering from rheumatic affections.

I learn from good authority that while the country was subject to the Crown of Spain, the government sent out a commission of qualified scientific observers to make an examination and analysis of all mineral waters, both in Mexico and upon the Pacific Coast, and that this commission, after spending much time prosecuting their inquiries, reported the most favorably on the properties of these springs. The waters are found of different temperatures, varying from 60 to 130 degrees, Fahr.; but I would advise invalids resorting to them for relief not to indulge too long at first in their relaxing influence, as very often, patients, feeling themselves immediately improved by their use, are apt to resort to them too freely.

As to the climate of Santa Barbara, it will be seen that, although lying in about the same latitude as Charleston, S. C., yet it is totally different, and that the isothermal line would be deflected towards St. Augustine, Florida. The same clothing is worn all the year round, and there is no day in the year in which the invalid may not sit out of doors. This covers the most essential indication in the treatment of consumption, by affording a continuous supply of pure, unadulterated air-food for the lungs. Still, as the climate possesses some latent peculiarities in its favor, too subtle for ordinary observation, I shall instance the remarkable phenomena, so philosophically noted by Dr. Brinkerhoff, who has resided here 18 years.

### Remarkable Phenomena.

"Some ten miles from Santa Barbara in a westerly direction, in the bed of the ocean, about one and a half miles from the shore, is an immense spring of petroleum, the product of which continually rises to the surface of the water and floats upon it over an area of many miles. This mineral oil may be seen any day from the deck of the steamers plying between here and San Francisco, or from the high banks along the shore, its many changing hues dancing upon the shifting waves of the sea, and affording various suggestions, both for the speculative and the speculator. Having read statements that, during the past few years, the authorities of Damascus and other plague-ridden cities of the East have resorted to the practice of introducing crude petroleum into the gutters of the streets to disinfect the air, and as a preventive of disease, which practice has been attended with the most favorable results, I throw out the suggestion, but without advancing any theory of my own, whether the prevailing westerly sea breezes, passing over this wide expanse of sea laden petroleum, may not take up from it and bear along with them to the places whither they go, some subtle power which serves as a disinfecting agent, and which may account for the infrequency of some of the diseases referred to, and possibly for the superior healthfulness of the climate of Santa Barbara."

I would add that during one week's sojourn here, my attention has been directed to the peculiar ambrosial influence pervading the air, so well described above, and that I indorse all that has been stated in this respect. That the climate of Santa Barbara possesses all the elements of general healthfulness in an eminent degree, is substantiated by the facts that the epidemics and diseases incident to childhood are almost unknown. Fevers and agues never originate here. Small pox, frequently brought from aboard, never spreads, although hundreds of the native population, either from ignorance or prejudice, never allow themselves to be vaccinated.

### Temperature and Moisture.

I have said when speaking of the prolific yield of the soil, that it was due to the moist sea air. On this depends the delicious ness of the climate. Moist air, either too hot or too cold, is injurious. The latter chills the surface and drives the blood in upon the internal organs. But the moist air in which we bathe in Santa Barbara is possessed of that happy combination of temperature with moisture, which, while it refreshes, also invigorates and vitalizes equally the whole system. The range between the wet and dry bulb thermometers, at 2 P. M., is usually about four degrees, except on foggy or rainy days, when it is sometimes identical; and yet, strange to say, the feeling of chilliness is never experienced. During the prevalence of a high land wind, the range is occasionally extended to ten or even twenty degrees; but even then that feeling of irritation and dryness, which attends the same wind in the more northern portions of California, is unknown. This occurrence, however, does not happen oftener than once or twice a year, and then only for a brief period about the equinoxes.

The peculiar evenness of the climate is shown in the following tables, compiled from the meteorological register of the Rev. J. A. Johnson, the "indefatigable editor of the Santa Barbara *Press*."

### Monthly Mean.

| | | |
|---|---|---|
| April.... | Average of the three daily observations.. | 60.62 |
| May..... | " " " " " | 62.35 |
| June.... | " " " " " | 65.14 |
| July.... | " " " " " | 71.49 |
| August.. | " " " " " | 72.12 |
| Sept.... | " " " " " | 68.08 |
| October. | " " " " " | 65.96 |
| Nov..... | " " " " " | 61.22 |
| Dec..... | " " " " " | 52.12 |
| January. | " " " " " | 51.51 |
| Feb..... | " " " " " | 53.35 |
| March.. | " " " " " | 58.42 |
| Average temperature for the year..... | | 60.20 |

| Coldest Day. | Degs.. | Warmest Day. | Degs.. |
|---|---|---|---|
| April 12th | 60 | April 16th | 74 |
| May 15th | 66 | May 23d | 77 |
| June 1st | 69 | June 3d | 80 |
| July 26th | 76 | July 11th | 84 |
| August 11th | 77 | August 8th | 86 |
| September 23d | 66 | September 27th | 90 |
| October 23d | 60 | October 20th | 92 |
| November 7th | 64 | November 20th | 87 |
| December 15th | 52 | December 28th | 71 |
| January 11th | 56 | January 3d | 73 |
| February 22d | 42 | February 28th | 71 |
| March 13th | 56 | March 27th | 83 |

Coldest day in the year, Feb. 22, 42°; warmest day in the year, October 20th, 92°. Variation, 50°.

### Vital Statistics.

To the labors of Drs. Bates, Biggs, and Father Villa, I am indebted for the following table of the vital statistics of Santa Barbara, compiled from the records of the Mission, during a period extending over nearly ninety years.

| Date. | No. of births. | No. of deaths. | No. of marriages. |
|---|---|---|---|
| From April 21, 1782, to Dec. 31st, 1800. | 213 | 80 | 40 |
| 1800–10 | 165 | 63 | 31 |
| 1810–20 | 206 | 74 | 33 |
| 1820–30 | 306 | 78 | 57 |
| 1830–40 | 522 | 133 | 69 |
| 1840–50 | 635 | 193 | 116 |
| 1850–60 | 956 | 405 | 172 |
| 1860–70 | 1087 | 495 | 172 |
| Total | 4090 | 1520 | 707 |

It will be seen from the above that for each death there have been 2⅔ births,—an unusually large proportion as compared with other places. Another point of interest is the marked increase of the death ratio during the last 20 years; due doubtless to the advent of adventurers and invalids. In addition to long life, these statistics show that to each marriage there is an average of about 5⅔ children, an unprecedentedly large proportion.

The following statistics of the town and county of Santa Barbara are taken from the U. S. Census Returns for this county for the year ending June 1, 1870, and speak more for the healthfulness of the place than anything I can add.

Population of the town, 2,987. Number of births, 131; deaths of children under one year of age, 9; ratio of births to deaths, 14½ to 1. Total number of deaths, including adults, for same period, 23; ratio of births to deaths for the whole population, 5.7 to 1, or nearly 6 to 1. Percentage of deaths in the town population, 1 in 130, or .77 of 1 per cent.

Population of the county, 7,984. Number of births, same period, 235; total number deaths of children under one year of age, 15; ratio of births to deaths, 15¾ to 1, or nearly 16 to 1. Total number of deaths in the county, 64, two accidental; percentage of deaths in total population, 1 in 125, or .80 of 1 per cent.

THOMAS M. LOGAN, M. D.,
Permanent Sec'y. State Board of Health.
Santa Barbara, May 22d, 1871.

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THE RAILROAD IN SONOMA.—The Santa Rosa *Democrat*, of May 27th, says: The railroad has now been completed to Russian River, within a very short distance of our beautiful sister town of Healdsburg. It seems to be the opinion of most people that the company will not bridge the river this summer. Should this be the case, it is difficult to tell when the Directors will resume the work of pushing the road on to Cloverdale. As things now stand, Healdsburg will receive as much benefit, if not more, than any other town in the county from the construction of this road, and we are far from being envious of her good fortune. Although the road will terminate where it is for the present, our Cloverdale friends can rest assured it will reach them in the course of time.

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SAN FRANCISCO:

Saturday, June 3, 1871.

## Our Weekly Crop.

To our advancing friends we this week present a crown of mighty and exquisite loveliness, not a crown to be be worn every day, but one to be viewed with admiration, the crown of a land familiar to the earlier days of many readers,—the Crown of New England. And with the crown comes the purple of the Grape, and the regal Scarlet, both to be found in this land of ours.

With the crown, we tread the royal paths of learning, leading through the library of Mechanical and Scientific Progress. Laying it aside, we come to the daily labor, through which the crown can be gained. How we can earn our bread with the less than usual amount of sweat of the brow, is shown in the article on Baking by Machinery. How, when heated by our toil, we can escape catching cold from draughts of wind, is shown by the Sash Tightener. How we can fasten our doors against the intruder on our work, is shown by the Door Fastener, and how we can improve our understandings, is shown by the Machine for Screwed Boots and Shoes.

How we can traverse more expeditiously the intervals between the places of work, is denoted by the remarks on California Wagons. How we can raise the best of material for our clothing, is hinted at by Sheep and Wool Washing, and the Profits of Sheep Raising in Monterey. What we are doing and what we are not doing in utilizing the fundamental source of wealth, is given in the Agricultural Notes of the Coast. On our road to wealth, we ride (formerly it was necessary to walk) on a New Road Steamer, or are whirled on, at a more rapid rate, over the New Pacific Railroad. The Santa Cruz Farmers' Club joins us on our way, Farmers' Sons attach themselves to our company, and even the Milk interest is represented in our crowd.

While seeking wealth, we cannot afford to neglect our health, and we examine in its various phases, most carefully and most intelligently, the merits of Santa Barbara as a Sanitarium.

With Politics as such, we have nothing to do, in our worldly strife; but with Politics as affecting the Industries, we are all concerned. Among the industries, we see prominent the California Silk Manufacturing Company, and the various late Inventions of our coast. Our road to wealth somehow leads Eastward over the C. P. R. R., and northward to Lake Yellowstone, Wyoming.

Softening the business asperities of the way, the ladies of the Home Circle charm away obstacles, and the Young Folks cheer us on. And our bodily infirmities demand paying attention to the Chemistry of the Kitchen.

Our path leads through the Wheat Fields, whence should go an Agricultural Representation to Congress, and past our Future Fruit Market, where we file away at our Raspberries and look wise at our Gooseberries. Finally, grasping at the Market Reports, we feel convinced that if we are not on the road to wealth and the crown, we at least know how to get on to it.

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COLORING FOR BUTTER.—A French chemist announces the discovery of "carotine," the coloring principle of carrots which is invaluable to give butter the true Orange county tinge.

## Politics and the Industries.

As conductors of an Agricultural and Scientific journal we have no interest in politics as between the different political parties of the country. With the policy of the State and National governments, however, in reference to the development of the resources and industries of the country, we feel a lively interest, and believe it our duty to express that interest and our views in regard to that policy whenever the occasion requires.

That occasion we believe is now at hand. Both political parties are now taking the initiatory steps for placing before the people candidates for all the state and county offices, and for three representatives to Congress. There are comparatively but few people in the State who have a direct personal political interest in the party contest which is now being inaugurated. Those few are the candidates themselves, and all who hope or expect to receive some political or personal favor from those candidates, if they shall be so successful as to obtain the offices to which they aspire.

The party interest which the great body of the people feel in the contest, when sifted down to its true source, is more imaginary than real; and arises more from prejudice than principle. There is not, however, a citizen in the State, who expects to make California his home for life, who has not a real, substantial and personal interest in securing the best men for all the offices to be filled.

When we say the best men, we do not wish to be understood as speaking in a political, but in a general, business sense. We mean the best men for country, and not for party. Our best men, supposing all to be honest and capable, are those who are not only identified with the material interests of the country; but who from their positions as business men must, from necessity, understand those interests and the effect that this or that course of legislation will have upon them. Not only this, but the men whom the people should select as their representative men, should have a real personal interest in the country, and its prosperous development in common with, and not in opposition to, the people they are to represent. We believe we utter, what all our readers have bitterly felt the truth of, when we say that too many men in this country, elected to high and responsible positions for past services to party, and through an unwise and blind party spirit, have been found, too late, to have private, personal interests to serve, in direct opposition to the dearest and most vital and important interests of the people they were elected to represent.

The people, irrespective of party, should see to it that this unfortunate state of affairs shall not again occur. Let us for once lay aside all personal and party feeling, and look only to the general good; and in selecting men for important and responsible positions, let those alone be selected, who not only have characters for honor and integrity above suspicion, but who also have a real tangible interest of those they are to represent.

No man should be elevated to the high office of Governor of California, for instance, at this time, except he be a thorough business man, and whose past business relations have rendered it necessary for him to study, understand and appreciate the present agricultural, commercial and manufacturing wants of the State. And understanding them, he should be known to entertain enlightened, liberal and progressive views in regard to them. The weight of his personal influence, in the past, should be known to have always been in favor of a liberal policy for their rapid and healthy development. It should be known that the weight of his official influence and that of the State government, so far as in his power, will be in the future thrown in the same direction; and that he will regard it as a higher duty thus to serve his country than to serve his party. His sympathies should be known to have been, in the past, always and consistently with the enterprising and laboring men, upon whose success and prosperity depends the success and prosperity of the country.

What we have said of the proper man for Governor may, with the same propriety, and even with greater reason, be said of the men who are to represent us in the National Congress. Our representatives in Congress occupy a most responsible position as regards our material interests, and no man who is not fully acquainted with those interests, and thoroughly identified with them, should be selected to fill such responsible positions.

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SUMMER FALLOWING THE GRAIN FIELDS. Many enterprising farmers whose crops have failed this season have already commenced plowing in what grain is on the land to enrich the soil for grain next year. No better move could be made. We recommend that such plowing be deep, and that the land be left during the season just as the plow leaves it; that is, *open* and *rough*, so that it may receive the benefit of the action of the sun and absorb the fertilizing gases from the air.

The soil will thus be greatly enriched, and will be in good condition for early dry sowing, next season. If this season should have the effect to induce the farmers to practice the system of summer fallowing their lands hereafter, it will prove an actual benefit instead of injury to the State. We sincerely hope the lesson of this season will not be forgotten by our farmers. In the dryest districts all accounts agree that early sown, summer fallowed lands will make a fair average crop right along side of complete failure on winter plowed lands.

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FINE ARTS.—The very liberal premium list offered by the State Agricultural Society in the department of fine arts is likely to bring out the finest exhibition of pictures ever made on the Pacific coast, at the State Fair this fall. Judge Crocker has consented to place on exhibition, at the Fair, the large collection of paintings purchased by him in Europe. This very expensive collection contains some of the finest and most valuable paintings in the world. The picture gallery will be one of the most interesting features of the Fair and will afford a rare opportunity to the lovers of fine arts to gratify and cultivate their taste.

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A DEEP TILLING PLOW.—Messrs. Hill & Knaugh, of Marysville, have recently invented, will soon secure a patent for, and are now making a (single) deep tilling plow, which operates as a sulky plow, and which may be readily run at a depth of from thirteen to fourteen inches, cutting twenty inches to a run, and, as we are informed, will run in weeds neck high, without fouling.

This plow has been introduced, the past season, in Sutter, Yuba, Butte and Tehama counties, where we understand it has given the fullest satisfaction. It will be on exhibition at the State Fair, at Sacramento, and at the Mechanics' Institute in this city. At the former place an opportunity will be given to see it in actual operation.

The plow will soon be for sale in this city, of which due notice will be given in the advertising columns of the PRESS, and we shall publish an illustrated description of the same at an early day. At the present time, when so much attention is being given to deep tillage, any device which promises better and more thorough cultivation, is sought for and regarded with much interest.

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FARMERS' CLUB FOR SANTA CLARA.—There will be a meeting of the farmers of Santa Clara county, at the San José Opera House, to-day, Jan 3d, at 1 o'clock P. M., for the purpose of forming a Farmers' Club Association, for the mutual benefit and improvement of each other in all that relates to the business and life of a farmer.

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CHICAGO BACON IN TULARE.—Chicago bacon is being sold at Visalia, in Tulare County—a sad commentary on the thriftlessness of Californians.

## A Refuge for Invalids.

The ill effects of indiscriminate praise are well illustrated in the case of the climate of California. It has been only too common for us to extol the excellence of the climate of *any part* of our coast. The result has been that visitors from other countries have come hither, have visited several localities which have been extravagantly puffed, have found that false statements have been made with regard to these places, and have been confirmed in the opinion that, as some of the most highly lauded localities are absolutely unfitted for the purposes for which they are extolled, therefore California has *no climate at all.*

This opinion is now only too general abroad, and it is of the highest importance that the false impression should be corrected by careful, well authenticated statements of the actual facts of the case. That many places are unfit for invalids must be acknowledged. Our climate is generally salubrious, generally excellent for healthy persons. And we have also places most beneficial for invalids.

But where shall the sufferers go? This question can be best answered by our medical authorities. We call attention to the article (on another page) on Santa Barbara as a Sanitarium, which has been written by one of the most eminent physicians of the coast. For consumptives, and those suffering under chronic diseases, we have here a refuge vouched for by good authority. The sanitary advantages are well set forth by an impartial pen, and actual facts are given.

We hope to give equally correct facts of the kind with regard to other localities. We wish to show that California affords many a refuge for the sick, and that in its wide range of climate, it has conditions most especially fitted to cure. But these conditions do not exist everywhere, nor are they everywhere equally good for all cases.

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THE CONTRA COSTA AGRICULTURAL SOCIETY have voted to dispense with their usual Annual Fair this coming fall, and in lieu thereof invite the people of the county "to meet in conference upon their Industrial Interests, at the usual time, under such provisions and regulations as the Board, in their discretion, may adopt." The Contra Costa *Gazette*, in making the above announcement, adds:

The resolution authorizing the Board to dispense with the usual Fair this season, was adopted in view of the general crop failure and the consequently restricted financial resources upon which dependence for means of meeting expenses would have to rest; while the suggested meetings of the people for conference upon matters pertaining to their industrial interests may be held with little expense, and with more leisure time than usual at the season, there is no good reason why the people may not pleasantly and profitably meet together several days this fall for social recreation and mutual interchange of ideas upon the best means of improving their resources. No interchange of ideas by persons of practical experience and observation, can fail to be of mutual advantage, and the advantage is in the ratio of the breadth covered by such experiences and observations.

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IMPROVED STOCK WANTED.—We are frequently requested, verbally and by letter, to refer parties to the best place to secure improved stock of various kinds; and as we have no medium of reference save through our advertising columns, we are sometimes at a loss to answer the queries propounded. We have just had an interview with a gentleman, who desires to secure a good breed of hogs, and were unable to give him any proper reference. If parties who have improved stock, of any kind, for sale, will make the fact known through the advertising columns of the RURAL PRESS, they will find it greatly to their advantage and our relief.

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RIPE APRICOTS appeared in this city last week, and nearly a week earlier in Solano County.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING MAY 16TH.

GEARING FOR OPERATING DRILLS.—Ambrose Blatchly, San Francisco, Cal.

THRESHING-MACHINE. — John Foreman, Healdsburg, Cal.

DOVETAILING-MACHINE.—Elander Heath, San Francisco, Cal., assignor to S. W. Shaw, William E. Brown and Leonard Goss.

AMALGAMATING THE PRECIOUS METALS AND PREVENTING THE LOSS OF MERCURY.—Josiah S. Phillips, San Francisco, Cal.

## Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency the following are worthy of notice.

ROLLER-SKATE.—P. B. Borein, San Leandro, Cal. With the laudable desire of rendering the exercise of skating as easy as possible, and to avoid the necessity of too violent exertions in its pursuit, that it may be at once healthy and enjoyable, Mr. Borein has invented a roller-skate which is worthy of notice. In this there is a novel device which renders possible the "cramping" or turning of the rollers without the necessity of canting the foot-stand or skate block. The invention includes the application of elastic blocks or springs, by which the skate is made to ride easily. It consists also in the particular application of the rubber or other elastic spring for returning the rollers to their parallelism after the weight is removed.

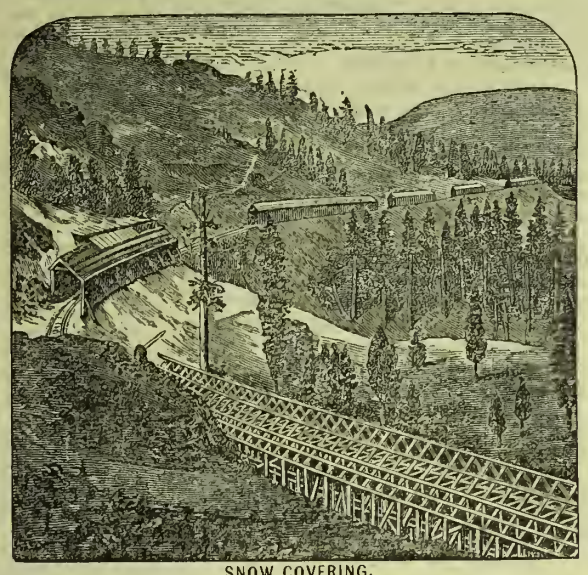
DIVISION PLATE FOR COOKING STOVES.—The object of this invention is to enable housekeepers to economize in fuel by diminishing the size of the fire-place, and it is intended more particularly for cooking stoves, while it is also applicable to all kinds of stoves. It consists in the employment of a plate of metal, made to fit the fire-place and top-chamber of the stove, which can be moved back and forward across the fire-place. When not required for its purpose, this plate or partition is kept close up against the side of the stove opposite the door, thus making a false back to the fire-place, or, in other words, a double side to the stove. When it is desired to use only two of the holes in the stove, the partition can be moved to the middle of the stove, so as to cut off one-half of the fire-place and draft, thus confining the heat to one side of the stove and requiring but little fuel for the production of the desired heat.

ORE CONCENTRATOR.—W. C. Styles, Nevada City, Cal. This invention relates to an improved device for concentrating sulphurets. A sluice box is suspended by swinging rods inside of a frame, and is swung by means of a cam and by springs in such a way that it gets a peculiar jarring motion. Teeth or stirrers of a certain construction are made to agitate the sand which collects or banks up against a riffle in the sluice. The tailings are fed into the sluice continuously, and, by the action of the water, the jarring motion and the rakes, the sand is carried off over the riffle, while the heavier sulphurets are drawn in an opposite direction and up an incline, over which is placed a peculiar drip box. Water from this box washes off any sand, which may have accompanied the sulphurets, on the one side, and carries the sulphurets down an adjoining oppositely-inclined plane, on the other side.

## Editorial Notes Eastward.—4.

### Through Snow Sheds and Tunnels by Night.

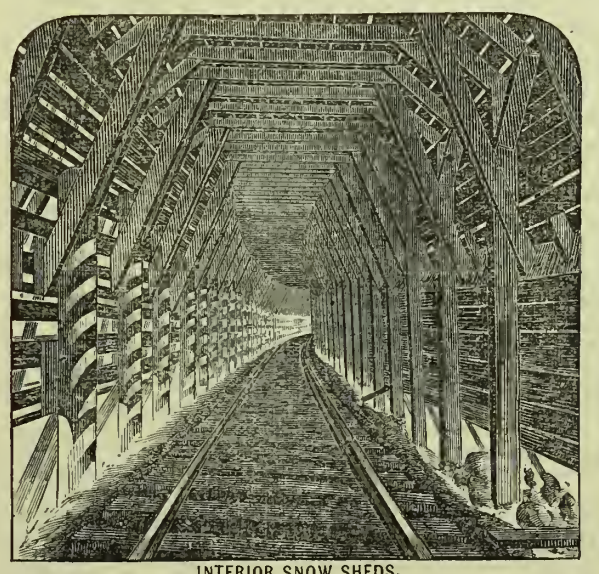
A novel night-ride had I, from 9 to 11 P. M., as *third* engineer on the locomotive (forward driver) on the C. P. R. R., between Cisco and Truckee, thirty-five miles, most of the track continuously leading through snow sheds and tunnels, including the noted Summit Tunnel, 1,659 feet long, and over 7,000 feet above the sea. The two locomotives, in tandem, with their fiery throats consuming a cord of wood each in less than a hundred minutes, constantly showering live sparks, and with reflecting head lights, effected a more brilliantly lighted interior than is wont to be met with elsewhere in the "caverns of the earth."



SNOW COVERING.
229 miles from San Francisco—Altitude 5,854 feet.

SNOW GALLERY.
244 miles from San Francisco—Altitude 6,954 feet.

SUMMIT OF SIERRAS.
243 miles from San Francisco—Altitude 10,000 feet.



INTERIOR SNOW SHEDS.

At some places we could see a long distance forward, and I watched the huge, glistening icicles, pendant from the roof or crevices in the overhanging rock, with a feeling of certainty that "our smoke wagon" would strike some of them into a thousand fragments; and yet as we neared them, all seemed to "arise with the occasion," invariably dispelling our anticipated fun.

Sometimes the smoke of engines which had driven through before us, remained in the tunnel, and the grim cloud appeared to be be driven and massed before us, entirely shutting off our "look-out" beyond our "cow-catcher," so that we seemed occasionally to plunge furiously through darkness a hundred times blacker than any "out-door" darkness imaginable.

I shall not soon forget the watchful sight tendered to the many quick curves, and the graceful windings in the solid and grand colonnades which we speedily traversed during a two hours "inside look-out" with our trustworthy driver,—a noble engineer, honest enough to say that he much preferred "out-door" running.

As to my own experience, I would say that a berth in the palace sleeping car in rear of the train is far more comfortable and *healthy* for a tender passenger than a front seat with the engineer—at night! A two weeks' severe cold and cough has relieved me of all locomotive hobbyism.

D.

## Yellowstone Lake, Wyoming.

Our Pacific Coast magazine. the *Overland*, comes to us for June with its usual pleasing variety. From its rich pages, overflowing with charms, we cull the following concerning a lake of which we have all read so much and yet know so little.

Lake Yellowstone is a lonely, but lovely inland sea, everywhere surrounded by "forests primeval," and nestled in the bosom of the Rocky Mountains. Some trappers have insisted that its waters ran both to the Atlantic and the Pacific, but such is not the case. The summit of the chain, however, approaches within half a mile of its south shore, and in places the divide is very little above the lake. Its shape resembles the broad hand of an honest German, who has had his forefinger and the two adjoining shot off at the second joint, while fighting for glory and Emperor William. The palm of the hand represents the main body, or north part, of the lake. The fingers and thumb, spread to their utmost extent—the thumb and little finger being much the longest—represent inlets indenting the south shore, and stretching inland, as if to wash away the Rocky Mountains. Between these inlets project high, rocky promontories, covered with dense timber. The largest stream flows into the lake at its upper end, or the extreme southeast corner. This stream is really the Yellowstone River, which, for a distance of thirty miles, has an average width of over fifteen miles. This enlargement constitutes the lake, which, after being augmented by several smaller streams, narrows down to the width of an eighth of a mile, and flows northward toward the great falls.

The mood of the lake is ever changing; the character of its shore is every-varying. At one moment, it is placid and glassy as a calm summer's sea; at the next, "it breaks into dimples and laughs in the sun." Half an hour later, beneath a stormy sky, its waters may be broken and lashed into an angry and dangerous sea, like the short, choppy waves which rise in storms on Lake Erie and Lake Michigan. Where we first saw it, it had a glittering beach of gray and rock-crystal sand, but as we continued around it, we found rocky and muddy shores, gravel beaches—on which several varieties of chalcedony were profusely scattered—and hot springs in abundance. Near the southeast end of the lake is the highest peak in the vicinity. It is steep and barren, and from the lake-shore appears to taper to a point. On the south side is a precipice, nearly a thousand feet high. Two of the party ascended it. It took them all of one day to make the trip and return. About two-thirds of the way up they were obliged to leave their horses, and continue the ascent on foot.

The altitude of the mountain, as obtained by observations with the barometer and thermometer, was 11,163 feet. Much snow was found before reaching the summit. A fine view of the surrounding country and a good idea of the shape of the lake were obtained. Immense steam-jets were seen to the south; but as our time was becoming somewhat limited we did not remain to visit them. Several barometrical calculations were made, and we determined the hight of the lake to be 8,300 feet.

NEW CATTLE CARS.—A train of eleven of Stuart's palace stock cars were loaded at St. Louis, on April 28th, with 170 steers, and left *via* the Indianapolis, Bellefontaine and Pennsylvania Central Railroads, direct for the Communipaw yards, New York. This is the first full train of these cars ever loaded, and the event is regarded by railroad and stock men as a very interesting one in the shipment of live stock. The cars were loaded in from 6½ to 10 minutes each, and will reach New York in 96 hours. The cattle will be fed and watered in the transit. The old mode of shipment required 240 hours for the same distance. If this shipment prove successful, a company will be formed in St. Louis for building cars, and operating them on the roads west of there, to accommodate the great cattle trade of Texas and Kansas.—*U. S. Min. and R. R. Reg.*

AN INTERESTING DOCUMENT.—The most interesting document yet revealed by Mr. Kremer's researches among the archives in Los Angeles, is an original proclamation of peace between Mexico and the United States, made by the commandant either of the post or the department. It is in a mutilated state, lacking both date and signature.

RIPE BLACKBERRIES are making their appearance on the banks of the San Joaquin river, below Millerton.

BY OUR LADY EDITORS.

## What the Women Dream About.

BY NELL VAN.

[Written for the PRESS.]

I was sitting at an open window, finishing the button holes in Joey's trowsers, and thinking how fine the little fellow would look on the morrow, in his new suit; when the fragrance of spring violets and early daffodils was wafted in from the garden by the fresh afternoon breeze, and a delicious, dreamy sensation crept over me. Just then I saw my sister leading her pony up to the piazza, ready for a ride, and laying her hat and riding skirt on a chair, she said:—"Come here, jump into the saddle and take a gallop, while I go and see these visitors who are entering the gate."

Weary with close application to daily duties, and seldom taking any recreation, I at first thought I could not spare the time for mere selfish enjoyment. But my next impulse was to don her skirt and hat, and in a minute more I was cantering down the road.

I had left all care behind, and the bracing air so invigorated me that my heart glowed with gratitude to the great Giver of all, for the blessing of sunshine, which spread before me such a glorious picture in whichever direction I gazed. Then I fell to meditating on the unwise arrangement of domestic life, which prevent two-thirds of civilized humanity from enjoying the freedom intended for all.

In the savage state, man has fewer wants and in consequence has more leisure to enjoy life. The result is, he seldom suffers from disease. His civilized brother devotes all his energies to the task of providing for his daily wants and supplying his family with what he esteems the necessaries of life. His wife, by frugality and economy, assists in maintaining the family, and seldom has an idle moment to spend in mere enjoyment. Business and work seems to be the rule, and recreation and rest the exception. Both are needed for the growth of the soul; but that is considered of minor importance till overtaken by sickness. Then, too, the time for recuperation is grudgingly allowed, and the patient's recovery often retarded by anxiety to be able to work.

Riding leisurely on I pondered on the helpless condition of woman in the civilized world. Unmarried, she is vexed with innumerable discouragements if attempting to enter beyond the proscribed limits of woman's ordinary avocations. And if unwilling to become the petted slave of some ardent admirer of the opposite sex, she must submit to the inconvenience of occupying a subordinate position, or be derided as one of the strong-minded man haters. Because a woman—in every way her brother's equal—claims a position side by side with him, either in the counting house, on the platform, or at the bedside of the suffering, she is unsexing herself in the eyes of the world, and is considered unworthy of ordinary respect. Those who marry enter at once upon duties which, though pleasurable, grow obnoxious by their monotony and multiplicity, often encroaching upon hours needed for relaxation and repose. Many a petted child has become the wife of a millionaire, believing herself most fortunate, until weary with continual visiting and entertaining visitors, annoyed by the vexations of incapable hirelings, her health fails, and she sinks into a premature grave.

With my thoughts busy in this channel, I had unconsciously allowed my horse to carry me to the pretty village of S., some five miles distant. Riding up to the gate of my friend, Mrs. Ray, she came out and gave me a most cordial welcome. Begging me to alight, she led the way into her charming little boudoir—half library and half sewing room—where she seated me in a comfortable rocking chair, placed in a position to command a view of the surrounding country. Drawing a chair beside me, and taking my hand in a tender, motherly way, she said:—"I declare, Insey, you are the very one I want most to see. I have not set eyes on you since we went into cöoperation. House-keeping and laundry are cöperative principles, work admirably, my dear, and we are about to establish a department for sewing. You would enjoy it above all things, Insey, for I never was so happy since I was a girl. So free from care, and yet each has abundance of employment for which she is paid regularly."

"You astonish me, Mrs. Ray," cried I, "pray tell me how it came about, and by whom this great enterprise was started? If successful, we want a similar institution in our section." "Well," said my friend, "it is not as you suppose, the work of any *one*, but the combined effort of many earnest workers. You remember the day we all met at Mrs. Dunham's, at that quilting frolic, when she read us those articles from the *Atlantic Monthly* on Cöoperation. Ever since then, we housekeepers have kept up a continual discussion on the subject, meeting at each other's houses, and thoroughly satisfying ourselves of the practicability of the scheme.

A society was regularly organized, officers chosen, and weekly meetings held. Committees were appointed to make arrangements, and—well, we have been in successful operation for full six weeks, and you have not heard of it over your way? That surprises me. "Come and I will show you the laundry department which is under my supervision."

I followed my friend through her former kitchen and dining room, now being refitted for sleeping apartments, and down an unfrequented path to a vast field which has been used by occasional traveling circus companies. Here I found erected a large frame building, one storied, and built of rough materials, whitewashed. We entered, and the busy sounds of washing machines, wringers, etc., and the merry laugh of the happy workers filled me with enthusiasm. I recognized there friends, who, like myself, had led heretofore a life of wearying care and anxiety, now joining in the merriment, and joyfully entering upon the duties of their position, knowing that the children were well cared for, and the cooking was going on without their assistance.

We passed on and entered the ironing rooms, where the busy mangles were at work pressing the plain articles; white shirts and starched clothes were being done up by experienced hands. Everything was conveniently arranged, and there was no hurry or confusion. Only a certain number of hours a day was each permitted to labor, and the remainder of the time was at their own disposal. Passing through the enclosed yard, where lines were strung for the drying of the clothes, we entered the dining saloon, where the tables were being arranged for tea. Half grown girls were employed for this purpose, after school hours, and as each received her wages for her services, they were willingly rendered.

Turning to Mrs. Ray, I said:—"Tell me who takes charge of the babies of those who I saw in the laundry." "Here," said she, opening a door, "is the nursery;" and sure enough, the prettiest sight I ever saw was before me. Twelve or fifteen little children under five years were engaged in all sorts of amusements. Two or three large, round-eyed babies sat in chairs at a table, looking very wise and pounding their plump fists on the table, and adding their voices to the general din. Little boys playing horse with reins and whip, and girls trundling about with dolls and cradles. Three attendants watched over and amused this merry throng, who seemed as happy themselves as the gayest child among them. Toy books were read to them, and lullabys sung to the sleepy ones, and it was like taking a peep into "Baby-land." What amused me most was to see each baby wearing a label fastened to its neck with a blue ribbon, by which means there would be no mistake when returning them to their respective homes.

In the fore part of the day the larger children were led forth in the sunshine, and they all spent a portion of the day in the fresh air, though the nursery was well lighted and ventilated, as well as comfortably warmed.

"This is glorious," cried I, "let me come and spend a week or two, and see how it seems." "That is what we are doing with our former kitchens and dining-rooms—fitting them up for the accommodation of those who are desirous of testing the experiment. Our charges are moderate, and we hope to see similar institutions springing up all over the country. Next week we shall have the sewing apartment in full operation, and the rooms adjoining are being fitted up for that purpose. "How I have longed for some such arrangement, my dear friend," said I, "by which we housekeepers could be relieved of the endless variety of employments which so bewilder and harrass. In the midst of making pies to have Bobby come in with a bleeding nose, and nobody but "mamma" to attend to him. Then, when busy washing windows, to have baby wake up with a shreik, and 'mamma' must drop all and put on a dry apron to take her up. It is the care and responsibility which tells so fearfully upon the mothers; not the actual labor."

"Yes," said my friend, "that is very true. But I forgot to tell you of the kind offer of good lady Randolph. She is an excellent reader, and devotes a portion of each day to reading useful and interesting articles to those performing the domestic duties; so that while our meals are in preparation and our laundry work is being accomplished, the minds of the busy workers are cultivated and elevated, making the labor less irksome. Hearty good nature and cheerfulness reigns every where, and as each has certain hours only for work, there is abundance of time for enjoyment, and yet, when mothers can relieve the attendants of the care of the children, and ride or walk out with them, enjoying their presence all the more for the change."

"Oh, mother, mother, you have been fast asleep, have you not? Joey has been a stuffiin' the stove full of wood, and made an awful hot fire. The beans have all boiled dry, and the bread has risen to the top of the pans and is runnin' over, and the baby's rolled off the bed and has waked up cross, and I have been calling you ever so long."

And, sure enough, I *had* been asleep, and there lay Joey's unfinished pants on my lap, while I had been dreaming of horseback riding, my friend, Mrs. Ray, and cöoperation.

## Earnest Action.

All the mighty thoughts of ages
  Borne along the stream of time;
All the burning words of sages,
  Tend to make the world sublime.

On their banners, Right and Duty—
  This it is that onward cheers;
Not the dreams of coming beauty,
  Floating on the tide of years.

In the hottest of the battle
  Have we time to think of life?
Are we, spite the cannon's rattle,
  Eager for the coming strife?

Do we think of any other
  But the present, fierce and strong?
Do we teach our hearts to smother
  All the insult of a wrong?

When the watchword—Truth forever—
  Shall impel the world along,
Then the brave hearts' strong endeavor
  Shall be crowned with victory's song.

Not in idle thought and dreaming
  Can we right a grievous wrong;
Not by any outward seeming,
  Though our faith in good be strong.

But by earnest thought and action
  We may roll away the stone,
Quell the tumult of the faction,
  Hurl the giant from his throne.

Thus shall *we* use all our power,
  Take the truth from ages sent;
Culminating for the hour,
  Shall our energies be spent.

FEMALE DELICACY. — Above all other features which adorn the female character, delicacy stands foremost within the province of good taste. Not the delicacy which is perpetually in quest of something to be ashamed of; which makes merit a blush, and simpers at the false construction her own ingenuity had put upon an innocent remark—this spurious delicacy is far removed from good sense—but the high-minded delicacy which mantains its pure undeviating walk alike among women and the society of men, which shrinks from no necessary duty and can speak, when required, with a seriousness of things on which it would be ashamed to smile or blush; that delicacy which knows how to confer a benefit without wounding the feelings of another, which can give alms without assumptions and pains not to the most susceptible in creation.

THERE is a Gaelic proverb, "If the best man's faults were written on his forehead, it would make him pull his hat over his eyes."

TAKE things always by their smooth handle.

# YOUNG FOLKS' COLUMN.

## A Letter from Tony.

DEAR RURAL.—Somebody told me that you had sent for all the likenesses of your friends, who write for your paper, to hang up in your office. How I should like to see them, for somehow we get half-way acquainted with folks by reading what they write. I love to read your paper, and we little folks always run to the post-office without being told, on Saturday, when the mail gets in, so that we can get the first peep at the pictures and stories; which we always find in the "Home Circle," and "Young Folks' Column" I like the "Farm House Chat" too, and wish my mother would take me to Springvale to see those ruins Miss Mary speaks about, and then I would like to see if she looks as I think she does, and taste some of her nice cream and goodies, such as she spread out for Prof. Somebody, who came from Switzerland on purpose to see those ruins and eat lunch with her.

Is she not a tall, sprightly young lady with flashing eyes, always smiling, with rosy cheeks and plump arms and neck? And that droll uncle Toby, she tells about; I wonder if he is'nt a little bit gouty, and rather crusty and cross at times. Nell Van, who sends you stories every week, must be a slender, brown-eyed girl, very tall and wonderfully solemn. She writes such pious stories sometimes that even uncle John, who never reads anything but the Bible, stops to read them, and shakes his head knowingly, saying:—"That's pretty good." The lady who signs herself "Jewel," I think must be a short, fat, dumpy little woman, with double chin, who shakes all over when she laughs and has lots of little roley poley children clinging to her. She is real jolly, I know, and I wish I could see her. When I go to the city will you show me your picture gallery? for I know your office must look like one, and when you come to see me, you shall see my doll's house, where I paste up all the pretty pictures I cut out of the newspapers. The other day I cut Mrs. Laura Fair's picture out of the *Chronicle* and pasted up there and brother Tom wrote under it; "This is a murderess," while little Georgia said: "has'nt she got a lovely water-hair (meaning her waterfall). There now I've got to go to bed. Is'nt it too bad—Good-night.

From your little friend, TONY.

## The Verdict of a Jury of Boys.

When Dr. Nathaniel Prentice taught a public school in Roxbury, Mass., he was very much of a favorite, but his patience at times would get nearly exhausted by the infraction of school rules by the scholars. On one occasion, in a wrathy way, he threatened to punish the first boy detected in whispering, with six blows of the ferrule, and appointed some detectors. Shortly after, one of these detectors shouted:

"Master John Zeigler is whispering."

John was called up and asked if it was a fact. (John, by the way, was a favorite both of the teacher and his schoolmates.)

"Yes," answered John, "I was not aware what I was about. I was intent on working out a sum and requested the one who sat next to reach me the arithmetic that contained the rule which I wished to see."

The doctor regretted his hasty threat, but told John he could not suffer him to whisper and escape the punishment, and continued:

"I wish I could avoid it, but I cannot without a forfeiture of my word, and a consequent loss of my authority. I will leave it to any three scholars you may choose to mention whether or not I remit the punishment."

John said he would agree to that, and immediately called out G. S., T. D., and D. P. D. The doctor told them to return a verdict, which they soon did, after consultation, as follows:

"The master's word must be kept inviolate—John must receive the threatened punishment of six blows of the ferrule; but it must be inflicted on volunteer proxies, and we, the arbitrators, will share the punishment by receiving, each of us, two of the blows."

John, who had listened to the verdict, steps up to the doctor, and with outstretched hand exclaims:

Master, here is my hand; they shan't be struck a blow; I will receive the punishment."

The doctor, under pretence of wiping his face, shielded his eyes, and telling the boys to go to their seats, said he would think of it. I believe he did think of it to his dying day, but the punishment was never inflicted.

# Domestic Economy.

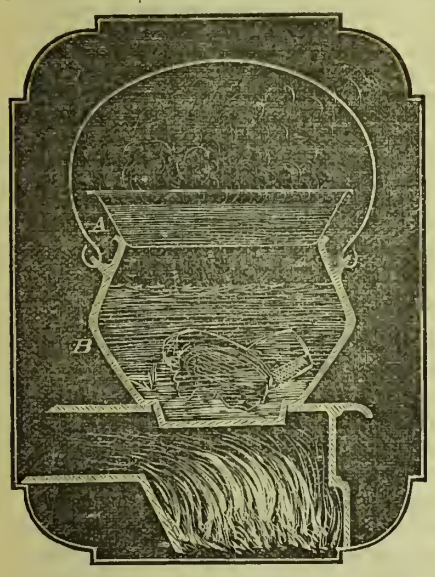
## Chemistry of the Kitchen.

### How to Make Soup.

The ordinary dish of soup is an article of diet which is entirely dependent upon boiling for its cooking. Simply bringing the ingredients to a boil, as practiced by many, does not make a soup, but results in a mess, which no one can eat with satisfaction, and has caused a general dislike to soups which, when properly prepared, are the simplest, cheapest, most wholesome, nutritive and delightful article of food. Long protracted boiling is almost as great an evil as the first mentioned one. We will first examine the evils resulting from the foregoing false method of cooking soups, and then proceed to discuss a simple but more rational method.

1st. When soup is not sufficiently boiled, the meat generally used, being such as is not available for other methods of cooking, remains tough and unpalatable, the liquid watery and insipid, and vegetables raw, hard and uncooked in the center. This mess of stringy meat, greasy water and uncooked vegetables is put before us as soup, and frequently to add to one's disgust, the meat and vegetables by being cooked over too violent a fire, are scorched, imparting a flavor of burnt feather to the loathsome mess.

2d. Let us examine for a moment the compound that has been "well boiled." Upon entering the house we smell it, for in its long boiling, the steam has carried off out of the pot all the flavor of the meat




and vegetables. Of this we are fully convinced when we sit down to eat, and find we have before us a liquid in which our eyes tell us there are meat and vegetables, but our palates decline to sanction what the eye has seen.

The proper method to prepare soup is, in the first place, having put some water into a pot, add the meat, then place the pot in such a position that it will be kept at a "gentle boil," covering the pot with a pan, such as an ordinary small milk pan, as shown in the accompanying illustration; but of such a size that it will sit down about half way into the pot. The pan must be kept nearly full of water. By this arrangment the steam rising from the boiling soup is surcharged with the volatile flavors of the ingredients, but in place of escaping into the house it comes in contact with the bottom of the tin pan, containing the water, to which it renders up its heat, thereby being condensed and dropping back into the soup. This action will continue for an almost unlimited period, provided the tin pan be replenished with water at such times as it may be required; by this process, not only is the flavor retained in the soup, but the odor is not allowed to escape into the house, and by long boiling, all the skin, tendons, ligaments, etc., which the meats contain, are converted into *soluble gelatine*, acting as a thickening to the soup, and all of the kreatine (or ozmazone), which is the most valuable portion of the meat, is extracted therefrom, and retained for use. In other methods of cooking, this valuble kreatine is partially decomposed and expelled.

After the meats have been boiled until all the "gristle" has been decomposed, the excess of grease floating upon the surface can be removed; then add such vegetables as desired, unless the soup is not to be used on the day it is cooked, in which case it can be set aside in a cool place until required. Frequent reheating the "soup stock" is rather advantageous than otherwise, provided the precaution be taken to use the tinpan with water to preserve the flavor, and such a moderate heat employed as to avoid scorching.

The French, who are the most economical of cooks, use in their soups all the gristle, etc., which they carefully cut from and out of their chops, cutlets, beef steaks, etc., thereby greatly improving their chops, etc; they also add all the bones, from which large quantities of nutritious matter are extracted by the prolonged boiling. Meats that have been over-roasted, etc., will not make good soup, as all the more valuable portions have been either decomposed or expelled.

There is frequently served up (especially at hotels) an article rendered as pungent as possible, and termed soup; to this we protest, as the compound is only an appetizer, and should be classed with bitters, curry, absinth, etc., etc. From what has been said, the value of soups may be stated as follows:

1st. Cheap meats that can be used no other way, on account of tendons, become more valuable than "choice cuts."

2d. Scraps, trimmings and bones become serviceable in lieu of being put into the garbage box.

3d. No portion of the nutritious ingredients is lost by cooking.

4th. Soups are readily digestible, are acceptable to the stomach, and

5th. Are remarkably economical for reasons stated in paragraphs 1, 2 and 3.

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How to Sweep the Floor.—In the days of our Puritan grandmothers, no girl was considered fit to receive proposals of marriage till she could make a good hemlock broom; to know how to make a broom in those old days, we presume, was always preceded by the knowledge of its use. But in theso later times, many a young lady not only offers herself in the matrimonial market, but absolutely gets married and undertakes to manage her house without knowing how to use a broom that some one else has made. It requires some science, or at least some skill, to use a broom well, as it does to do anything else.

To use a broom skillfully, the handle should incline forward and not backward, as is often the case. If the top of the broom inclines forward beyond the part next the floor, it will prevent much of the dust from rising into the air, and will carry it along by a gently sliding motion towards the place where it is to be disposed of.

If, on the other hand, the handle of the broom inclines backwards, the dust is sent into the air by a kind of a jerk, to the great annoyance of those who occupy the room, and to the great detriment of everything the apartment contains. More than this, it wears off the threads of the carpet quicker, injures the paint more, if the room is uncarpeted, and destroys the broom sooner, than if the sweeping was done in a more rational way.

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How Chinese Cook Rice.—The editor of the *American Grocer* has recently paid a visit to the Chinese shoemakers at North Adams, and has obtained from them the Chinese method of cooking rice. Their plan for boiling a pound of rice is:

"Take a clean stewpan with a close-fitting top, then take a clean piece of white muslin large enough to cover over the pan and hang down inside nearly to, but not in contact with, the bottom. Into the sack so formed place the rice, pour over it two cupfuls of water, and put on the stewpan, so as to hold up the muslin bag inside, and fit tight all round. Place the pan on a slow fire, and the steam generated from the water will cook the rice. Each grain, it is stated, will come out of the boiler as dry and distinct as if just taken from the hull. More water may be poured into the pan if necessary, but only sufficient to keep up the steam till the rice is cooked. The pan must not be heated so hot as to cause the steam to blow off the lid."

The same effect can doubtless be obtained by using a steamer such as may be found in any well-ordered kitchen.

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Talking at the Table.—" Is it proper to talk at the table?" By all means. We are aware that some few consider it proper to observe perfect silence while at tho table. We do not know how such a horrid custom originated, yet we have a few times been a guest at such tables, but hope never to be again. The table is just the place to talk, and the meal hours should be amongst the pleasantest of the day. Don't talk business and discuss what work shall be done after dinner, but give the time to social chat. This should not prolong the meal inconveniently, but there should be enough of it to prevent the common custom of rapid eating.

## Domestic Receipts.

How to Select a Good Silk.—A piece of good silk should possess three particular requisites—it should be soft, smooth and lustrous. The softer it is the, better, provided it is close woven and not flimsy. The best way to determine its softness is to gather it in folds across its width, and observe its appearance. If it be good the folds will be round and soft in outline, like a piece of nice fine flannel; but if it be poor and stiff the folds will present sharp angles and points. Such silk, when made up, will always present angular folds and sharp projections, by which the fibres are easily broken. We all know the difference between the wear of anything with sharp, angular surfaces, and one with rounded, graceful projections. We have said it should also be smooth. This may be tested by any one of delicate touch, by passing the fabric between the thumb and fore finger, when any imperfection or roughness will be readily perceived. One of the chief characteristics of silk is its brilliant gloss—the absence of which is a sure sign of inferiority. A fictitious gloss is sometimes imparted to silk; but that can generally be distinguished from the genuine luster.

To Clean and Renovate Kid Gloves.—Make a thick mucilage by boiling a handful of flaxseed; add a little dissolved soap; then, when the mixture cools, with a piece of white flannel wipe the gloves, previously fitted to the hand; use only enough of the cleanser to take off the dirt, without wetting through the glove.

To Cook a Shoulder of Mutton.—Bone the larger half of your shoulder, lard the inside with well seasoned larding, tie it up in the shape of a balloon, lay some slips of bacon in your pan, and upon them place your meat, with 3 or 4 carrots, 5 small onions, 3 cloves, 2 bay leaves, thyme, and the bones that have been taken out; moisten with boullion, set all on the fire, and simmer for three hours and a half; garnish with small onions.

## Mechanical Hints.

To Make a Superior Sand Paper.—Take a quantity of broken window glass (that which has rather a green appearance on the edge is best;) pound it in an iron mortar; then have two or three sieves, of different degrees of fineness, ready for use when wanted. Take any good tough paper (fine cartridge is the best;) level the knobs and lumps on both sides with pumice-stone; tack it at each corner on a board, and, with good clear glue, diluted with about one-third more water than is used generally for wood work, go quickly over the paper, taking care to spread it even with your brush; then, having your sieve ready, sift the pounded glass over it lightly, yet so as to cover it in every part; let it remain till the glue is set, take it from the board, shake off the superfluous glass into the sieve, and hang it in the shade to dry. In two or three days, it will be fit for use.

The paper will be much better than any you can buy—sand being frequently mixed with the glass, and colored to deceive the purchaser.

To Clean Soft Mahogany, or other Porous Wood.—After scraping and sand-papering in the usual manner, take a sponge and wet the surface to raise the grain; then with a piece of fine pumice-stone, cut the way of the fibres, rub the wood in the direction of the grain, keeping it moist with water. Let the work dry; then, if you wet it again, you will find the grain much smoother, and it will not raise so much. Repeat the process, and you will find the surface perfectly smooth, and the wood much hardened. By this means common soft Honduras mahogany will take a polish equal to fine Hispaniola.

Another Way to Clean, and Finish Mahogany Wood.—Scrape and sand paper your work as smooth as possible; go over every part with a brush dipped in furniture oil, and let it remain all night; have ready the powder of the finest red brick, which tie up in a cotton stocking and sift equally over the work the next morning, and, with a leaden or iron weight in a piece of carpet, rub your work well the way of the grain, backwards and forwards, till it has a good gloss. If not sufficient, or if the grain appears any way rough, repeat the process. Be careful not to put too much of the brickdust, as it should not be rubbed dry, but rather as a paste upon the cloth. When the surface is perfectly smooth, clean your work off with a rubber of carpet, and fine mahogany sawdust. This process will give a good gloss and face to your work, and make a surface that will improve by wear. Indeed, by this process, soft Honduras mahogany will have the appearance of Spanish.

# Life Thoughts.

We should beware of judging ourselves by what others think of us.

He who would stop every man's mouth must have a great deal of meal.

The more you exercise your memory the better and more reliable it will become.

An active life is the best guardian of virtue, and the greatest preservative of health.

Have the courage to provide entertainment for your friends within your means, not beyond.

A sincere confession of our ignorance, is one of the fairest and surest testimonies of our judgment.

It is always in our power to make friends by smiles; what folly then, to make an enemy by frowns.

A firm faith is the best divinity; a good life is the best philosophy; a clear conscience the best law; honesty the best policy; and temperance the best physic.

An honest reputation is within the reach of all men; they obtain it by social virtues, and by doing their duty.

Content and patience are the two virtues which conquer and overthrow all anger, malice, wrath aud back-biting.

Grief knits two hearts in closer bonds than happiness ever can; and common suffering is a far stronger link than common joy.

Goethe said: "I must confess I should not know what to do with eternal bliss if it did not offer me new problems and new difficulties to be mastered."

Education.—Where education has been entirely neglected, or improperly managed, we see the worst passions ruling with uncontrolled and incessant sway. Good sense degenerates into craft, and anger rankles into malignity. Restraint, which is thought most salutary, comes too late, and the judicious admonitions are urged in vain.

## A Beautiful Allegory.

A traveler who spent some time in Turkey relates a beautiful parable which was told him by a dervish, and which seems even more beautiful than Sterne's celebrated figure of the accusing spirit and recording angel.

"Every man" said the dervish, "has two angels, one on his right shoulder and one on his left. When he does anything good, the angel on the right shoulder writes it down and seals it, because what has been done is done forever. When he does anything evil, the angel on his left shoulder writes it down and waits till midnight. If before that time the man bows his head and exclaims, "Gracious Allah! I have sinned—forgive me!" the angel rubs out the record; but if not, at midnight he seals it, and tho angel on the right shoulder weeps."

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Young Men.—Most young men consider it a great misfortune to be poor, or not to have capital enough to establish themselves at their outset of life in a good business. This is a mistaken notion. So far from poverty being a misfortune to him, if we may judge from what we every day behold, it is really a blessing; the chance is more than ten to one against the youth who starts with plenty of money. Let any one look back twenty years, and see who commenced business at that time with abundant means, and trace them down to the present day—how many of these now boast wealth and standing? On the contrary, how many have become poor, lost their places in society, and are passed by their own boon companions, with a look which painfully says, I know you not!

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Young men, learning business, hopeful of the future, a word with you! Cultivate and practice civility: It costs so little and is worth so much! A young clerk with civility, already has a stock of goods of his own. Regarded as mere policy it is the next best thing to honesty; and like honesty it is good for its own self. An uncivil man is necessarily a discontented man, a discomfort to himself. We beg leave to add a new sentiment to the copy book of the period: Be civil and you will be happy!

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To Break Bad Habits.—Understand clearly the reasons, and all the reasons why the habit is injurious. Study the subject till there is no lingering doubt in your mind. Avoid the places, the persons, the thoughts, that lead to temptation.

Frequent the places, associate with the persons, indulge the thoughts, that will keep you away from temptation.

Keep busy. Idleness is the strength of bad habits.

## Our Wheat Crop; and What of It?

EDITORS PRESS.—The constant recurrence of this subject in our various papers reminds me of the times when every paper brought us the consoling news of "all quiet on the Potomac."

It seems *now* as *then*, that every writer must give his guess which way the armies will move next. Will Gen. Plenty so marshal his forces in the few grain growing counties as to meet and repel Gen. Scarcity coming in from the mountains and the plains? Or will Gen. Scarcity be able to form a junction of his forces with the 170,000 non-producers about the Bay City; and so invite Gen. Starvation to sweep this whole country with his invincible cohorts?

Within a few days past I have been riding along the lines,—not at the front—but among the hastes. Napa Valley will be able to send a few thousands to the front in good time for the conflict.

But seriously; it appears to me that the various reports in the papers are calculated though not intended, to mislead. One gives the names of *six* counties which will raise wheat enough for their own bread and seed; and *twelve* other counties which will yield a surplus of 90,000 tons.

The impression made is, that there will be 90,000 tons seeking carriage to foreign parts; or in other words that our grain crop will furnish exports to the value $4,000,000.

Now let us take into account the fact that the 30 counties of which no mention is made, are not grain growing counties. Nearly half of the people of the State must draw their bread from this surplus. I think that, when we have supplied the interior, non-producing counties, and meet the wants of the 170,000 in San Francisco county, we shall have very little for foreign trade. I hope our farmers generally will not be caught as some are in Lake Co., just at present, buying back their own bread at two prices. It may be well to sell their surplus promptly; but not sell themselves short. JEIGH ARRH.

## The Rain Fall in Stanislaus.

EDITORS PRESS:—As the month of May is almost passed, allow me to report to you the rains for this month in our part of Stanislaus county. We have had three showers in May:

May 16 the amount which fell was....0.05 in.
May 26 " " " " ....0.04 "
May 28 " " " " ....0.37 "

Total for May.....0.46 in.

This makes the entire amount of rain for the season of '70 and '71, at this locality, 7.21 inches.

Dr. Logan in his most servicable rain-table for 21 years past, shows that the amount of rain at Sacramento, in the dry season of '63 and '64 was 7.86 inches, or more than we have had, so far, this season. Then why are we making better crops in portions of our valley than were made in '65? Is it not chiefly because we had more rain in February '71 than in February '64?

Dr. Logan shows there was 0.18 or less than *one-fifth* of an inch in February '64, while last February we had in our locality 1.44 inches or *eight times* as much as fell in Sacramento in February '64. Much of the grain in this neighborhood is still green and will be enabled to fill well on account of yesterday's rain. Yours truly,

F. W. A. WRIGHT.

Turlock, Stanislaus Co., May 29th.

## Calves Dying.

EDITORS PRESS:—We have recently lost eight or ten calves from three to five months old, and in good flesh. They commenced breathing very short and died in a few days. On examination we found small white worms in the air tubes of their lungs, from three-fourths to one and a half inches long, and about the size of a hair in a horse's tail. We tried everything we could think of without avail. I have never heard of such a thing before. If you or any of your readers can give me any information through your paper of any remedy, I will be much obliged. The air tubes of the lower part of the lungs were filled full of them. M. OSBORN.

Tomales, May 28, 1871.

"F. W. H." Sacramento. We are not acquainted with the parties to whom you refer, and hence are unable to answer the question you propound from any personal knowledge of them.

## Agricultural Representation.

The following very sensible remarks are from the March and April number of the monthly report of the department of agriculture at Washington:—

Regret is felt by the true friends of agriculture, that so few farmers should be found in the halls of legislation, and especially in Congress. If it is true that national detriment results from the non-representation of tenant-farmers in the British House of Commons, an affirmation recently made as a fact to be deprecated, how much greater the loss from lack of agricultural representation in a nation of independent, thrifty, and intelligent farmers!

It is not that there is the slightest difficulty in finding men of the breadth and brains of an average Congress among the farmers of any individual State; but farmers are isolated, and unable to combine with facility; they are more independent, and thus in feeling and fact are less inclined to "crook the pregnant hinges of the knee where [political] thrift may follow fawning;" they are comparatively single-minded and conscientious, and are therefore averse to the insincerity and sinuosity of the genus politician.

While agriculture is thus unrepresented, its interests suffer. Ambitious lawyers, scheming merchants, speculators, and railroad monopolists, men who do not represent the producing interests, and who are at best the expensive go-betweens of production and consumption, have an impelling personal interest in seeking legislative position, and they, therefore, obtain it. Commerce has yearly had its millions in subsidies, improvements of navigation, light-houses, and other aids; railroads have millions of dollars of money and of acres of land, and their managers are permitted to water their stock and drain the resources of the farmers for double dividends.

Now, the farmers want very little money in appropriations in aid of agriculture, but they do need an exemption from adverse legislation—statesmen understanding and conscientiously working for their interests—protection against rings of land monopolies and the tyranny of freight combinations. Farmers have the numbers, wealth, and ability to protect themselves, by acting in concert, in combination against combinations, as a grand "ring," which shall overwhelm all mercenary "rings" whatever. To the honest masses of the rural population, both on account of integrity and numbers, must the country look for its salvation from unhallowed greed and knavery in legislation. Then let the agricultural classes combine and make sure they are represented in State and national legislatures.

The farmers of this State should see to it that they are represented more by members of their own calling hereafter both in the legislature of their own State and in Congress. In this connection it may be proper to mention that we notice that the name of Chas. F. Reed, President of the State Agricultural Society, is used in reference to the Congressional nomination from the 3d district. Laying aside politics, no better selection could be made for the real interests of the district, which is largely agricultural. Agriculture is now our great interest and should have a voice in the National Legislature, and who would be a more appropriate person for the farmer to send there than Mr. Reed who has been President of our State Society for nearly ten years?

THE NEXT INDUSTRIAL EXHIBITION.—Mr. Hallidie, President of the Institute, has received highly favorable accounts from Mr. H. D. Dunn, who is now traveling in Japan in the interest of the forthcoming exhibition. There is a proposition before the government to send over several commissioners to witness and report upon the exhibition, and to secure for the same a proper representation there of the products and industries of Japan.

Dr. McGowan, of Shanghai, who lately spent some months in this city, also writes encouragingly of the interest being taken in the exhibition by the Chinese merchants and authorities. The next Industrial Exhibition promises to be one of the most complete and important ever held on this coast.

# SMALL FRUIT CULTURE.

## Our Future Fruit Market.

It is evident that a vast trade in fruit must soon grow up between this State and the States and Territories this side of the headwaters of the Missouri; while as yet we are prepared to supply but a small demand beyond our own borders. The great Salt Lake Basin, and the country beyond, as far as, and including the Eastern base of the Rocky Mountains, must ever look to California for its supply of fruit. Those regions will soon contain very large populations, attracted thither by the unparalleled richness of the mines, the cheapness of lands, and the facilities afforded by the numerous railroads now in process of construction or in contemplation.

The experiments of last year have conclusively shown that many kinds of fruit can be transported safely, and to a profit, even as far as New York; while nearly everything in the fruit line, even to strawberries, can be sent across the mountains.

The market for grapes is without limit. In addition to their demand for the table, those who do not wish to supply vintners or distilleries, can convert their grapes into raisins, for which our climate and soil present natural advantages, and the market for which is unlimited, and constantly increasing.

Would it not be better for those having the proper soils and locations, convenient to railroad lines, to turn their attention more to the culture of grapes and fruits, generally, and thus secure a certain crop, which will always be profitable, rather than depend so entirely on grain, which is uncertain both in yield and price. There are hundreds of thousands of acres of land in our foothills and plains, which can now be bought for two or three dollars an acre, or less, or even pre-empted, which, in five years, with very little expense, might be made worth hundreds of dollars per acre. Make the proper locations, select your varieties of trees and vines with judgment, and with ordinary care and industry, there is no such thing as failure.

## Raspberries.

The Germantown *Telegraph*, good authority, says:—There is nothing easier to grow than the raspberry, and of all our small fruit it is the most wholesome and to be preferred. The blackberry may be as wholesome when it is in perfection, but the strawberry, while it is a delicious fruit, and chosen by many to all others, is positively injurious to a considerable proportion of persons. It contains an acidity of a very peculiar and powerful nature. It affects the blood and produces eruptions; and people subject to gout are prohibited from touching the fruit. Raspberries, on the other hand, are not merely innocuous, but they are extremely wholesome, and can be eaten in any desired quantity.

Raspberry canes should be planted three feet apart in the row and the rows three feet apart. Cut down the canes to within six inches of the ground and set firmly. We prefer rather a moist spot for them, and if in the shade a portion of the day so much the better. They can be planted under fruit-trees where scarcely anything else will grow, and the berry will be larger and finer. They like a cool, moist soil, kept so by liberal mulching with leaves, light manure or any trash, and if a foot in depth it is an advantage.

In tying the canes care should be taken not to tie too closely, but to leave room to expand and the new wood to sprout freely. When extra canes are wanted, which sprout in the space between the rows, mulching should be delayed until these have grown a foot or so, otherwise it will retard, if not entirely prevent, the sprouting.

Every family ought to have grown a few good rows of raspberries. The variety requiring the least attention is the "Philadelphia." It is a fair berry, and very productive. But those who desire choice fruit, of the largest size, grow the "hornet." This is equally prolific, and never fails to give us a crop.

## How to Prevent Mildew on Gooseberries.

A Correspondent of the Canada *Farmer*, gives his experience in the matter as follows:

About thirty years ago I got some plants of the English gooseberry, and when the time for fruit came round they yielded nothing but poor, dirty looking, worthless stuff, year after year, on account of the mildew. At the time I could not understand what was the matter—not even knowing what mildew was. After several years of trial I pulled up the bushes. About eight or nine years ago I procured some bushes of the English variety, of two different sorts—one red, the other green; but, as on the previous occasion, these were effected with mildew. By this time I had heard of many preventives, such as sulphur, tar, bark, boards, etc. I tried all these, but with little success. Being very fond of gooseberries, I determined not to give up, and remembering that one of my bushes, of the first lot, had by oversight been spared, it being in a corner of the garden where there was a grass plot, and not being attended to, the wild grass grew as high as the bush; still there was a little fruit, small in size, but perfectly sound from year to year. It then occurred to me that if sound fruit grew among a tangled mass of wild grass it might have the same effect to spread grass on the ground, under and around the bushes. For the last six years, as soon as the grass will cut say nine inches or a foot long, I have spread a quantity of new cut grass under my bushes, and let it remain all summer. That, combined with very high cultivation and close prunning, has been a complete preventive of mildew for the last six years. Whether this simple and inexpensive remedy will hold good on all kinds of soil, I am not prepared to say. One thing I can say, as all my neighbors can testify: I have had splendid crops of large sized sound berries, some of them as large as small plums. My soil is a sandy loam, gravel sub-soil.

The result of actual experiments are always valuable.—ED. PRESS.

PROFITS OF BLACKBERRY CULTURE.—A gentleman near Auburn, in Placer county, according to the *Stars and Stripes*, has among other kinds of fruit 200 stools of the Lawton blackberry—the variety which we illustrated last week. From these he last year liberally supplied his table, sold a considerable quantity in the neighborhood and shipped 2,465 pounds. Omitting those used at home and sold in the neighborhood, and estimating exclusively on the basis of those shipped abroad, the above yield would be at the rate of 8,413 pounds per acre. At eight cents per pound, which was less than the average price last year, this would realize upwards of $673 per acre. Reduce it one-half or three-quarters, and where is grain growing in comparison?

## The Grape Crop in Sonoma.

A correspondent, "E. P. H.," writes from Petaluma that the cold weather and high wind, which has lately prevailed, has caused the blight and mildew to appear, to some extent, on the young grapes in the vicinity of Petaluma. He adds:—"We hope, however, that the complaint will not be general. We daily learn the lesson of the varied climate of California. The cause of the injury to the grape is the salvation of the grain and hay, as well as many other things grown in this neighborhood. Sonoma has no real cause for complaint this dry year."

THE HYDE ROAD STEAMER, after the article in another column was written, drew, at Sacramento, *three* of the State Capitol columns, or a total of *thirty nine* tons; moreover, it drew this load at one time, with *only one* driving wheel in gear. This speaks well for the powers of the machine.

AFRICAN DIAMONDS.—It is said that 5,802 diamonds were shipped from the African diamond fields, last year. They were generally of an inferior quality; but brought $661,775 in gold that wasn't inferior to the best.

## The Last Rain in May.

By THOS. M. LOGAN, M. D., of Sacramento, Permanent Secretary of the State Board of Health.

In all our remarks respecting the rainfall of this season, we have invariably advocated the great probability of more or less rain in May—perhaps sufficient to mature the crops. To confirm our prediction, it has at last come, although rather later than we would have desired. To show that our expectation was not conjectural, but based upon the average prospects furnished by statistics, we subjoin the following table, which cannot fail to prove of interest to our agricultural friends. It will be seen that in none of the 22 years has the rain ever failed in May; and only in one year (1857) did it decline to a sprinkle:

RAINFALL IN MAY, AT SACRAMENTO, DURING 22 YEARS.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1850— | Total for May, | | 0.250 | Date of last rain, | | 25th |
| 1851— | " | " | 0.690 | " | " | 20th |
| 1852— | " | " | 0.300 | " | " | 17th |
| 1853— | " | " | 1.450 | " | " | 29th |
| 1854— | " | " | 0.210 | " | " | 18th |
| 1855— | " | " | 1.150 | " | " | 20th |
| 1856— | " | " | 1.841 | " | " | 22d |
| 1857— | " | " | 0.001 | " | " | 10th |
| 1858— | " | " | 0.203 | " | " | 26th |
| 1859— | " | " | 1.037 | " | " | 23d |
| 1860— | " | " | 2.491 | " | " | 25th |
| 1861— | " | " | 0.596 | " | " | 21st |
| 1862— | " | " | 1.808 | " | " | 27th |
| 1863— | " | " | 0.355 | " | " | 19th |
| 1864— | " | " | 0.742 | " | " | 23d |
| 1865— | " | " | 0.460 | " | " | 19th |
| 1866— | " | " | 2.252 | " | " | 28th |
| 1867— | " | " | 0.008 | " | " | 16th |
| 1868— | " | " | 0.270 | " | " | 22d |
| 1869— | " | " | 0.648 | " | " | 22d |
| 1870— | " | " | 0.270 | " | " | 19th |
| 1871— | " | " | 0.556 | " | " | 28th |

## California Industrial Fairs for 1871.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

SAN FRANCISCO, Thurs., A. M., June 1st.

FLOUR—The market still continues quiet even under a further decline, with no demand, whatever, for export. Heavy surplies have been received during the past week from Oregon, by reason of which stocks have largely accumulated.

Transactions embrace 2,000 bbls. California extra, 2,500 bbls. Oregon extra, at current rates.

We quote superfine, $7.00@7.25; extra, $7.87@8.12 gold; although some transactions are reported at $8.25@8.37 on the basis of silver payment.

WHEAT—Has still further depreciated during the week, and we quote about 20 cents lower than our last figures. The market is quiet, under this decline. We quote good to choice at $2.55@2.62. Sales of 12,000 sacks have been reported, during the week, at $2.55@2.75. The only buyers are millers and distillers. We are now within one month of the new crop, with a surplus of at least 5,000 tons of old.

The Liverpool market has declined another penny, to 12s. 2d. New York rates are given at $1.65.

BARLEY—The market still continues quiet. Sales of 9,000 sacks are reported at $1.82@2.00 from fair to choice. At the close we quote at $1.80@2.00.

OATS—The market has slightly declined, with sales of 6,000 sks. fair to choice, from $1.80@$2.25. Quotable at close at $1.85@2.12½.

CORN—Is still lower with a weak market; quotable at $2.25@2.30 per ceutal.

CORNMEAL—Is quotable at $3.00@3.50. according to quality.

BUCKWHEAT—Still quotable at $3.

RYE—Nominal at $2.50 for choice.

FEED—Has materially declined, and we quote: STRAW, $8@9; BRAN, $30.00; MIDDLINGS, $40.00; OIL CAKE MEAL $40.

HAY—We quote ordinary to choice at $16.00@$20.00 ₱ ton.

HONEY—But littlo in market and quotations nominal.

POTATOES—The old crop is entirely exhausted; best descriptions of new are selling $1.75@2.00—inferior may be quoted at $1.25@1.50. Particularly choice lots bring $2.00@2.12

HOPS—Demand light—prices nominal at 8@12½c. for California crop of 1870.

HIDES—We quote Dry, slaughterer's stock, 17@18½c; Salted, 8@9c. Sales during the week 2,000 Cal. dry, and 1,670 salted.

WOOL.—Sales for the week have aggregated about 600,000 lbs. at from 25@33c. The receipts continue heavy. Desirable lots are active, while inferior grades are slow. Stocks are accumulating. Thus far our receipts are 5,000 bales in excess of the same time last year; 22,000 bales were received during the month of May. Fair to choice shipping may be quoted at 21@31c. Some fancy lots bring from 32@33c. We note sales in Boston all the way from 24c for very burry, to 45c for choice spring (currency).

A Boston paper says: "There has been considerable doing in new California wool; but prices are advancing so rapidly in San Francisco that we have not as yet been able to keep pace with them on this side. Receivers, however, are able to obtain a fair advauce on cost, and deem it more prudent to meet the market at current rates than to hold on for extreme prices that may not be realized. In noticing the arrivals of new California wool at this time last year we quoted sales of good lots at 30@32c, and similar wools are now selling at 40@42½c, and caunot be placed here now at these prices, at present current rates in San Francisco."

TALLOW—The extremes may be quoted from 7½@8c. Sales of 30,000 lbs. are reported for the week.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c. Two large lots of flax seed have been received from Oregon, during the past week.

PROVISIONS—California Bacon 15½@16c; Oregon, 15½@16; Chicago 16c; California Hams 13½@14½; Oregon do, 16@17c; California Sugar-cured Hams, 18@20c; Oregon do, 18@20c; Eastern do, 21@24c; California Smoked Beef, 13@14c.

BEANS.—Extremes of quotations—Bayo, $2.62@$3.75; Butter, small White and Pea, $2.50@$2.75; Pink, $1.87½.

NUTS—Califoruia Almouds, 12½@15c for hard aud 20@30c for soft shell; Peanuts, 7@8c; Hickory and Walnuts, 12½c; Pecan, 23@25c ₱ lb, Cocoanuts $15@18 per hundred.

FRESH MEAT — We quote prices from slaughterers to dealers without change.

BEEF—American, 1st quality, 9@10c ₱ lb.
Do 2d do 7@ c8 ₱ lb.
Do 3d do 5@ 6c ₱ lb.

VEAL—Extremes, 7@10c.

MUTTON—Declined to 5@5½c ₱ lb.

LAMB—May be quoted at from 7@8c ₱ lb.

PORK—Undressed is quotable at 5½@7½c. dressed, 10@11.

POULTRY, ETC.—The Market unchanged, Hens $6½@7¼; Roosters $6½@7¼; Ducks, tame, $6@7 ₱ doz; geese, tame, $1.85@2.00 ₱ pair; live turkeys, 18@19c ₱ lb.

WILD GAME—Hare, $1.50@$2.00; Rabbits, $1.25@1.50; No Ducks or Geese in the market.

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 28@32½c; California firkin butter, 30@32c. Faucy brands Cal. new are held at from 2½ to 3 cts. advauce.

CHEESE—In fair supply, California new, 10@14c., Easteru, 16@17c. for new.

EGGS—California fresh, 28@29c;

LARD—California Lard, 11-lb tins, 15@16c; Oregon, 16@17c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Strawberries, 2@7c; Apricots, 5@4; Cherries; 8@35c; Gooseberries, 7c; Rhubard, 1@3c; Asparagus, 3@8c.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assortcd, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Dealers report a good euquiry. At the same time stocks of all kiuds are said to bo complete, which are sold at reasouable prices.

BUILDING AND FENCING MATERIALS—Iu fair demand for export—local demand still continues light. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The followiug cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregou do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Pruues, German, 12c ₱ lb; Raisins, layer, $3.50@4.25 per box; Currants, Zaute, 10½@11½c.; 50c.

### TABLE OF MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Sugar, crsh'd, lb. | $ 14½@$ 15 | | Hemp Seed, lb. | $ 7 @ | 9 |
| Hawaiian, do. | 9 @ | 12 | Castor Beans, lb. | 4 @ | 4½ |
| Coffee, Cos. R, lb | 15½ @ | 16 | Castor Oil, gal. | 1 75 @ | 2 00 |
| Rio, do | 16 @ | | Linseed Oil, gal | 1 05 @ | 1 10 |
| Tea, Japan, ₱ lb. | 50 @ | 90 | Broom Corn, ₱ lb | 3 @ | 5 |
| Green, do | 50 @ | 1 00 | Beeswax, ₱ lb | 27 @ | 30 |
| Rice, Haw'n, ₱ lb | 8½@ | 9 | Peanuts, ₱ lb | 5 @ | 7 |
| China, do | 6 @ | 7½ | Corn Meal, cwt. | 2 50 @ | 4 00 |
| Coal Oil, ₱ gal. | 50 @ | 60 | Onions, cwt. | 1 50 @ | 3 50 |
| Candles, ₱ lb | 15 @ | 18 | | | |

SUCCESS IN BUSINESS.—Success in the business world usually depends upon being thoroughly prepared for its duties. Young men! if you would succeed in your business career, secure a good practical business education. This question being settled, the next is where to go. Why, go to the best, of course. Go to HEALD'S BUSINESS COLLEGE, located in the new College Building, 24, Post Street, San Francisco. This is the only school upon the Pacific Coast where young men can depend upon being thoroughly fitted for Bankers, Merchants, Clerks, and Book-keepers. This school is connected with the "International Business College Association" or Bryant & Stratton chain. Its scholarships are good for tuition in any of the forty colleges, located in all the leading commercial cities of the United States and Canada. There are many interesting features about the school which can not be discussed here. Call at the College and examine its workings. If unable, send for circular, and HEALD'S COLLEGE JOURNAL, which will be sent free upon application. Address, E. P. HEALD, President, business College, San Francisco, Cal. 1v1-3msnr

CAL. FILE MANUFACTURING CO., 437 Brannan street, are now making Reaper and Mower Sections; also, Knives complete, suitable for all Machinery. Prices greatly reduced.

## San Francisco Retail Market Rates.

FRIDAY, June 2, 1871.

| | | | | | |
|---|---|---|---|---|---|
| **MISCELLANEOUS.** | | | | | |
| Butter, Cal fr. lb | 35 @ | 45 | Wool Sacks, new | 40 @ | 90 |
| Pickled, Cal. lb | 35 @ | | Second-hnd do | 67½@ | 70 |
| do Oregon, lb. | @ | | Wheat-sks, 22x36 | 13½@ | 14 |
| Honey, ₱ lb | 25 @ | 30 | Potato G'y Bags. | 23 @ | 24 |
| Cheese, ₱ lb | 20 @ | 25 | Second-hnd do | 15 @ | 16 |
| Eggs, per doz | 30 @ | 35 | Deer Skins, ₱ lb. | 15 @ | 22 |
| Lard, ₱ lb | 18 @ | 20 | Sheep sks, wl on | 50 @ | 75 |
| Sugar, cr., 6½ lb. | 1 00 @ | | Sheep sks, plain. | 12½@ | 25 |
| Brown, do, ₱ lb | 10 @ | 13 | Goat skins, each. | 25 @ | |
| Beet, do, ₱ lb | 1 00 @ | | Dry Cal. Hides | Weak | 65 |
| Sugar, Map. lb. | 25 @ | 30 | Salted do | Dnil | |
| Plums, dried, lb. | 15 @ | 25 | Dry Mex. Hides. | 15 @ | |
| Peaches, dried, * | 15 @ | | Salted do | 9 @ | |
| **PRODUCE, ETC.** | | | | | |
| Codfish, dry, lb | 6 00 @ | 12½ | Barley, cwt | 2 35 @ | 2 40 |
| Flour, ex, ₱ bbl. | 8 25 @ | 8 50 | Beans, cwt | 2 50 @ | 3 00 |
| Superfine, do. | 5 50 @ | 6 00 | Potatoes, cwt | 2 00 @ | 2 37½ |
| Corn Meal, 100 lb. | 3 50 @ | 4 50 | Potatoes, new | 2 00 @ | 2 37½ |
| Wheat, ₱ 100 lbs. | 2 95 @ | 3 10 | Hay, ₱ ton | 18 00 @ | 24 00 |
| Oats, ₱ 100 lbs. | 2 30 @ | 2 50 | Live Oak Wood. | 10 00 @ | 12 00 |
| **FRUITS, VEGETABLES, ETC.** | | | | | |
| Pine Apples, † | 5 00 @ | 9 00 | Garlics | 5 @ | 8 |
| Bananas, ₱ lb | 3 00 @ | 5 00 | Green Peas, ₱ lb | @ | 6 |
| Cal. Walnuts, lb. | @ | 20 | Green Corn, doz. | @ | |
| Cranberries, ₱ g | 75 @ | 1 00 | Sugar Peas, ₱ lb | @ | 6 |
| Cranberries, O.¶ | @ | 1 00 | Lettuce, ₱ doz. | 12 @ | 25 |
| Apples, No. 1, lb. | 4 @ | 5 | Mushrooms, ₱ lb | 25 @ | 50 |
| Pears, table, ₱ lb | @ | 12½ | Horseradish, ₱ lb | @ | 20 |
| Oranges, ₱ doz. | 50 @ | 75 | Okra, dried, ₱ lb | @ | 50 |
| Lemons, ₱ doz. | 75 @ | 1 00 | Okra, green, ₱ lb | @ | |
| Figs, dried, ₱ lb | 15 @ | 20 | Pumpkins. ₱ lb. | 3 @ | 4 |
| Asparagus, wh.* | 12 @ | 15 | Parsnips, † hnchs | @ | 25 |
| | | | Parsley | @ | 25 |
| Artichokes, doz. | 50 @ | 75 | Pickles, ₱ gal. | 50 @ | 75 |
| Brussel's sprts, * | @ | 15 | Rhuharb, ₱ lb. | 8 @ | |
| Beets, ₱ doz. | 20 @ | 25 | Radishes, † huns | @ | 25 |
| Potatoes, ₱ lb | 2 @ | 3 | Green Peppers, * | | |
| Potatoes, sweet, * | @ | | Red, do | @ | 25 |
| Potatoes. new | 4 @ | | Summer Squash | 8 | |
| Tomatoes, ₱ lb. | | | Marrowfat, do. | @ | 6 |
| Broccoli, ₱ doz. | 1 50 @ | 2 00 | Hubbard, do. | @ | 5 |
| Cauliflower, † | 2 50 @ | 1 25 | String Beans, lb. | 8 @ | |
| Cabhage, ₱ doz. | 3 00 @ | 1 50 | Dry Lima, shl. | @ | 8 |
| Carots, ₱ doz. | 10 @ | 25 | Spinage, ₱ hskt. | 25 @ | 50 |
| Celery, ₱ doz | 75 @ | 1 00 | Salsify, ₱ hunch | 12 @ | 25 |
| Cress, ₱ doz hun | 20 @ | 25 | Turnips, ₱ doz. | @ | 25 |
| Dried Herhs, b'h | 25 @ | 50 | Asparagras | 8 @ | 12½ |
| Egg Plant | @ | | New Tomatoes, * | @ | 50 |
| **POULTRY, GAME, MEATS, ETC.** | | | | | |
| Chickens, apiece | 75 @ | 1 00 | Tongues, pig, ea | @ | 15 |
| Turkeys, ₱ lb. | 20 @ | 25 | Bacon, Cal., ₱ lb | @ | 20 |
| Ducks, wild, ₱ p | | | Oregon, do | @ | 20 |
| Tame, do | 1 50 @ | | Hams, Cal, ₱ lb. | @ | 20 |
| Teal, ₱ doz | | | Hams, Cross' s c | @ | 25 |
| Geese, wild, each | 37½@ | 50 | Choice D'field | @ | 25 |
| Tame, ₱ pair | 2 50 @ | 3 00 | Whittaker's | @ | 25 |
| From Chicago. | @ | | Johnson's Or. | @ | 25 |
| Hens, each | 75 @ | 1 00 | Salmon, ₱ lb | 10 @ | 12 |
| Snipe, ₱ doz | 1 25 @ | 1 50 | Smoked, new, * | 10 @ | 12 |
| English, do | 2 50 @ | 3 00 | Pickled, ₱ lb. | 6 @ | 8 |
| Venison, ₱ lb | @ | | Rock Cod, ₱ lb. | 10 @ | 12 |
| Quails, ₱ doz | | | Kingfish, ₱ lb | 25 @ | |
| Pigeons, dom. do | 3 00 @ | 3 50 | Perch, 's water, lb | 10 @ | 12½ |
| Wild, do | 1 50 @ | 2 00 | Fresh water, lb | 12½@ | 15 |
| Hares, each | 40 @ | 50 | Lake Big. Trout* | @ | 25 |
| Rabbits, tame | 50 @ | 1 00 | Smelts, ₱ lb | 6 @ | 8 |
| Wild, do ₱ dz. | 1 75 @ | 2 00 | Herring, fresh | | |
| Squirrel, ₱ pair. | 25 @ | 38 | Sm'kd, per 100 | @ | 1 00 |
| Beef, tend, ₱ lb. | 20 @ | 25 | Tomcod, ₱ lb | @ | 20 |
| Sirloin and rib | 18 @ | 20 | Terrapin, ₱ doz. | 3 00 @ | 4 00 |
| Corned, ₱ lb. | 10 @ | 12 | Mackerel, p'k, ea | | |
| Smoked, ₱ lb | 15 @ | 18 | Fresh, do | | |
| Pork, rib, etc., lb | 12½@ | 15 | Sea Bass, ₱ lb | @ | |
| Chops, do, ₱ lb | 12 @ | 15 | Halibut | 62 @ | 75 |
| Veal, ₱ lb. | 15 @ | 20 | Sturgeon, ₱ lb. | 4 @ | 5 |
| Cutlet, do | @ | 20 | Oysters, ₱ 100 | 1 00 @ | 1 25 |
| Mutton chops,* | 12½@ | 15 | Chesp. ₱ doz. | @ | 1 00 |
| Leg, ₱ lb | 12½@ | | Turbo t | @ | 40 |
| Lamb, ₱ lb | @ | 12½ | Crabs ₱ doz | @ | 1 00 |
| Tongues, beef, ea | @ | 75 | Soft Shell | 37 @ | 50 |
| | | | Shrimps | 10 @ | 12 |

—— * Per lh. † Per dozen. ¶ Per gallon.

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, June 2, 1871

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb | | |
| Scotch and English Pig Iron, ₱ ton | $32 50 @ | $33 00 |
| White Pig, ₱ ton | 40 00 @ | — — |
| Refined Bar, had assortment, ₱ lb | — 03 @ | — — |
| Refined Bar, good assortment, ₱ lb | — 04 @ | — — |
| Boiler, No. 1 to 4 | — 04¾@ | — — |
| Plate, No. 5 to 9 | — — @ | — 04½ |
| Sheet, No. 10 to 13 | — 04½@ | — 05 |
| Sheet, No. 14 to 20 | — 05 @ | — 05½ |
| Sheet, No. 24 to 27 | — 05 @ | — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | |
| Sheathing, ₱ lb | — — @ | — 26 |
| Sheathing, Yellow | — 20 @ | — 21 |
| Sheathing, Old Yellow | — 10 @ | — 11 |
| Composition Nails | — 21 | — 22 |
| Composition Bolts | — 21 | — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX ₱ box | 12 00 | — — |
| Plates, I C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 10 00 | 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | — 42 |
| STEEL.—English Cast Steel, ₱ lb | — 15 | — 15½ |
| QUICKSILVER.—₱ lb | — — | — 80 |
| LEAD.—Pig, ₱ lb | — 06 | — 07 |
| Sheet | — 09 | — |
| Pipe | — 10 | — 11 |
| Bar | — 08 | — 09 |
| ZINC.—Sheets, ₱ lb | — 9½ | — 10 |
| BORAX.—Refined | — 25 | — 30 |
| Borax, crude | — 5 | — — |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, June 1.

SOLE LEATHER.—Price still continues the same, there being a scarcity of light weights.

| | |
|---|---|
| City Tanned Leather, ₱ lb | 26@30 |
| Santa Cruz Leather, ₱ lb | 26@30 |
| Country Leather, ₱ lb | 25@28 |

All French goods still have an upward tendency, with a growing scarcity of leading stocks. No change in domestic skins.

| | | |
|---|---|---|
| Jodot, 8 Kil., per doz | $62 00@ | |
| Jodot, 11 to 19 Kil., per doz | 82 00@ | 96 00 |
| Jodot, second choice, 11 to 15 Kil. ₱ doz. | 68 00@ | 88 00 |
| Levin, 12 and 13 Kil., per doz | 68 00@ | 70 00 |
| Cornellian, 16 Kil., per doz | 72 00@ | |
| Cornellian, 12 to 14 Kil., per doz | 68 00@ | 70 00 |
| Ogerau Calf, ₱ doz | 54 00@ | |
| Mercier Calf, 16 Kil., per doz | 65 00@ | |
| Common French Calf Skins, ₱ doz | 35 00@ | 75 00 |
| French Kips, ₱ lb | 1 00@ | 1 30 |
| California Kip, ₱ doz | 60 00@ | 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ | 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ | 1 25 |
| Eastern Calf for Backs, ₱ lb | 1 15@ | 1 25 |
| Sheep Roans for Topping, all colors, ₱ doz | 8 50@ | 13 00 |
| Sheep Roans for Linings, ₱ doz | 5 50@ | 10 50 |
| Calfornia Russett Sheep Linings | 1 75@ | 5 50 |
| Best Jodot Ca f Boot Legs, ₱ pair | 5 25 | |
| Good French Calf Boot Legs, ₱ pair | 4 50@ | 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 | |
| Harness Leather, ₱ lb | 30@ | 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ | 72 00 |
| Skirting Leather, ₱ lb | 34@ | 37½ |
| Welt Leather, ₱ doz | 30 00@ | 50 00 |
| Buff Leather, ₱ foot | 20@ | 24 |
| Wax Side Leather, ₱ foot | 18@ | 20 |

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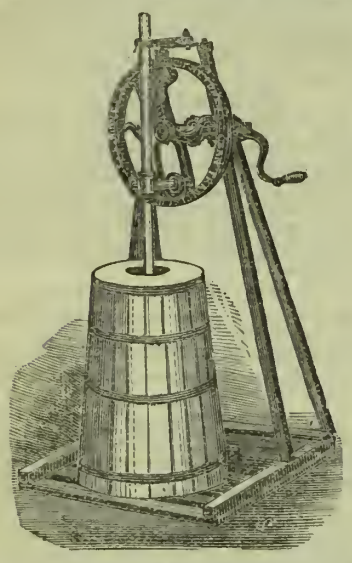
Ever Offered to the Public.

The old style of DASHER CHURN always had the preference over all others, and with this simple and



practical attachment, now stands WITHOUT A RIVAL. At the East it is rapidly taking the place of the

Thermometer and Cylinder Churn,

and its sales are enormous. Having bought the

**Right for this Coast,**

we are now prepared to furnish either large or small

CHURNS AND CASTINGS

as may be desired. We manufacture six different sizes of churns and the small casting can be applied to the three smaller sizes, and the large one with the frame and balance wheel to the three larger ones.

## WE CHALLENGE COMPETITION

In this churn and invite any one needing a GOOD churn to examine and try this one before purchasing elsewhere. The gearing is all simple, leaving nothing to get out of order; the dasher is easily removed by simply opening or removing the guide holding it in its place, leaving the churn

ENTIRELY CLEAR OF ANY OBSTACLE,

fact, it is the only churn that ever has been offered which is ENTIRELY

FREE FROM ANY OBJECTION,

and we offer it as the

## Best Churn in Existence.

No. 1 Churn holds 2 gallons;
2 do do 3 do
3 do do 6 do
4 do do 8 do
5 do do 13 do
6 do do 22 do

E. K. HOWES & CO.

Nos. 118, 120 and 122 Front Street, San Francisco, Cal

v1-eow3mr

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Farmers and Teamsters,

## SAVE YOUR MONEY!

BY USING THE

**Patent Wood Horse Collars and Hames Combined,**

Which has many advantages over the Leather Stuffed with Straw.

1st. DURABILITY, lasting at least ten times as long.
2d. CONVENIENCE. Opening below, can be laid on and off the Horse, having one fastening in place of two or three.
3d. Is one-third lighter than leather collar and hame.
4th. Can be easily fitted, as it is so constructed that the length and width can be changed in a few minutes.
5th. As there are no stitches to break, or stuffing to press out, IT NEVER LOSES ITS SHAPE, always bearing upon the muscular part of the shoulder, near the neck—the proper place for draft.
6th. Its smooth, hard surface, giving equal pressure on the whole line of draft, NEVER SWEATS OR RUBS OFF THE HAIR.
7th. It has an important advantage in the stationary curved arch, keeping THE COLLAR FROM SETTING TIGHT AROUND THE TOP OF THE NECK when heavy tongues have to be carried (as in some machines), THUS KEEPING THE NECK COOL, AND FREE FROM SORES IN THE HOTTEST WEATHER. Leather Collars WILL TIGHTEN over the top of the neck, and beat and gall the animal.
8th. Wood being a non-conductor of heat the soreness caused by Leather Collars becoming wet by perspiration is avoided. It has many other advantages which cannot be known without a trial. This Collar is WARRANTED to Cure Horses with Sore Shoulders in Three Weeks, Working Every Day. Give them a trial.

For Circulars, price of Collars, and all other particulars, apply to or address

WILDMAN & MARBLE,
No. 30 California street, San Francisco, Cal.
Sole Manufacturers and Dealers for the Pacific Coast.
Agents wanted. 19v1-3m

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## KNOX FRUIT FARM

AND

## NURSERIES.

GRAPES,
STRAWBERRIES,
RASPBERRIES,
BLACKBERRIES,
GOOSEBERRIES,
CURRANTS,
ROSES,
EVERGREENS,
SHRUBS, ETC.

Our stock of Vines, Plants, Shrubs, Flowers, etc., is much the Largest and Best ever offered by this well known establishment.

Our Catalogue of Small Fruits, with Price List, will be sent to all applicants enclosing 10 cents.

Our Catalogue (No. 2) of Flowers, sent for 5 cents.

R. CUMMING & CO.,

ma11-3m Successors to J. KNOX, Pittsburgh, Pa.

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## EGGS! EGGS! EGGS!

STEVENS BROS'

## Patent Egg Boxes.

We would respectfully call the attention of all persons who ship or handle Eggs, to the advantage to be derived from using Stevens' Bros. Patent Egg Cases.

These cases hold thirty dozen Eggs each, self counting, and can be packed with ease and facility. Eggs shipped in the above cases sell quicker and give more satisfaction to buyers than any other package in use, as the contents are not damaged, and buyers subjected to no trouble as regards the count.

**NO BROKEN EGGS! NO HEATED EGGS! NO PACKING REQUIRED!**

### To the Trade.

We offer these Egg Cases at the following rates:

SCALE OF PRICES:

100 cases or over, cash price..... $3 00 each
50 cases or under, cash price..... 3 50 each

CAUTION!

STEVENS' PATENT EGG BOXES, patented Feb. 26, 1867.

All persons are hereby cautioned against manufacturing, selling and using any cases for packing and transporting eggs, constructed with compartments, by placing a separate diaphragm horizontally between each tier, from the bottom to the top of each case, and any and all infringements upon said patent, either for manufacturing, selling or using without authority from the undersigned, will be prosecuted. Parties desiring information will apply to the owners.

STEVENS & GRAY,
Union Market, Howard street,
18-v1-3m Between Third and Fourth streets.

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## A FORTUNE FOR EVERY ONE!

The result of the Famous Disastrous Japanese Speculation and the French War.

## Silkworm Eggs

For almost nothing, and in any quantity, by the case, book or card, at

S. P. TAYLOR & CO.'S Paper Warehouse,
19v1-1m 416 Clay street, San Francisco.

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## PURE BERKSHIRE SWINE.

**A Few Pigs from Pure Stock, Imported from**

THE PENS OF ADAM RANKIN, ESQ.,

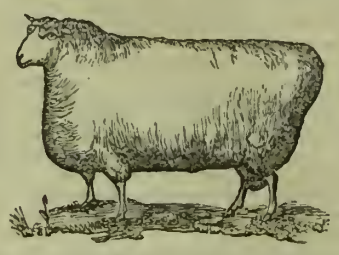
of Warren county, Illinois, for sale by the undersigned, 3½ miles west of Napa.

CASH must accompany orders.

19-v1-1m R. S. THOMPSON.

---

## Thoroughbred Cotswold Sheep.



IMPORTED FROM THE FLOCKS of Lane, Garne & Fletcher, England, and J. D. Wing, of New York, with their grades half and three-quarter breeds.

REFERENCES.—Secretary of State Agricultural Society, who says: "Your Cotswold and Merino grade rams (recommended by himself to parties in Sacramento) give entire satisfaction since they have seen the result of the cross."

A. Lovell, of Millerton, and Charles Peck, of Snelling, with others from different parts of the State, say, in regard to their cross with Merino sheep: "Have more and larger lambs, with better staple wool than ever before."

Wm. O. Brine, of San Francisco, purchased all of our quarter Cotswold lambs at $2 per head on our rancho.

Christy & Wise sold thirty-nine bales of our grade wool at thirty-two cents per pound, for six months clip.

1,300 Spring Lambs, shears in May, averaged 2½ lbs. of wool per head.

Below, find statement of wool scoured by me for the New York State Sheep Breeders and Wool Growers' Association, of wool sheared at the meeting in this place, in May, 1867.

Truly, WM. HAYDEN,
Woolen Manufacturer.

| Owners' Names. | No. | Age. | Breed. | Sheared. | Scoured. |
|---|---|---|---|---|---|
| S. W. Crandall..... | 1 | 2 | Merino. | 19 2½ | 8.2½ |
| Chamberlain..... | 2 | 2 | " | 8.10½ | 4½ |
| A. H. Clapp..... | 3 | 4 | " | 10.3½ | 5 6 |
| McMullen..... | 4 | | " | 16.3½ | 6 4½ |
| W. Cole..... | 5 | 1 | " | 14 7½ | 5 2½ |
| W. H. Holmes..... | 6 | 2 | " | 18 7 | 7 13½ |
| O. Bonan..... | 7 | 2 | " | 16 6 | 6.9 |
| J. D. Wing..... | 8 | 1 | Cotswold. | 18 9 | 11 37 |
| D. H. Barnes..... | 9 | 4 | " | 11 12 | 8.7 |
| J. D. Wing..... | 10 | 2 | " | 19 4½ | 10 6 |

Nos. 8 and 10 are the Cotswold rams "Golden Fleece" and "Champion," imported from England by J. D. Wing, and now owned by us. "Golden Fleece" won the Randall Prize, for which the above fleeces were scoured.

For pamphlet, address

H. F. BUCKLEY & BRO.,
19v1-3m Hopeton, Merced Co., Cal.

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## FULL BLOODED SHEEP!

**For Sale, at Fair Prices, 40 Rams and 20 Ewes, of**

**Full Blooded Silisian Stock,**

from the celebrated "Electoral" Flock of William Chamberlain, Esq., of Red Hook, Duchess County, New York. These are the purest and best bred Silesian Sheep in the United States, if not in the world, and have carried off the

FIRST PREMIUMS

in Fine Wool Classes at the State and National Fairs since 1854.

ALSO FOR SALE,

**Full Blooded Cotswold and Full Blooded Leicestershire Rams and Ewes,**

just selected from the Best Flocks in England by one of the best of judges, WM. T. WILSON, ESQ., and imported by him especially for this market.

Also, California Bred, Full Blooded

**COTSWOLD AND SOUTHDOWNS,**

and ½ and other crosses between these Breeds and between each of these Breeds and Full Blooded Spanish Merinos.

**Also, Full Blooded Berkshire Pigs,**

selected and imported by the same party above named.

HIGHEST PRICES PAID FOR WOOL,

and Wool Pressed and Shipped for Exporters, with Care and on Reasonable Terms, by,

ROBERT BECK,

At the Office of the Secretary of the Cal. State Agricultural Society, SACRAMENTO, Cal.
20v1-3m

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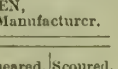
STEINWAY & SONS'

**Patent Agraffe Pianos,**

GRAND, SQUARE AND UPRIGHT.

Pianos to Let.



A. HEYMAN,
I street, between Sixth and Seventh,
ma18-tf Opposite old Capitol, SACRAMENTO.

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H. K. CUMMINGS. 1858. J. M. MAXWELL 1871.

HENRY K. CUMMINGS & CO.,

**Wholesale Fruit and Produce Commission House,**

ESTABLISHED 1858.

415 and 417 Davis street, cor. of Oregon, San Francisco.

Our business being exclusively Commission, we have no interests that will conflict with that of the producer.
17 v1-tf

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AGENTS WANTED FOR **THE YEAR OF BATTLES,** A History of the Franco-German War. By Brockett. Accurate, reliable and complete. The only one published. Send $1.50 for outfit, and secure the best territory at once. Address J. W. GOODSPEED & CO., New York or Chicago. ap15-3m

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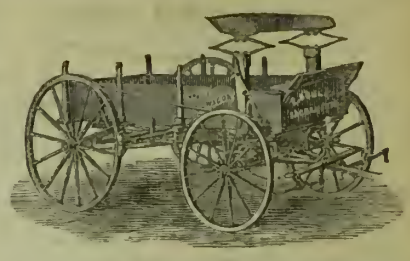

FIRST PREMIUM AWARDED at the State Fair, 1870, for the best Farm Wagon: also for the best improved Thimble Skein. All kinds of Wagons on hand and made to order, of the Best Eastern Material, and Warranted to give satisfaction.

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IMPORTERS OF

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Are Sole Agents for

EXCELSIOR MOWER AND REAPER,
CHAMPION MOWER AND REAPER,
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**Haines' Genuine Illinois Harvester,**
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**Portable Steam Engines, Etc.,**

With a full stock of all kinds of Implements needed in Farming.

Send for List of Prices.

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9, 11, 13 and 15 J street, SACRAMENTO.
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## McLURES PATENT CHURN.

**Patented May 17, 1870.**

Has taken the premium at all the State Fairs East of the Rocky Mountains.

The Greatest Labor Saving Machine of the Age

*Warranted to make Butter in from Three to Five Minutes.*

It is self-cleaning, requires no scrubbing.

100 JUST RECEIVED.

For sale by J. L. HUNT,
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ALEX McBEAN, Proprietor.

THE LARGEST AND

**Best Furnished House in this city.**

January 28.--4v1-3mr

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Successors to LYON & SON, dealers in Produce Vegetables, Butter, Eggs, Green and Dried Fruits, Cheese Poultry, Honey, Beans, etc., etc.
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STYLES, SIZES & PRICES TO SUIT ALL FARMERS.
Descriptive Circulars Forwarded by Mail.

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108 & 110 Front Street, San Francisco, Cal.

GREAT REDUCTION IN PRICES OF

## MACHINES AND EXTRAS

FOR 1871.

The Buckeye is the

**BEST MOWER NOW IN USE.**

As a Reaper,

We guarantee it superior to any SELF-RAKING REAPER yet invented.

Sole Agents for the Celebrated

**Sweepstakes Thresher.**

Also, Sole Agents for

GENUINE HAINES' HEADER,
HOLLINGSWORTH WHEEL-HORSE RAKES,
BURDICK'S NATIONAL FEED-CUTTER.

We have also WOOD'S MOWER, KIRBY MOWER and REAPERS. Also, Extras for the above, with a full stock of Agricultural Implements and Hardware.

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108 and 110 Front street, and Nos. 10 and 12 Pine street,
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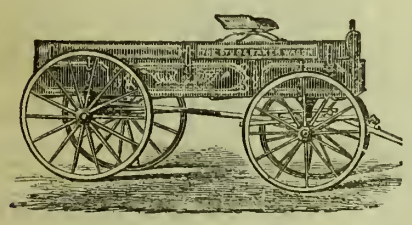
## THE STUDEBAKER



**WAGON.**

THE BEST FARM WAGON;
THE BEST RANCH WAGON;
THE BEST TRUCK WAGON;
THE BEST TEAM WAGON;
THE BEST HEADER WAGON;

**The Best Thimble Skein and Iron Axle WAGONS.**

Sold for $100 to $175.

**AMES & WOOLVERTON,**
General Agents for the Pacific Coast.
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## PURE BRED POULTRY.

To Lovers of Choice Fowls,

AND ALL INTERESTED IN INTRODUCING the Fine Breeds of Poultry into the State, a rare opportunity is now presented. The undersigned has just received from Europe and the Eastern States, and offers for sale at the most reasonable rates the following first-class stock:

FORTY LIGHT BRAHMAS,
"Duke of York" Strain;
FORTY DARK BRAHMAS,
"Boyle's" Strain;
SIXTY BUFF COCHINS,
"Cooper's" Strain;

And THREE TRIOS each of Partridge, Black and White Cochins, Houdans, Gevecœurs, White Leghorns and Silver Spangled Hamburgs.

**GEORGE B. BAYLEY,**
Importer and Breeder of Choice Poultry, corner of Sixteenth and Castro streets, OAKLAND.
Address, with stamp, P. O. Box 659, San Francisco.

## WIESTER & CO.,

No. 17 New Montgomery Street (Grand Hotel), San Francisco.

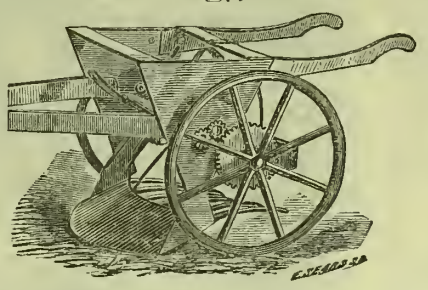
**PATENTS BOUGHT AND SOLD ON COMMISSION.**

**PATENTED ARTICLES FOR AGENTS:**

**Longshores Combination Tool.**

This device is just what its name indicates. As a KITCHEN TOOL it is indispensible. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

**Westfall's Improved Potato Digger.**



We ask special attention to this practical and useful invention. Nearly every farmer has felt the want of a machine to dig potatoes. This new invention fully supplies that want. The machine being made entirely of iron and steel, will last longer than the farmer who buys it. It is operated by a man and one or two horses, and digs one row at a time. The shovel part of the digger enters under the potatoes and raises them on to the fingers in the rear, where the dirt falls through and the potatoes roll back on to the surface of the ground. The machine is prevented from clogging by a reel which revolves above the fingers and carries through the potato vines, weeds, etc. A complete model or full sized machine can be seen in our office. Full particulars in regard to Machines or Rights furnished on application.

**New Gas Light.**

This Light takes the place of the Candle, the Kerosene Lamp and Coal Gas. Each Lamp is a perfect Gas Factory, making its own gas as fast as it is required, It is a safe, cheap and beautiful light. Circulars and full particulars sent on application.

A few good traveling agents wanted to sell this and other valuable patents.

**Hunter's Improved Grain Separator.**

The best machine to *Clean Grain* in the world. Prices reduced. Send for descriptive circular and price list. County Rights for sale.

**O'Hara's Patent Giant Corn Sheller.**

Although this little invention weighs only twelve ounces, and can be carried in the pocket, yet it is really a "Little Giant" for shelling corn. It is a late invention, and has recently taken the First Premiums at the State Fairs of Mississippi, Louisiana and Texas. We are prepared to furnish them in quantities to suit. Will give exclusive agencies to local agents who will advertise and push the introduction of the Sheller. Retail price, $2. A liberal discount to agents. A sample will be sent by mail, prepaid, for $2.75.

**New England Spring Bed.**

The cheapest and best in the market. Rights for sale and beds at cost. Send for descriptive circular.

**Tarbox's Combination Stencil Alphabet.**

By the use of this ingenious device, ANY NAME OR NUMBER can be marked well and perfectly, thus saving the necessity of having a number of different plates. The exclusive right to sell said invention in California, and also a small stock of Places, for sale at a low price. Send for Circular, or call and examine the Plates.

**Nut Roaster.**

This machine will roast one quart or half a bushel of nuts at once. All that is required is to wind it up and fill with nuts. It roasts evenly and perfectly and will keep nuts warm a whole day and not burn them. The Patent Right for sale to any town or city in the States of California and Oregon, and Washington Territory. A sample machine furnished to each purchaser. ap1-tf-r

**Hill's Grate Bar.**

This Bar will withstand 800 degrees more heat than any other Bar now in use. It is unequalled in duribility. It generates more steam from the same quantity of coal, making a saving of from 10 to 15 per cent. in fuel. It has been examined and used by some of the most scientific Engineers in the United States, and pronounced the best Grate Bar extant for marine or land boilers. The Patent Right to the Pacific Coast is placed in our hands for sale. A complete model can be seen at our office, or a descriptive circular will be sent on application.

**Richards' Corner Protector.**

This is a novel and beautiful invention. It completely prevents dust from settling in the corners of rooms or stairways, and at the same time makes a very fine finish. They sell very readily. Send 50 cents for samples.

**Finger Guards.**

No lady who Sews can afford to be without one of these Guards; and no Book Agent who understands his business will fail to order a good supply as soon as he sees them. It completely protects the left fore finger from being pricked by the needle. Retail price, 50 cents.

**DENTISTS, READ THIS.**

**Dr. Gillespie's New Patent Atmospheric Attachment TO DENTAL PLATES.**

Can be applied to both New and Old Plates, so as to retain them firmly in the mouth while eating or talking; superior to any thing ever before invented, cost of applying it small, and the greatest improvement immediately felt by the wearer.

All who have badly-fitting plates can, by the application of this Attachment, wear them with perfect comfort and usefulness while eating, talking, etc. State, County and Office Rights for Sale.

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The undersigned, Importer and Breeder of

Light and Dark Brahmas,
Partridge and Buff Cochins,
Houdans,
Black Red Game Bantams,
Black African Bantams, an
Aylesbury Ducks.

OFFERS FOR SALE BOTH
IMPORTED AND CALIFORNIA BRED STOCK.
ALSO,
**Eggs for Hatching,**
No orders filled C. O. D.
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Fruit Vale Avenue,
Brooklyn,
Alameda Co.,
21v1-tf Cal.

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Oculist,

Has removed to 19 Post street, San Francisco.

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Dealer in improved and unimproved Farms, Grazing and Timber lands. Particular attention given to procuring small Farms and Homesteads for purchasers, claims for pre-emptors &c., in every part of the State.
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## MILLER & HALEY'S MILLS,

**BERRY STREET,**
**Between Third and Fourth Streets, S. F.**

Having been burned out at the late fire on Fremont street, we have removed our business to the above locality, where the manufacture of sash blinds, doors, frames, mouldings, etc., in connection with a general mill business, will be carried on by us as formerly, and where we shall be pleased to see all our old friends and patrons, and as many new ones as may favor us with a call.

Thankful for past favors, and especially for the sympathy extended to us for our late heavy losses, we intend, as heretofore, to deserve the patronage of the public by strict attention to business, fair dealings, and justice to our customers.
19v1-3m MILLER & HALEY.

## ARTIFICIAL LIMBS.

**A. A. MARKS,** No. 575 Broadway, N. Y. City,

the inventor and authorized United States Government manufacturer of the celebrated first premium Artificial Limbs with Rubber Hands and Feet, has

published a new and enlarged edition of his Illustrated Pamphlet, of importance to all who have suffered amputations, especially to officers and soldiers who lost their limbs in service. Copies sent free to applicants.
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A complete assortment of REAPER AND MOWER SECTIONS, BARS, Etc., constantly on hand and made to order.

FILES of every description made and re-cut

—BY THE—

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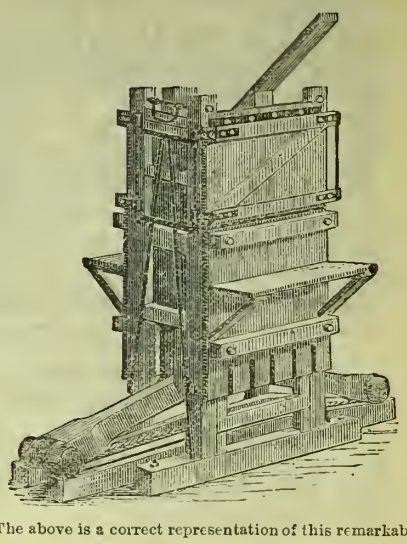
SAN FRANCISCO.

ma18tf **N. B. ADAMS, Supt.**

## THE EAGLE HAY PRESS.



The above is a correct representation of this remarkable

## Eagle Hay Press,

THE INVENTION OF J. A. McGILLIVRAL, OF ILLINOIS, TO WHOM LETTERS PATENT WERE ISSUED JANUARY 10TH, 1865, AND JULY 24TH, 1866.

Several years were devoted by the patentee to the perfection of this powerful press, and its unprecedented sale in the East induces the proprietors to introduce it into California and the Pacific States.

All who have seen or used these Presses pronounce them superior to anything used heretofore. The power is applied by means of two levers, and it will be seen the power increases in ratio to the resistance; as the levers approach a horizontal position the power can scarcely be estimated. It is not only a powerful Press, but has the advantage of being Cheap, and also Simple, therefore not liable to get out of order.

Three men with one horse can bale from Ten to Fifteen Tons per Day, each bale weighing 250 to 300 lbs. It obviates all necessity by beating the hay before pressing. On account of its great power it is well adapted for pressing Hydes, Rags, Wool or Cotton. When a bale is pressed and fastened, the follower runs down of its own weight, and the bales can be taken out on either side.

These Presses are now manufactured in San Francisco by the

**Kimball Car and Carriage**
MANUFACTURING COMPANY,

Who are the Proprietors on the Pacific Coast, and will endeavor to have a supply constantly on hand.

Every Press made by them is WARRANTED to give perfect satisfaction.

PRICE, $250.

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**STEREOSCOPES,**
VIEWS,
ALBUMS,
CHROMOS,
FRAMES.

## E. & H. T. ANTHONY & CO.,

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Invite the attention of the Trade to their extensive assortment of the above goods, of their Own Publication, Manufacture and Importation.

Also,

PHOTO LANTERN SLIDES
and
GRAPHOSCOPES.

NEW VIEWS OF YOSEMITE.

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591 BROADWAY, NEW YORK,
Opposite Metropolitan Hotel,
IMPORTERS AND MANUFACTURERS OF
**Photographic Materials.**
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## Crandall Patent Spring Bed,

Received Premium for best Spring Bed at the State Fair and was on exhibition at all of the District Fairs in this State.

**IT EXCELS**
IN
**Lightness, Cleanliness, Elasticity and Durability,**
**Any other Spring Bed Ever Invented.**

Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

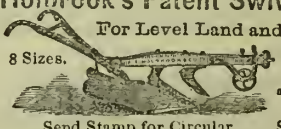
Manufactory—123 Front street, near corner of M, Sacramento; and at 1124 Market street, San Francisco. These beds can also be obtained of our agents in nearly every town in the State.

**COOLEY & GREEN, Proprietors.**

## Holbrook's Patent Swivel Plows,

**For Level Land and Side Hill.**

8 Sizes.



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Send Stamp for Circular.

They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow-slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting hinged steel Cutters. Changeable Mould-boards for sod and stubble, and cast steel edged Shears, when desired.

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As the conditions and circumstances of soil and climate and seasons on this coast are so peculiar that many of the approved methods of eastern agriculture are not at all applicable on our side of the Continent,—special attention will be given to considering the need, extent and character of the modifications necessary. This will alone render the paper of great practical value to our home readers and more essential to them than all the distant publications obtainable, without such auxilliary and modifying instructions.

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**DEWEY & Co.,**

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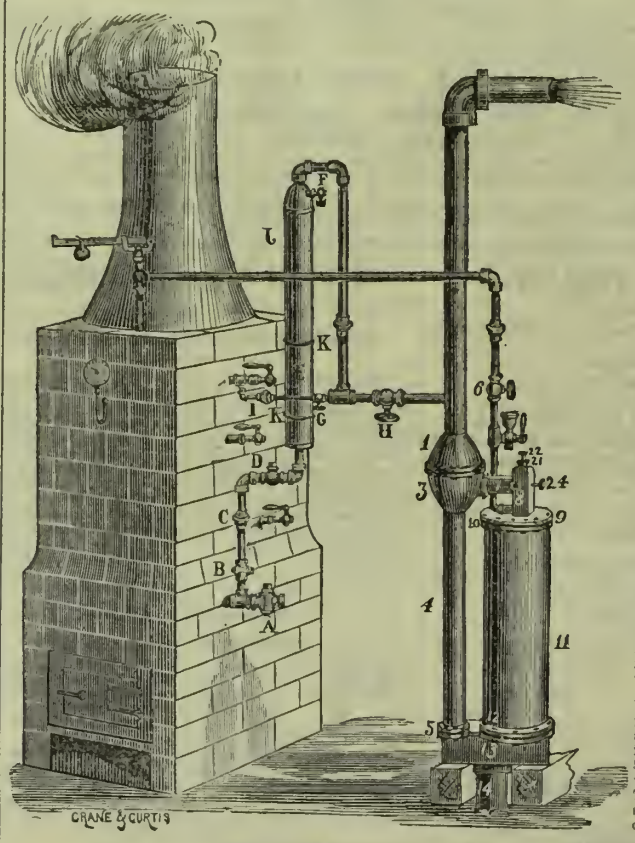
# Wilcox's Improved Steam Water Lifter

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## Steam Pump

Without Engine, Piston or Plunger, using steam DIRECT from the Boiler, without the intervention of any other machinery. It has won

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At California State Fairs, within the last five years.

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### MERITS WORTHY OF CONSIDERATION.

**Cheapness.**—Its cost is less than one half of that of any other Steam Pump of like capacity.

**Economy of Steam.**—It uses the exhaust steam alone for its suction, and the expansive power is applied direct, instead of wasting a large percentage on the friction of pistons and other machinery.

**Adaptability for Deep Wells, Shafts and Tunnels.**—Will work in wells and shafts from 100 to 200 feet in depth, and in tunnels from 500 to 1,000 feet in length, whether straight or angular. There is neither steam nor smoke escaping in the shaft or tunnel.

### NOT DERANGED BY MUDDY WATER.

Having neither piston nor packing, the common derangement from grit is not incurred. Hence its great durability.

### ANY PERSON CAN RUN IT.

It being so simple in construction and action, any person of ordinary intelligence can run it with safety.

They are made of any capacity from 1,000 Gallons to 100,000 Gallons per Hour.

For $75 I will sell a Water Lifter of 1,000 gallons per hour capacity; and for $85 I will furnish a boiler, with all necessary attachments, that will be sufficient to raise 1,000 gallons 50 feet in one hour. All other sizes sold correspondingly low.

Parties can see them in operation at my shop, or one at Presidio, San Francisco, daily driving 3,000 gallons per hour, up a slope 2,500 feet, with a perpendicular raise of 100 feet.

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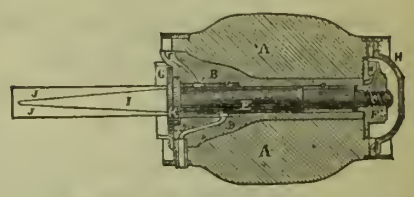
## CARLES R. DONNER'S PATENT

IMPROVEMENT IN




## HUBS AND AXLES.

This new patent is for an improved manner of uniting the steel spindle, I, with the iron portion of the axle, J, with the double collar, K, and also in the formation of a sort of hub on the holding-nut, F, which hub can be shortened so as to bring the nut closer, and thus compensate for any end wear of the box; also in the use of secondary steel boxes, *a a*, within the main axle-box, B, and a series of oil-cups, C *d*, arranged on the hub and an outer nut, which opens at various points within the box. A cap and protecting-ring are secured at the outer and inner ends of the hub, respectively, to protect from dirt.

An operative model and full description are necessary to show fully all the merits of the invention. The patentee can prove the value of the invention from actual working; that it is an easy mode of construction and furnishes a durable and more complete hub and axle than any other that has yet been devised

The attention of Manufacturers is solicited. All persons are cautioned not to infringe on the above patent under penalty of the law.

CARLES R. DONNER, Inventor and Patentee, ap15'3m-cow Sonora, Cal.

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BENICIA.

The Twentieth Annual Session of this well known institution will commence on the

**26th day of July Next.**

Previous to that date there will be a complete renovation of the establishment. A fine School Room and many other improvements will be added, and new furniture, carpets, bedding and apparatus supplied.

The course of study and mode of instruction will be such as the best modern culture demands; and in every genuine advantage of school and home, the institution will prove its claim to a place in the first rank.

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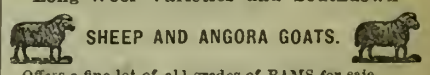

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## HOOKER'S Improved DEEP-WELL Pump

The best and cheapest Domestic Pump in the market.

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PACIFIC RURAL PRESS

Volume I] SAN FRANCISCO, SATURDAY, JUNE 10, 1871. [Number 23.

## The World Reaper and Mower.

It has been a common source of complaint among farmers, that agricultural machinery is not so well made as is that of the shop,—that it is rougher, less durable and less reliable and efficient.

Several years ago, Messrs. E. Ball & Co., of Canton, Ohio, determined to build their "World Reaper and Mower" on the same plan as that on which they would construct a lathe,– that is, to have every part accurately cut and fitted, so as to ensure ease of running and consequent durability, provided exposure did not defeat their plans. They determined to make a cut-gear harvester, and after months of labor and large expenditure, they completed, in 1866, the first article of the kind ever built.

The practical history of their machines has proved that an accurately constructed device of the kind will stand the wear and tear and exposure even better than rough-cast machines. They claim that they work better and more easily, and are far more durable than any others.

The materials are for the most part iron and steel. The gearing is one of its very chief points. As intimated above, this is cut, to avoid the imperfections of cast gear. The gearing is cast solid, larger than it is to be finally, and then turned down upon a lathe to the required size, which is fixed by an accurate gauge. Then the cogs are cut with the greatest exactness and bored with precision. The shafting and other parts are prepared in a similar way. The shafting is turned throughout its entire length, and fitted to the wheels (into which it is driven with vigorous force and then keyed) so firmly that wheels and shafting are as immovably united as if of a single piece.

The frame is a solid iron shell, into which the bearings and conformations for the gearing are cast. Its form is such as to combine strength, solidity and lightness. The bolt-holes, etc., as well as the bolts and nuts, are cut and turned, and all joints are planed so as to unite perfectly.

The gearing is protected from below by the shell case or foundation, into which it is fitted, and from above by a closely fitting hinged cover. Thus all the vital parts are secured from injury from water, dirt, and the like. The attachments, embracing the most improved devices in use, and some belonging exclusively to this machine, are built with the same excellence and of the best material, as are the other parts.

The result is a smoothly running, noiseless machine, which does not rack or jar, and which requires the minimum of power. The implement was introduced sometime ago on our coast, and has been warmly received. It took, moreover, all the premiums at the California State Fair of 1870, awarded for mowers and reapers.

The manufacturers are Messrs. E. Ball & Co., of Canton, Ohio. They have appointed as general agents for the Pacific coast, Messrs. Linforth, Kellogg & Co., 3 and 5 Front street, San Francisco. Persons desirous of further information may apply to either of the above-named parties.

THE WORLD REAPER AND MOWER.

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The Sonoma and Marin District Agricultural Fair will be held on the 25th of September.

In Good Company.—The New York *Tribune* alludes to the recent whereabouts of our straying partner in its reports of the N. Y. Farmers Club meeting, May 16th, in the following extract:—The President announced the presence of Mr. Dewey of the Pacific coast, and gave him opportunity to speak for the favored land. Mr. Dewey, in some graceful remarks, alluded to the fact that he, like many others in California, had long read and received benefits from the reports of the club proceedings, and that it was great pleasure to him to be present and get the matter in all its freshness. "It is an agreeable thought," he continued, "that I see here the parent of a similar institution to be founded on the Pacific slope. I remember that some of you, last summer, were impressed with the importance of a first-class agricultural journal for our States, and so urged. That hint has been acted upon, and we have a *Pacific Rural*, that is received with great favor by our farmers. Our climate, soils, seasons, and fruits are so different from yours that, while we can take your teachings as a general guide, we need instructions more precisely calculated for our people and their wants.

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University of the Pacific.—The ninth annual course of instruction of the Medical Department of the University of the Pacific was commenced last Monday evening by an address by Prof. C. N. Ellinwood, M. D. The course commences a month ealier than usual and will continue five months.

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The Hyde Steam Wagon has arrived at Salt Lake City.

## Our New York Office.

The steady increase and extension of our business has rendered it desirable that we should be locally represented in the Eastern States, and we are now pleased to announce that Mr. Dewey has established our "New York Office" at No. 37 Park Row, (Room 25) in charge of Mr. W. E. Partridge, editorial and business correspondent for this journal.

Mr. Partridge is an excellent writer, of considerable experience, on practical, scientific and industrial subjects, and will favor our readers with the freshest and most important information from the Eastern States, regarding new inventions and all industrial matters of special and general interest to our particular class of readers.

He will also attend to all business matters which may be more conveniently transacted with him by our Eastern patrons, having full authority from us to do so.

---

Sherman Island Passenger Traffic and Crops.—Mr. D. L. Perkins writes us that the first passengers from Sherman Island by the regular Sacramento steamers left there on the 6th ult. The boats will hereafter stop at the island regularly on their way up and down the river, thus affording the residents and visitors there an easy access to and fro, a privilege that they have heretofore enjoyed only at much trouble and expense. The crops throughout the island look well. The grain is rapidly maturing and the farmers are improving all their leisure in planting beans and potatoes, for each of which a very large amount of land will be put under cultivation.

## MECHANICAL PROGRESS.

PUNCHING.—One of a series of communications to *Engineering* from "An English Engineer in America," has the following: "Few comprehend the extent to which the matter of punching has been carried. Take, for example, the work at the Elgin Watch Factory. The blank discs for the wheels, after being punched from the sheet metal are perforated, leaving the delicate arms and rim with their edges perfectly square, corners sharp, and the surface so neatly finished that no hand work whatever is applied to them afterwards—in fact so good is the job, that the best hand work cannot approach it. To do such work with any degree of success requires not only a punch and die fitted mathematically perfect, but so arranged that they may be changed and set quickly and the punch guided so as to enter the die true beyond any possibility either from carelessness or from slack motion in the machine. This hard problem has been beautifully solved by a simple device in which the punch, the die, and the holder for the die, and also guide for the punch are all cast in one piece. It will be seen that this is a complete structure within itself. When used it is put into and the punch receives its vertical motion from a common punching machine, and when another kind is required instead of changing punch and die, the whole thing is changed, neither punch nor die ever being taken out except for the renewal. In making a perfect guide to the punch and insuring its perfect entrance into the die, the difficulties are so great that were it not for the use of Babbitt's metal or its equivalent, it would be hard, if not impossible, to overcome them, but by receiving the die in its seat, setting the punch in the die, and casting the Babbitt's metal around it, nothing remains to be done except to wear the punch in its guides until it works free. I am not certain but the work is repunched, that is, a punch a trifle smaller than the holes required used first, and afterwards one the exact size, shearing out, as it were, a finished shaving of metal. This plan has been adopted to a great extent in the manufacture of cold punched nuts. The holes in the nuts are punched first by a punch much smaller than the die, and the blanks cut out in a die much too large, then by repunching the holes and forcing the blanks through a die of the right size nuts are made free from scale, beautiful in appearance, perfect in shape and dimensions, and as none but the best iron will stand punching cold, they are of first-rate quality. The punching as a substitute for the milling machine in the construction of gun lock and pistol work has been used to a considerable extent, and it is believed with great success."

A NEW BELTING.—The *National Car-Builder* has the following: "We have been shown specimens of machine belting which, in our judgment, are a great improvement upon any of the kinds in use. The materials of which it is made are steel and rubber, so combined as to make available the strength of the one and the adhesive properties of the other. Belts of any size can be made. The specimens referred to are about four inches in width. In the center is a thin plate of steel, twenty-four gauge, to both sides of which, as well as the edges, the rubber is united by a peculiar process while it is being vulcanized; and so complete is the union of the two materials, that the rubber cannot be separated from the steel in any other way than by cutting or tearing it off. The superior qualities of such a belt, must be manifest to every machinist. The ordinary leather or rubber belting is liable to stretch, owing to the lack of that element which is in this case supplied by the steel. The metallic center prevents any elongation. There is no liability to slack or run off, and consequently no time is lost in taking up. It is not affected by moisture or by changes of temperature; and when one side is worn it can be turned, and the other side will wear equally long, being practically two belts in one. The ends are fastened by two clips with set-screws, without making any holes through it."

ACCELERATED MOTOR FOR SEWING MACHINES.—Dr. W. Chapman read a paper before a late meeting of the Polytechnic Club of the American Institute, describing a motor of his own invention. We quote from the report in the N. Y. *Engineering* for May 16th: "There is a fly-wheel, about nine inches in diameter, and weighing about fourteen pounds, which is set in motion by turning a crank. Giving the crank five or six turns, it will run about three minutes at the rate of 600 or 800 stitches per minute; then, as soon as it begins to run too slowly, the operator, without stopping the work, turns the crank again. With the ordinary treadle, power is lost in stopping the fly-wheel or checking it at the end of a seam, or in turning the work, crossing other seams, etc.; but in using the motor the motion of the needle is reduced or stopped, and the fly-wheel continues to run, ready to start the needle instantly. The apparatus occupies about one cubic foot of space, and may be attached with equal facility to any sewing-machine. When desired, a treadle can be attached to the accelerated motor, enabling the operator to use either the treadle or the crank at pleasure."

THE INTERNATIONAL EXHIBITION.—This opened on May 1st, at South Kensington, in two buildings connected with the Royal Albert Hall by means of the Horticultural Society's Conservatory. The Exhibition is the first of an intended annual series. We copy the following remarks upon the plan from the London *Engineering* for the previous week:—"As we have said, the scheme of the Exhibition is a very commendable one; it is restricted to two or three classes of objects, and will be repeated every year. The classes of exhibits will be varied from year to year, until each class has been represented, which, according to the present programme, will be in seven years. At the end of that time the classes of objects exhibited this year will be repeated, and means will thus be afforded of judging correctly of the advance made in any special department of art or manufacture during seven years. The fine art division, however, is not subject to the same rule, but will be fully represented every year. The articles exhibited have to undergo selection by competent committees; this selection implies merit, and no prizes will be given by the Commissioners, the certificate of admission being the only recognition. But although the Commissioners do not award prizes to exhibitors, they afford every facility to individuals or societies desiring to do so for the encouragement of art or industry. The classes to which the Exhibition for the present year will be confined are mainly three, the fine arts, pottery, and woolen and worsted fabrics; the machinery exhibited relates to each of the two latter classes only. There are also educational appliances and instruments, scientific inventions and new discoveries, and horticulture."

BENDING DISCS OF SILVERED GLASS.—Mr. Nasmyth's plan for making concave glass reflectors for telescopic purposes, is as follows:—"A disc of silvered plate glass, 39 inches in diameter and 3-16 of an inch in thickness, is fitted and cemented into a shallow cast-iron dish, turned true on its face so as to render the chamber behind the glass perfectly air tight; by means of a tube communicating with this chamber, any portion of air can be withdrawn or injected. To produce a concave mirror so slight power is required, that on applying the mouth to the tube and exhausting the chamber, the weight of the atmosphere, which amounts in this case to 3558 lbs., acting with equal pressure over a surface of 1186 square inches, causes the glass to assume a concavity of nearly three quarters of an inch, which in a diameter of 39 inches, is far beyond what would ever be required for telescopic purposes. On readmitting the air, the glass immediately recovers its plane surface, and on forcing in air with the power of the lungs, it assumes a degree of convexity nearly equal to its former concavity. The degree of concavity or convexity may be regulated to the greatest nicety, and it is proposed to render the degree of concavity constant by placing in the air-tight chamber a disc of iron turned to the required form, and allowing the pressure of the atmosphere to retain the glass in the form given to it by its close contact with the iron disc."

NEEDLES.—The agents of the two leading makers in Boston, report the aggregate sold in Boston, New York, and Philadelphia, as about one hundred and sixty million of needles per month, running from 75 cents to $2 per thousand. The sales chiefly are on the numbers from 5 to 10, while seven-eighths of these orders take the numbers of 7 and 8. Knitting and darning needles, that 25 years ago were sold in amount over double the sales of sewing needles, have dwindled to a very insignificant item of stock. They can hardly be said to sell now at one-twentieth of their former amounts. Crotchet needles have a very large sale, and have taken the place made vacant in stocks by the disuse of the darning and knitting needles.—*Sci. Am.*

## SCIENTIFIC PROGRESS.

SCIENCE OF COLOR A MENTAL SCIENCE.—In a late lecture before the Royal Institution, Prof. J. Clerk Maxwell illustrated Young's doctrine of color vision, and remarked that it was the first consistent theory of color. The elementary truth recognized thereby is that the difference in colors must be sought not in the nature of light but in the constitution of man. The explanation is therefore not to be reached by the study of pigments nor in the analysis of the rays of light. We quote a paragraph or two from Prof. Maxwell's lecture:—"I have here a picture of the structure upon which the light falls at the back of the eye. There is a minute structure of bodies like rods and cones or pegs, and it is conceivable that the mode in which we become aware of the shapes of things is by a consciousness which differs according to the particular rods on the ends of which the light falls, just as the pattern on the web formed by a Jacquard loom depends on the mode in which the perforated cards act on the system of movable rods in that machine. In the eye we have on the one hand light falling on this wonderful structure, and on the other hand we have the sensation of sight. We cannot compare these two things; they belong to opposite categories. The whole of metaphysics lies like a great gulf between them. It is possible that discoveries in physiology may be made by tracing the course of the nervous disturbance 'up the fine fibers to the sentient brain;' but this would make us no wiser than we are about those color sensations which we can only know by feeling them ourselves. Still, though it is impossible to become acquainted with a sensation by the anatomical study of the organ with which it is connected, we may make use of the sensation as a means of investigating the anatomical structure. A remarkable instance of this is the deduction of Helmholtz's theory of the structure of the retina from that of Young with respect to the sensation of color. Young asserts that there are three elementary sensations of color; Helmholtz asserts that there are three systems of nerves in the retina, each of which has for its function, when acted on by light or any other disturbing agent, to excite in us one of these three sensations. No anatomist has hitherto been able to distinguish these three systems of nerves by microscopic observation. But it is admitted in physiology that the only way in which the sensation excited by a particular nerve can vary is by degrees of intensity. The intensity of the sensation may vary from the faintest impression up to an insupportable pain; but whatever be the exciting cause, the sensation will be the same when it reaches the same intensity. If this doctrine of the function of a nerve be admitted, it is legitimate to reason from the fact that color may vary in three different ways, to the inference that these three modes of variation arise from the independent action of three different nerves or sets of nerves."

A THEORY OF A NERVOUS ATMOSPHERE.—*Nature* for May 11th notes a new theory suggested by Dr. Richardson, and remarks that it is calculated to give rise to much discussion. We quote briefly, condensing:—"The theory is in some sense a return to the old view respecting nervous action [fluid hypothesis], and in some sense also is an extension to the nervous system of the physical idea of communication of motion by molecular disturbance. In a few words, the author supposes that the blood, as it circulates through the vessels, yields a diffusible vapor or atmosphere which charges the nervous system, surrounding the molecules of nervous matter and pervading the whole nervous organism. He attempts to formulate the physical qualities of this vapor; it is probably an organic vapor containing carbon, hydrogen, and nitrogen; it is insoluble in blood, it is condensible by cold, diffusible by heat; it possesses conducting power, as a physical substance is susceptible of variations of pressure; it connects the nervous system in all its parts together; it is the medium of communication during life between the outer and the inner existence; by the organs of the senses the impressions and motions derived from the outer world are vibrated into or through the nervous atmosphere to the brain; in the living and healthy animal the nervous ether, if we may so designate it, is in correct tension, in the feeble it is diminished, in the dead it is absent or inactive; in the waking times of the living it is most active; it may be used up faster than it is produced during exercise; it is renewed during sleep. On the supposition of the existence of a nervous ether or atmosphere, the author accounts for various phenomena. It is assumed that vapors of chloroform or alcohol, for example—taken into the blood and carried to the nervous system, become diffused through the nervous atmosphere. 'The foreign vapor that has been introduced benumbs; in other words, it interferes with the physical conduction of impressions through what should be the cloudless atmosphere between the outer and the inner existence.' The rapid action of certain poisons, and the diffusion of the products of decomposition generated within the body itself, in disease, and the sudden collapse of nervous action which is often seen, are similarly accounted for by the author of the theory."

THE PROVISIONAL HYPOTHESIS OF PANGENESIS.—This, so called by Darwin, is getting raps from the scientists on all sides. Upon the point that the reproductive gemmules are diffused or suspended in the fluids which circulate freely through all the tissues, Dr. Lionel S. Beale ironically remarks in *Nature* for May 11th:—"Depend upon it, neither the well-devised experiments of Mr. Galton, nor any other experiments that may be devised, will overthrow this doctrine. The provisional hypothesis of pangenesis is perfectly safe, and will withstand every attack that may be made. It cannot be successfully assailed. Like many favored hypotheses of these days, it can neither be proved to be true nor positively shown to be false, and it is open to anyone to ground his belief in the truth of this and other doctrines upon the fact that they have not been and cannot be disproved. For undoubtedly gemmules *may* be formed in the manner supposed; if formed, they *may* be detached; if detached, they *may* pass through the tissues; they *may* then collect together, and *may* form reproductive elements. Each one of the countless millions of sperm elements produced in such profusion during so many years of life *may*, indeed, be formed by the union of millions of gemmules which, after meandering through the various textures of the body, marshal themselves in order in one particular locality. From the vast company thus supposed to have collected, we *may* conceive, by the light of imagination, the formation of regiments composed of multitudes of individual gemmules of the same kind; and further, it is not difficult to imagine that each individual gemmule of every regiment *may* move away and unite with thousands and tens of thousands of others, to form at length that marvellous compound and complex speck of matter less than the 1-50,000 of an inch in diameter, which constitutes the active material of each small reproductive particle. * * We may be led from the consideration of the broad facts of nature to conceptions of the most abstract kind, without being conscious of the slightest gap between the facts of Science and the creations of the Imagination. In these days the utmost skill is often displayed in hiding and ignoring or denying the hiatus by which the arguments deduced from the results of observation and experiment are separated from those which are based upon the fictions of the fancy. But, unhappily, the gulf cannot be filled up, or bridged over. It may be obscured by mists and clouds, but, though it be lost for a time, it is sure to be rediscovered and its limits studied by the curious and unphilosophical. Nowadays analogical argument is employed very freely without any attempt to show, in the first place, that there is any real analogy between the facts upon which the reasoning is based. In order to convince people that a hypothetical gemmule may move long distances through all sorts of tissues, it is only necessary to show that actual matter, millions of times as large, does burrow a short distance through certain textures. * * The pangenetic gemmule cannot be seen or tested, neither can its presence or absence be proved in any way. The phenomena adduced by Mr. Darwin in support of his hypothesis can be demonstrated; but the pangenetic gemmules are of the imagination alone, and the analogy between the actual facts and the supposed facts is surely but an analogy of the imagination."

MOLECULE—ULTIMATE—ATOM.—In a late number of the *Quarterly Journal of Science*, Mr. Mungo Ponton in his short paper on Molecules, Ultimates, Atoms, and Waves, suggests the use of the term "molecule" to denote the particles of chemical compounds; "ultimate," those of chemical elements; and "atom," the assumed constituents of those ultimates, themselves incapable of further analysis.

# CORRESPONDENCE.

## The Cajon Ranch, San Diego County.

EDS. PRESS:—Although it is the general impression that the crops in this locality are an entire failure, a late visit to the Cajon Rancho has cheered me; for instead of finding everything dried up, there is a fair prospect of half a crop, and in place of cutting everything for hay, many now think they will make from five to twenty bushels of grain per acre; and as this ranch is only one of many in this county that might have done as well or better under proper management, a brief description of it may be acceptable.

The "Cajon," as it is known hereabout, was negotiated for by the celebrated Elder Knapp about three years since; Miguel Pedrorena, representing the three-fourths interest which the Elder bargained for; but before any money had been paid, Isaac Lankershiem, lately of San Francisco, gave the Elder, I think, $17,000 for his bargain, and took it off his hands. The rancho contains 44,000 acres, or thereabout, 22,000 of which is arable land.

The portion which I passed over is nearly level, surrounded by hills and mountains. Water is obtained in all parts of the valley, at from 6 to 30 feet in depth, and occasionally in springs upon the surface. Henry Magee, an old resident who came to this country with Stevenson's regiment, and is connected by marriage with the Pedrorena's, tells me that he has seen over 5,000 cattle upon the rancho, at times, to say nothing of the horses and other stock, which will give some idea of its grazing capacity.

There are 2,000 acres of this rancho in cultivation now, and the immense herds are driven to more remote localities. That portion of the land bordering on the San Diego river, is no better—this and the last dry year—than the other lands, if we except a few hundred acres lying immediately in the bed of the river or nearly so, which have now a fine growth of water-clover, which is being harvested for hay. The principal owners and occupants of the land now are Sublett & Merideth; Mires & Crane, the Hill Brothers and another Mr. Hill. These are all farming, or would be extensively, if it had not been for our two successive seasons of drouth. None of them are attempting very much in the way of stock, except the Hill Brothers, and Sublett & Merideth, each of whom have a respectable flock of 2,000 sheep. The Hill Bros. have some fifty American horses, and about the same number of cows; but no attempts at dairying have been made, although there is forage along the low bottoms, and in some of the cañons, that could be utilized for that purpose, if it were not for the trouble of herding the stock over so long a range, that is contiguous to unfenced, cultivated grounds.

In the present condition of the occupants fencing is out of the question, for many reasons;—some of which are, that the most of them are new-comers, who have expended all their means for land, and in putting in two crops, neither of which is likely to be profitable.

On the whole, the outlook for the future of these settlers is cheerful; as many of them can see that a living is possible, even in years like the last two, and when we take into account that we may never again have two such years in succession, and that ordinarily as much or more grain can be raised to the acre here than can be produced in any State east of the Rocky mountains, and that those who live here are blessed with the most delightful climatic surroundings attainable, the prospect is more than cheerful.

Another matter which has not escaped the observation of those who look carefully, and with unprejudiced eyes, is that of the future possibilities of this county in the way of fruit and nut culture. It is easy to see that not many years will pass before attention will turn to this quarter of the globe, as a supply point for the great staples—we might almost call them—of raisins, almonds and walnuts, but more especially raisins.

I am not among those that are so very sanguine about the benefits of grape culture, if turned into wine and brandy; but there is a use grapes can be put to as food, that is of much more vital importance than any money they would bring when turned into wine or brandy. I have used 200 pounds of grapes (dried) in the past six months, as food and drink, and consider them among the most nourishing and palateable; for one quart of the dried fruit, costing here ten cents, makes a gallon of delicious beverage beside the use of the fruit to eat. It is never allowed to ferment, and is used freely instead of water, or tea or coffee, and is found to conduce to a greater amount of real comfort than is possible with any other drinks.

F. M. SHAW.

## Something about Roble.

MESSRS EDITORS:—You may ask where is Roble, whence did it spring, and for what is it particularly noted? Roble is the name of the first station, four miles south of Chico, Butte county, and owes its existence and name to the California and Oregon Railroad. The place is now merely a station and nothing more; what it may be years from now, I would not venture to predict; but I have not the least doubt that before long a very important village will spring up here.

The surrounding country will probably compare favorably with the best land in the State, and is one of those favored regions in California where the crops do not fail. Situated midway between the Sacramento river and the foot-hills, and about a mile and a half north of Butte creek, taking in a scope of country for several miles around, this station, I am sure, will be the nucleus of a future town.

The country is heavily timbered with oak and underbrush; and a farm has to be cleared before it can be worked. Most of the land is now cleared, and the timber cut, or, as on some places, the trees are girdled, leaving unsightly stumps and trunks. Since the railroad has reached this place, the practice of girdling has been discontinued, the wood being cut up and sold to the Railroad company. Some of the farmers have adopted the plan of lopping all the lower limbs from the best trees, cutting out all the decayed and small ones. Trees that do not shade the growing crops too much being considered an advantage to their fields.

Most of the farms have good dwellings, barns and outhouses, and every year additions are being made to the general improvements. There is one characteristic which is a very pleasing one to the sight, and that is, the neat and fresh appearance of the houses, with their coats of white paint.

The grain crop will yield equally as well this year as last; although it will not come up to what it would in a favorable season. Barley looks as well in some fields as ever I saw it, and one field in particular, belonging to Mr. Jaggard, is especially worthy of notice. This land was plowed three inches deep, and run over with the harrow only twice after seeding. I am confident that one-half more bushels to the acre could be produced on the same land *by deep plowing*. And this is the case with all the farmers around here; they do not plow one-third or one-quarter deep enough, nor cultivate the land properly after it is plowed. These remarks about plowing will apply to the manner in which most of the farms in the vicinity of Chico are cultivated, and yet there are good returns from them. But this cannot be done continuously, for a long series of years, with impunity. The land is bound to wear out, and sooner or later deeper plowing and better cultivation will necessarily have to be resorted to, to make farming pay.

Last Friday evening it commenced to rain about 8 o'clock and rained all night, coming down in a very heavy shower at midnight. Saturday all day we had alternate clouds and sunshine, till evening, when it commenced to sprinkle again, continuing at intervals to rain all night and the next day—Sunday—culminated in a drenching shower in the evening, which lasted two hours. To-day, Monday, the sun is shining brightly, wind in the N.W., and the rain I think is over for the season.

HOO PEA.

Roble, May 29th, 1871.

## Notes on Half Moon Bay.—No. 1.

EDITORS PRESS:—The Half Moon Bay region is well known for its richness and great fertility; for its heavy yield of cereal and root crops, be the season wet or dry; for its disagreeable, wet fog banks that come rolling in from the ocean, drenching everything and obscuring the sunshine for days and days; and last, but not the least, for its prosperous and well-to-do farmers. Having no drouths to gobble up the earnings of the ordinary season, there is nothing to prevent a steady accumulation of means and the comforts of life, where due diligence and industry are exercised.

This whole country lies boldly fronting the ocean—part valley, but principally hill lands. From the southwest line of the old Francisco Sanchez ranch, south to the San Gregoria, about twenty miles, and from the ocean to the summit of the coast range, averaging eight miles, is known as Half Moon Bay. South from the San Gregoria to New Year's Point, some twenty miles, is the Pescadero region, the two making a length of forty miles of the richest lands in the State. The Pescadero is backed up by the finest and most extensive bodies of Redwood timber in California, and needs only the facilities of the railroad to develope their vast natural wealth.

The road to the coast leads down the Pilarcitos, after crossing the mountain from San Mateo, and enters the valley at Spanishtown. The valley land extends eight miles north and south of the town; in width from a half to one and a half miles. Our hill land lies on the ridges—or divides, between the long, narrow valleys that reach from the ocean well into the mountains, every few miles along the coast. Of these valleys we have the Pilarcetos, Canada Leon, Canada Verde, Purissima, Lobitos, Tunitas, and San Gregoria, of which the last named is the largest—seven valleys in a distance of twelve miles, there being no such valleys north of the first named. As these divides approach the shore line, they lose their rugged, broken character, and form high table lands, upon which are located some of our best farms. The soil is a rich, black loam, easily worked and well drained, in depth from two to four feet. The divides running East and West, most of the land faces the north, and in its virgin state contains such a mass of decayed vegetable matter, that not until several crops are taken off can it be cultivated to a profit. All grains have a strong tendency to run to straw, to fall down and not fill well.

The northern slopes, receiving a greater portion of the dense fogs, are better adapted to the root crops. Grain is heavy but dark, and a heavier growth of straw has to be overcome in harvesting than on the southern slopes which are warmer, and having more sunshine, the grain is brighter and full as plump.

In opening up farms on this coast a great deal of labor had to be performed to get rid of the chapparal that covered the whole country; besides masses of ferns, wild raspberry, blackberry, and poison oak vines, and all the luxuriant growth of weeds and grasses that flourish in a moist climate. This work is nearly all done now, and in a very few years the last root and branch will disappear, and with them the last of a job of grubbing and breaking up, that no settler will be likely to forget, so long as he owns the farm; while the work of clearing has been going on, fencing has not been neglected. Neat and strong fences enclose the farms, and with many subdivisions:—fences that would put to shame the rickety things called fences in older settled and more favored localites, where the opening up of a farm consists merely of running a fence around it. G. W. T. O.

## "Stick."

[Written for the PRESS.]

There is a world of force and meaning in the little word which heads this article, though it sounds even more briefly, it is not less emphatic than the sententious exclamation of the gallant Lawrence "Don't give up the ship," or the equally well known injunction—"Pick your flint and try again," or "Trust in God, but keep your powder dry."

When some good enterprise meets with checks and impediments, and opposition lifts itself up, and the tides of progress stop in their flow or roll backward and leave it, like some vast ship stranded and struggling with the waves, which it can no longer ride, let those who believe in our motto bate nothing of either heart or hope; but "stick," wait, work, and ere long the tide will turn again to its flow, and you will once more sail on with favoring wind and wave.

When some young inventor who has struggled long with difficulties, and is seemingly on the verge of success, meets with unexpected impediment, and finds some little point which stands in the way of its perfect operation, or finds himself stranded for the want of funds, then let him "stick." Work on, and, sooner than he thinks, light will break in, difficulties will be removed, success will come, and in the end his reward will be sure.

When the young farmer meets with disappointments; when protracted drouth has destroyed his pasturage, or worm or grasshopper has invaded his crops, let him not be disheartened and look round for other occupation or it may be for a location where he fancies seed time and harvest and abundant crops will come in uninterrupted succession, and blight and mildew will be unknown; let him rather "stick." Ten to one he will not profit by a removal; the toil, privation and discomfort which attend change are certain; the advantages not so. Let him study the nature of his soil more closely and its adaptation to certain products. Let him consider location, with reference to access to market, and grow such products as can be conveyed at the lowest cost or will pay best for the labor of production—the refreshing showers and genial sun are sure to come—let him "stick."

Nature reads us a great lesson, if we will listen and look for ourselves. The gigantic oak, which speads its umbrageous branches far and wide, sprang from a tiny acorn. It was at first obscure and feeble, liable to be trodden underfoot; but it stuck to its place, grew onward and upward, one season after another, and now behold its imposing grandeur. Many farmers are to be found scattered here and there, over the State of California, who are by far too readily disheartened, who lack energy to pick the flint afresh; who, if they make a sowing of turnip seed, for example, which the fly destroys, have not the practical courage to repeat the labor, slight as it may be; but let the crop "slide" as they phrase it and gather up traps and go to Pitt River or some other high sounding country. Such men want a little "stick" about them. C. L. LEE.

Nicolaus, 1871.

## Interesting to Settlers.

The Commissioner of the General Land Office has issued a circular explaining the effect of recent legislation by Congress upon the interests of settlers on the public lands. With respect to "offered lands," filing within thirty days and payment within twelve months after settlement are still required:

"The settler on surveyed 'unoffered land' must file his or her declaratory statement within three months from the date of his or her settlement on such land, and within *thirty months from the expiration of said three months*, make the proper proof, and pay for such land.

"Where settlers have already filed before the passage of the Act, [of July 14, 1870,] they are required to make proof and payment within *two years* from such passage; therefore, all filings made prior to that date will expire, by limitation of law, upon unoffered lands, on the 14th of July, 1872.

"The settler on 'unsurveyed land' must file his or her declaratory statement within three months from the date of the receipt, at the District Land Office, of the approved plat of township embracing the tract upon which he or she is settled, and, within *thirty months from the expiration of said three months*, make the proper proof, and pay for such tract.

"The proviso of the Act of June 2, 1862, requiring filing within six months from survey in the field, and providing for filing with the Surveyor-General, is repealed."

It will be seen that those who filed on unoffered land prior to July 14, 1870, have till July 14, 1872, to make proof and payment; while those who filed on unsurveyed land after the former date have thirty months from the expiration of three months after filing of map.

WHEN Dickens was in Hartford, in 1842, he partook of a complimentary dinner, and, in speaking, his mouth was observed by a physician to exhibit a muscular drop or twist, which led him to remark to a friend at his elbow: "That man will one day die of paralysis."

## Sheep and Wool.

### Interesting to Wool-Growers.

The Marysville *Appeal* says that Mr. R. F. Parks recently exhibited some samples of wool of extraordinary quality—having a fine silky appearance, with good length and strength of staple. The wool was taken from a herd in this State.

This wool appears to be more or less accidental in its production, and the *Appeal* is informed that sheep producing a similar quality have occasionally been found in other flocks, and it is believed that rams of this breed have been imported into the State direct from Europe, or by way of Australia, and were lost sight of during the time that medium wool was in such active demand for army clothing.

This subject must greatly interest sheep raisers, and that they may know the origin of the valuable sheep from which this description of wool is taken, the *Appeal* gives the following quotation from an address delivered at the Fair of the American Institute, New York City, October 30th, 1870, by John L. Hayes:—

"In 1828 there was accidentally produced at the farm of Mauchamp (in France), a ram of the Merino race, which, besides other peculiarities or monstrosities, was provided with wool remarkable for its softness, and above all for its lustre, which resembled that of silk. By a system of careful breeding M. Graux succeeded in obtaining a small flock of animals from this stock whose wool was perfectly silky. He at first met with but little encouragement. The ordinary manufacturers to whom he offered his wool complained that it was so pliant and slippery that nothing could be done with it. Fortunately the silky wool attracted the attention of M. Daom, a wool manufacturer familiar with the fabrication of the Cashmere fibre and distinguished for his zeal and skill in introducing new material into textile arts. Taking the silky wool in hand he succeeded in making magnificent stuffs, which won the admiration of connoiseurs. Merinos, mousselines, satins of China and shawls made of this material equalled if they did not surpass analogous products made of the finest Cashmere yarns. 'The silky wool,' says a report of the Imperial Society of Acclimation, 'is destined to replace completely in our industry the Cashmere wool, which comes from Thibet. It is fully as brilliant as Cashmere and as soft, while it costs less as a raw material and requires less manipulation to be transformed to yarn.' The Mauchamp or silk-wooled race of sheep is now definitely established. I need not say that this beautiful creation could not have been effected in a country where the arts were not already developed to apply it."

Wool-growers of this State may profit by a careful examination of their flocks, and should they find sheep producing this fine quality of wool give them additional attention.

### Angora and Common Goats.

The *Stars and Stripes*, of Auburn, makes an interesting reference to a fine herd of thoroughbred and graded Angora goats, belonging to Dr. S. P. Thomas and Capt. E. D. Shirland, from which we quote the following account of their practical experience in grading up the common red and black-haired goat of this State, by intermixture with the pure Angoras:—

This herd now numbers somewhat over fifteen hundred, including several hundred spring kids and every grade from the common black Mexican to the snow-white, full-blood Angora. Capt. Shirland has made himself conversant, by exhaustive reading and close observation, with every phase and detail of the business to which he has devoted his attention, and has unerringly and incontrovertibly demonstrated that, under intelligent management, the short, coarse hair of our cheap common goat can, at small cost, scarcely any risk of failure and with nearly absolute and invariable results, be bred into the long, fine, valuable wool of the Angora goat, generally at the fourth, sometimes at the third and never later than the fifth cross. We have in our possession, open to the inspection of those who take an interest in such matters, a sample of wool sheared by Capt. Shirland from a fourth-cross goat. It is from six to eight inches long, as fine and soft as floss silk, and the weight of the fleece was fully four pounds. Samples have been sent to Eastern manufacturers and wool dealers, who avow their readiness to contract for any quantity at $1 per pound.

Taking into consideration that these animals utilize the chapparal and other indigenous growths that are otherwise comparatively useless; that they are therefore scarcely more expensive to rear, while they are subject to much fewer vicissitudes than are common chickens; and that common goats, purchasable at a dollar a head or less, may thus at the fourth cross be made to yield an annual income of four dollars per head; and that the demand for Angora wool is constantly increasing and practically illimitable—taking all these facts into consideration, the future promise and importance of this industry are beyond computation.

### Disease of the Biflex Canal in Sheep.

We are told that there are owners of sheep who still believe, with writers upon husbandry three centuries ago, that "There be some sheep that hath a worme in his foote that maketh hym halt,"—some who are ignorant of the physical characteristics of the Biflex canal, or "issue" as it is sometimes called, which is found in the front and upper part of the cleft between the toes of sheep.

*Fig. I.*

Some foreign substance occasionally finds its way into this opening, which causes an irritation and swelling of the surrounding parts, and there are some herders, we have been told, who, when this occurs, think there is a "worme" in the way, and actually attack the little opening shown in figure 1, with a pocket knife, to cut out—or rather, mangle out—the skin which surrounds the opening. We are confident, however, that such ignorance is exceedingly rare; yet it is possible there may be many who have never made themselves so thoroughly acquainted with this curious physiological development, and its uses and care as they would like to do.

*Fig. II.*

It is for this reason we have had the accompanying engravings prepared in order that it may be plainly shown and fully understood. Fig. 1 shows the opening, with the wool drawn aside. Fig. 2 shows a sectional view of the canal, as it appears when one-half the leg and foot has been cut away.

It will be seen that it consists of an inflection of the skin forming a curious little sack, lined with hairs. The skin or walls of the canal are just like the adjacent skin, and it secretes a yolky, gummy substance. Its uses seems to be in part to provide a kind of elastic cushion to spread the toes apart, and perhaps also, when its action is healthy, the semi-viscid secretion, which slightly exudes, serves to protect the tender skin between the toes, where it is so easily abraded by long, stiff grass.

We know of no disease of the biflex canal, except stoppage at the mouth, which produces inflammation and swelling. Instead of lancing and trying to cut out the "worme," as some do, the proper treatment is to procure a small syringe (a fine ear syringe) and while one person opens the mouth, as in Fig. 1, let another wash out the canal by injecting into it warm water and castile soap, and then grease the parts with tar mixed with lard or with some other healing and cooling ointment.

This biflex canal has often been charged with being the cause of the foot rot. Perhaps it may be so, when its stoppage and consequent inflammation has been so long neglected as to seriously impair the general healthy condition of the foot. Any injury which will so effect that organ may have such a result. We will endeavor, at some future time to make that disease the subject of an especial article, with an appropriate and instructive illustration.

Angora Goats in the Mountains.—Mr. Elijah Tompkins, says the Nevada *Transcript*, recently passed through Nevada with a herd of some 200 Angora goats, which he was taking to Bear valley, where he proposes to remain with them the balance of this season *and through next winter*, with the view of testing the capacities of this animal to sustain high altitudes in this climate. With the exception of one full-blood buck and ewe and one pair of fifteen-sixteenths blood, his herd is half and three-quarter bloods. He intends to grade them up to fifteen-sixteenths, which he considers practically as good as pure blood, and the fleeces of which are said to be worth from $10 to $12 each. Mr. Tompkins thinks that Bear valley will excel any place in the State for raising these goats, as it corresponds nearly to the elevated plains of their native country.

"Shepherd, Take Care of Your Herd," is the expressive and cautionary motto placed over and upon the inside of the Eagle Gate in Salt Lake City. Every shepherd, as he goes out, sees this motto, and is reminded afresh of his duty.

Machine to Catch Grasshoppers.—Somebody in Salt Lake has invented a machine for catching grasshoppers which is described in the *News* of that city, as follows:

"It consists of a frame, drawn by two horses, having an apron extended forward close to the ground to scrape up the locusts, with a hood above it forming a box open in front. At the rear of the machine is a pair of rollers, geared together, the upper one driven by the carrying wheels of which it forms the axle. Whatever may find its way into the front of the machine is obliged to pass between the rollers at the back, which being capable of being forced close together are apt to completely demoralize the 'iron clad.'"

If it could be demonstrated that the machine would be as effective as its inventor believes, it would be a highly profitable investment for the people in localities infested with these pests to jointly contribute for the purchase of the apparatus, so that they could be easily and quickly destroyed by machinery.

Beavers.—Beavers are quite numerous along the San Joaquin river. Some 300 skins were recently shipped to this city by two persons, trappers, who had caught, each, about an equal number. They were caught in the swamp lands bordering on the San Joaquin.

## Farm Novelties.

A Freak or Sport of Nature.—A correspondent writes to *Moore's Rural New Yorker*, as follows: We have in our orchard something of a curiosity; at least we consider it so. A limb of a natural fruit tree forks, one branch bearing fruit similar to the rest of the tree in every respect, except that the skin is like the Golden Russet in appearance. The fruit of the other branch is the same as that on the rest of the tree, a small white sweet apple, very suitable for eating. It has now borne fruit as described eight years. A part of the tree is grafted to Pippins and a part to Baldwins. What is the cause of the freak?

The *Rural* replies to the above as follows: We understand from this account that the only difference between the fruit on the limb described, is in the russety skin. Variations of this kind sometimes happen, without assignable causes. We once saw what appeared to be nectarines growing on a small branch of an old peach tree, where no bud had been inserted—the skin of these peaches being merely destitute of down. In another case, one branch of a Scarlet Austrian rose, always bore yellow roses. Such occurences are only curiosities, or illustrations of the variations to which natural productions are sometimes liable.

Fooling the Bugs.—An Indiana man has effected a strategical combination against the potato bugs. He planted a grain of corn in each hill of potatoes. The corn came up before the potatoes, which, of course, cheated the little pests into the belief that it was a cornfield, and they never went near the potatoes until it was too late to do any damage. His crop of the esculent is, therefore, the envy of his neighbors.

Hopping Beans.—There is a kind of bean which has excited much curiosity and wonder in this State, and elsewhere and for which fabulous prices have sometimes been offered, as for a rare curiosity. In appearance it resembles a common bean, but when placed on the palm of the hand or on a table or chair it becomes as uneasy as a fish out of water and hops about as if it were imbued with life. The hopping or appearance of sensitiveness is caused by the efforts of a bug inside to free itself. If kept long enough, it will be found that the bean will suddenly lose this vitality, and at the same time an opening will be found, through which the bug has made its exit.

A Wonderful Freak of Nature.—We clip the following from the *Central Californian* of the 24th ult: "We have heard of many freaks of nature, but the most wonderful of them all was told to us while at San Juan the other day. It seems that a gentleman in that place, Mr. Calvin Ross, has a mare which gave birth to two colts. There is nothing singular in a mare giving birth to two colts, but when one is foaled two months before the other, there is not only something very singular about it, but wonderful as well. On the 5th of March last, the animal referred to, gave birth to a colt, and on the 15th of May, just two months and ten days after, gave birth to a second one. This beats anything in the way of things unnatural we have ever heard mentioned. The colts are both alive and doing well, and can be seen by any one who may choose to go and see them."

A Ewe belonging to Mr. Jonas Wescoatt of this place, Castroville, dropped a regular "double-ender" of a lamb the other day. The head, neck and shoulders and fore legs, were perfect, showing no sign of malformation, but just back of the shoulders, an extra pair of fore legs, perfectly formed, grew upward out of the back, and just back of those superfluous legs the body separated, forming two posteriors with perfectly developed tails and hind legs. All eight of the legs were furnished with fully formed hoofs.—*Argus.*

Lusus Naturæ.—Mr. Williams, says the Oroville *News*, has a chicken that has two bodies, three wings and four legs. It was hatched out a day or two ago, but did not live. He has placed it in spirits. The legs are perfectly formed and are arranged like those of an ordinary quadruped. The wings are divided up between the two bodies, one on each, and the third in the centre. Altogether it is a freak of nature very seldom met with.

# AGRICULTURAL NOTES.

## CALIFORNIA.

### Harvesting Begun.

Mr. D. L. Perkins writes us from Sherman Island that harvesting commenced there on the 5th inst., the barley being fully ripe. The headers are having as much as they can do. The grain is large and plump. The *Argus* of June 3d, published at Snelling, Merced county, says that the farmers in that vicinity also are busily engaged in heading and threshing, and the reports heard thus far are, that crops are turning out better than expected a few weeks ago. The cool weather which prevailed throughout the month of May was extremely favorablo to the wheat crop, and many fields are being harvested that were given up as totally lost.

The Amador *Ledger* says that everywhere along the foot-hills in that county the ranchmen are busy harvesting, and with but very few exceptions the yield is abundant.

Barley in the vicinity of Gilroy will be ready for harvesting the first of next week.

In fact, everywhere, throughout the central portion of the State, where the drouth has not cut it off, the grain is ripening, and the farmers are either already at work or getting their headers ready for a start. The wheat fields in many localities have improved greatly within the last two weeks, the heads having filled much beyond expectation, under the favorable influence of the late showers and cool, moist atmosphere. The Napa *Register* thinks the late rains beuefitted the wheat growers of that county at least $100,000. The Contra Costa *Gazette* says:—

Beyond anything that could have been expected, the weather, since the northers of the 20th and 21st of April, has been highly favorable for the grain, and the harvest will be much larger than there was any warrant for calculating a month or even a week ago, and every day's continuance of the cool weather improves the prospect. Fair crops of grain will be gathered where none was expected a month ago; and many pieces will turn out handsomely from which not more than one-fourth yield was then looked for; still the crop of the county will not be more than one-fifth of what might have been expected with a favorable season.

Yuba, it is thought, will harvest fully one-third of its usual crop of wheat. The light rains and cold weather have worked wonders there also.

In Santa Cruz the prospect is quite flattering, according to the *Times*. A similar report reaches us from Monterey. In many favorable localities, eveu in the San Joaquin Valley, where little or nothing was expected, quite a respectable yield will be realized. Reports from Stanislaus county are more encouraging than was thought possible two weeks ago.

Much of the present failure is undoubtedly due to careless and imperfect cultivation—as instances of such, in immediate connection with thorough cultivation, and on land precisely similar, have abundantly proveu; yet it cannot be denied that large tracts of country that have failed to produce crops this season, would have done so under any system of cultivation which did not include irrigation.

THE fruit in the northern part of the State was not so much injured by the late frost as was at first supposed.

CANADA THISTLES.—The Northern *Enterprise* is calling upon the citizens of Chico, to turn out iu a body and exterminate the Canada thistle, which seems to have a good headway in that vicinity. It is just coming into bloom and now is the time to "nip" it. We had not supposed this pest had any thorough foothold on any part of the Pacific coast.

NAME CLAIMED.—Dr. H. B. Davidson, of Colusa, publishes a notice that he claims the name of Sentinella, for a dark bay filly, black mane, tail and legs; sired by Langford, dam Rebecca, half sister to Lady Thorn, by Mambrino Chief. Foaled May 17th, 1871, Bear Valley, Colusa county.

MORE EVIDENCE OF THE VALUE OF PROPER CULTIVATION.—The Colusa *Sun* says that a gentleman residing on the plains southwest of Colusa, has about six acres of wheat that will make in the neighborhood of thirty bushels to the acre. This ground was summer fallowed and again plowed before it was sowed. The balance of his land, sowed at the same time but not summer fallowed, will make nothing. "Experience, says the *Sun*, proves that it will pay, even of a good season, to plow the land twice and even three times. Land plowed in the beginning of winter, and again plowed and *rolled* in the spring and again plowed when it is sowed, immediately after the first rains, will produce thirty bushels the dryest season the Americans have ever seen to this State."

THE WOOL CLIP.—The Marysville *Appeal* of the 30th ult. says: "The spring clip is now all in market, or nearly so. The wool growers of this section are well satisfied with the result, having disposed of their clip to local buyers at prices ranging from thirty to thirty-two cents per pound. In this respect they congratulate themselves on being wiser than their Colusa friends, who sold at 27 cents, when Marysville buyers were paying 31 cents."

BARLEY is freely offered in Marysville at 2 cents, there being a large quantity held by farmers over their wants.

THE hay crop of Napa county, while it is generally reported is very light, is said to be of a superior quality.

HAY NEAR VISALIA.—The Visalia *Delta* says that Mr. A. D. Biglow, who resides in the foothills, some thirty miles northwest of Visalia, has raised on the Geo. Francis place, the present season, 100 tons of baled hay off of 65 acres of ground, without irrigation.

HAY.—Saulsbury's hay crop, near Folsom, will exceed 175 tons, and is pronounced equal if not superior to the crop of last year.

THE GRAPE CROP.—The Woodland *Mail* of the 25th says: "We have the most encouraging word from this section in regard to the coming crop of grapes. We are assured that the yield will be greater than for many years past, and that those who have irrigated their vineyards will have the largest yield and the finest grapes raised in this valloy. Peaches are plenty on the trees and growing fast. Apricots, pears, nectarines aud apples are also in abundance."

THE NATOMA VINEYARD, Bugbee's, near Folsom, is reported to be in better condition and giving promise of a larger vintage than ever before. The vines upon the highest elevations above the moisture of low portions of the vineyard appearing the most flourishing.

MOUNTAIN STRAWBERRIES.—The Grass Valley *Union* has been the recipient of a lot of strawberries, which count only 40 to the pound. They were of the Jocunda variety, raised by Mr. L. P. Stull, who has 10,000 plauts of that variety in his garden.

GARDEN THIEVES.—Mean thieves are robbing the gardens in Grass Valley of shrubs and flowering plants.

PEARS ON A TWO MONTH'S OLD GRAFT. The Calaveras *Chronicle* says there is a pear tree in the garden of Mr. Ray, of Mokelumne Hill, on which is a graft but two months old, which already shows a bunch of grapes as large as hickory nuts. This beats the Stockton grape story which so astonished Mr. Wilder and his horticultural associates.

SHEEP GOING MOUNTAINWARD.—About 24,000 head of sheep have already passed through Mokelumne Hill on their way to the mountains for pastures greeu.

IONE VALLEY, says the Amador *Ledger*, will produce an abundant harvest this year. The farmers of that locality are feeling very comfortable at the present prospect.

BLACKBEBRIES are ripe and in the market in Sutter and Stanislaus counties.

THE shipment of wool from Los Angeles has almost entirely stopped for the season. The coru crop is looking very fine and will give a large yield, if not destroyed by grasshoppers, which are unusually plentiful this season. One entire field of wheat —150 acres—near Anaheim has been entirely destroyed by these pests, and, at last accounts, they were making threatening demonstrations against the vines.

LOS ANGELES WINE GROWERS' ASSOCIATION.—At a meeting of the stockholders of this association, held on Saturday last, J. Bernard was elected President; A. Laborg, Treasurer; C. C. Lipps, Secretary; and E. Vaches, Superintendent. The association is in a flourishing condition and doing much to promote the development of this important industry.

LOS ANGELES COUNTY.—The *News* says that a second dastardly attempt has been made to destroy the flume which Colonel Strong has constructed to bring water for irrigating the cotton plantation which that gentleman is now cultivating near Los Angeles. The scoundrels will be summarily dealt with if they are caught in the act.

THE LOS ANGELES AGRICULTURAL ASSOCIATION is regarded as permanently established. Over thirty thousand dollars worth of stock has already been taken, and the first assessment nearly all paid up. The plan to be followed is the very best that could be adopted to ensure permanent and lasting success, and to make the grounds and buildings an ornament to the city. L. J. Rose, President of the Association, now absent in the East, will visit all the agricultural parks in the vicinity of the leading cities, and on his return bring back plans of those most suitable to the wants of that county.

TULARE.—The Tulare *Times* says:—"We are informed that ou the ranch of Mr. Joshua Bailey, a few miles east of this place, the cut-worms have destroyed seventeen acres of young coru. They attacked it on Wednesday, at which time it was growing thriftily and promising well, and on Saturday there was hardly a good hill left in the field, the whole seventeen acres having been destroyed in three days. We learn also that a similar worm has attacked a crop of potatoes a few miles northeast of town, and were only prevented from committing similar ravages by digging a deep ditch around the patch, into which they would crawl and be unable to get out. The worms seem only to move by night, burying themselves beneath the ground during the day.

A TULARE county firm drove thirteen huudred head of cattle across the San Joaquin river a short distance below Millerton on Tuesday. They were driven across the mountains for pasture. Nearly twenty thousand head of cattle have been driven from San Joaquin and Tulare counties during the past three weeks in the same direction.—*Expositor*.

HOME MADE OIL.—The Santa Clara *Agriculturist* estimates that California will this year produce all the castor oil for home consumption, which will be about 25,000 or 30,000 gallons. There are three mills in the State—at San Francisco, Marysville, and Santa Barbara, respectively. While imported oil has hitherto commanded $2.25 per gallen, it is believed that the domestic article of equally good if not better quality can be produced, at a profit, at $1 per gallon.

SORGHUM is growing very well in the vicinity of San Lorenzo. Addison Newell has been successful in raising it the second year now, and this year Otis Ashley is experimenting with it near Fall Creek.

ALAMEDA CHERRIES IN BANGOR.—The *Encinal* says that a lady who left there a few days ago, for the East, carried with her a small box of cherries, which, upon arrival at her destination—Bangor, Maine—were found to bo just as fresh as when picked from the tree.

SUGAR CANE IN SANTA BARBARA.—AN IMPORTANT EXPERIMENT.—The *Press* says there are some 200 hills of Sandwich Island sugar cane now growing upon the farm of Capt. Mayhew near that town. The hills are already as large round as a bushel basket, each hill containing from 30 to 50 canes and about two feet high. The hills being overcrowded, the surplus canes are being taken up and transplanted. This cane is of a highland variety, and seems to grow with surprising vigor, as though it had found a congenial soil and climate. They are expected to make a growth of four or five feet this season. If the plants do well they will be employed to stock a large field. Cuttings enough may readily be obtained to cover 50 acres. Judged by its present development, says the *Press*, this variety promises to become an important acquisition to the industries of that fruitful region. There are many thousands of acres in the State equally as well calculated for the growth as are those belonging to Capt. Mayhew.

A LARGE LAND PURCHASE—WORTHY ENTERPRISE.—E. T. Donnelly, of San Lorenzo, Monterey county, and A. J. Donnelly of San Francisco, says the Gilroy *Advocate*, have purchased 7,763 acres of the Los Agatos ranch, situate in Monterey county, some 30 miles southeast of Gilroy, at a cost of $17,000. Such is the reward of industry, integrity and persoverance. The older of these young men, is not more than 23 years; the inheritors of nothing save respectability, they have in a few years, by good judgement untiring industry, strict economy and stainless honesty amassed a fortune. May it continue to grow with them and with all who are thus deserving.

BEAUTIFUL WOOL.—We have been shown specimens of wool from the flocks of Henry Flint and Col. J. E. Stevens, which, for length of staple and quality, would be hard to beat anywhere. Many sheep in their flocks sheared from twelve to eighteen pounds each. They don't do any bragging, but we think they ought to tell the public how they succeed in getting such unusual fleeces from common sheep. *Ventura Signal*.

TROUBLE WITH THE ARTESIAN WELLS.—The farmers in the vicinity of San Felipe about nine miles from Gilroy are in a state of trouble on account of the action of their artesian wells. Mr. Buck, a short time since, had a well bored, and for some time past, it has been throwing up large quantities of quicksand, and the ground about it has sunk iu considerably, showing the water thrown from the artesian well was washing away the gravel below. The ground has sunk so that the flow of water has been stopped. The well of Mr. J. D. Culp has also stopped flowing; but we do not hear that the ground has sunk. The loss and inconvenience at this particular time is a serious one. Mr. Culp has commenced boring another and expects to find water at about 75 to 80 feet from the surface.

THE *Pajaronian* has the following: "We have noticed a late paragraph going the rounds of the press, in regard to a field of flax at Hollister, owned by the Malcolm brothers. Mr. H. Jackson of this place is the owner of the flax referred to—some 400 acres—and he informs us that it is doing very well considering the dry weather.

SANTA BARBARA COUNTY is said to be alive with grasshoppers. The San Luis Obisbo *Tribune* suggests turkeys as a remedy.

LARGE numbers of Texan cattle are being driven northward to market. Over 150,000 head are now on the hoof in different herds.

THE Orange Trees at San Gabriel are literally loaded with young oranges in the cutting season. The olive crop also gives promise of being unusually large.

## OREGON.

CROP PROSPECTS.—Notwithstanding the fears of serious injury to the crops, from the excess of rains in Oregon, we believe it is now admitted that the crop for the present season will exceed that of any past year. While it is thought that the wheat crop will equal any preceeding one, in the yield per acre, it is said that a fully one-third greater breadth is sown than on any previous year. The grass is everywhere excellent and cattle and stock, of every kind, doing well. It is said there never has been a crop failure in Oregon, since the first settlement made by the French in 1835.

EASTERN OREGON seems to be in a high state of prosperity; stock-ranching being an especially profitable business.

PRIZE ESSAY ON OREGON.—A prize of $300 will be given by the "State Board of Real Estate Agents" for the best essay on Oregon, its advantages as an agricultural and commercial State, inducements it presents to capitalists, emigrants, etc.

The essay not to exceed 100 pages of printed matter, the size of the pamphlet published by the "Labor Exchange."

CATERPILLARS.—The Corvallis *Gazette* says the caterpillars are making havoc in various parts of Willamette valley. Several orchards between Corvallis and Albany are literally ruined by them. The orchard on the Agricultural Farm is also suffering from their ravages.

GRAIN in the Walla Walla valley looks very promising. The recent frost in that valley has not injured the fruit crop to any great extent.

FINE WOOL.—E. N. Cooke, Esq., has left at the office of the Willamette *Farmer* some specimens of fine wool that he pulled from some sheep that were brought to Oregon lately by Mr. I. B. Smith, of Portland. The sheep were all one year old, and the growth of wool was sixteen inches in length. They were of Leicestershire and Lincolnshire breeds and were purchased by Mr. Smith out of the band of sheep imported by Stone & Miller of Toronto, Canada.

ANGORA GOATS.—Mr. Butler, of Klickitat county, Oregon, has solved the problem as to the adaptability of the Pacific coast climate for rearing Angora goats. His flocks increase rapidly, continue in excellent health, and furnish abundant clips of the finer grades of wool. He finds no difficulty in taking care of the goats. They are herded in daytime and corralled at night.

# Home and Farm.

## Cheap Strawberry Chests.

Editors Press:—It appears to me that the strawberry growers have too long adopted a suicidal policy in packing and paying for the freight of nearly 30 tons per day of dead weight, tare, or useless lumber, to say nothing of the return carriage—another 30 tons—when equal capacity could be obtained in lighter chests, that need not, with all the slides included, exceed probably 8 tons, or 20 pounds each, instead of 80, as at present. If they were to be filled with gold dust they would not need to be stronger than they are now constructed. It is something too absurd and preposterous to have to pay daily for conveyance and reconveyance, the double journey, equivalent to 160 pounds of non-remunerative lumber, to enable us to bring to market not over 96 pounds of berries, worth of late not much over $3. Reform of the most radical kind is certainly needed, or the public need never again expect to enjoy such an abundant harvest of Nature's sweetest gifts as we have feasted upon so far this season—many of us, perhaps, for the first time, because strawberries have been so cheap.

Let us not abuse Nature's bounty, as some have advised, by wasting half the crop. "Be fruitful and multiply and replenish the earth," is the Divine command which addresses itself to the good husbandman in the field, in the orchard, in the garden and the poultry yard alike, that his garners may be full of all manner of store.

It is the pride of an industrious farmer to excel in all that he undertakes, and it is a pleasure to see his orchards loaded with luscious fruits. The strawberry garden should be no exception—let it yield abundantly, and let our tens of thousands of children hail the good time, and enjoy what otherwise would have to be denied them. If I mistake not, this is the true California spirit.

But what is to be done? So long as the "old oaken chest," or something almost as antediluvian, the cost of building which amounts to half as much again as the value of the strawberries to be freighted. So long as this old fogy institution lasts; so long as the "regulation pattern" is forced upon us, it is in vain to try to bring abundant crops to market another season. That is the cry; but let us be men and equal to the occasion.

I recollect when hardly a volunteer corps could be mustered in England, because the regulation demanded such an expensive, gee-gaw outfit, until at last some common sense great lord (it is possible, although often doubted, that a great lord may have common sense) did actually, to the dismay of all martinets, strip off all the gee-gaws, and adopt a simple grey uniform, costing only forty shillings per man, or $10 each; and thenceforth good, efficient, volunteer corps were as plentiful as blackberries.

The moral of all this is contained in another old expression:—"Is the casket to be esteemed more than the jewel." A thrifty farmer replies negatively in nearly all his farming operations. I do not say but what it is well to have good things where good things are best. I by no means advocate cheap trumpery; for good things, where they are required, are cheapest in the end,—even a steam-plow may eventually triumph over the ordinary gang-plow. If we had nothing but six-dollar chests in which to pack our grain, I am afraid that bread would become a great luxury; so with strawberries. I want to begin the reform with the four and eight pound boxes; the latter I would dispense with altogether, as it is not desirable to have such a pressure of tender fruit. If they were limited to four pounds, they would answer to be made of chip or strips, like the present one-pound boxes, which are now supplied at about $1 per hundred; probably four-pound boxes could be supplied for $3 per hundred, and as they would have to slide in and out of the chest they would require to have the sides vertical, not tapering. I think each chest should contain eighteen such boxes in three tiers of six each. This would give seventy-two pounds of strawberries to each chest.

It might require a few experiments to decide upon the best kind of box or chest. I think if the Agricultural Society or the Mechanics Institute would offer premiums for the most suitable boxes, something would readily take the place of the present cumbersome ones. What is chiefly required, is lightness and stiffness, combining the requisite strength with cheapness, say not to exceed $1.50 each;—and surely, if the eighteen boxes to contain the berries can be made for less than 60 cents, the frame to sustain them,—and the chest is nothing more, except that it requires to be shut in with some light, stiff material,—need not cost over $1.50, and ought not to exceed 20 pounds in weight. The item of handles may be saved altogether; a groove cut through the sides, just large enough to admit the hand, would answer as well, and would serve for ventilation *en route*. The strength would be mainly required at the top and bottom and ends, to bear the pressure of other chests and rough, quick usage in dragging and lifting; but a total weight of only thirty pounds, strawberries included, would be much easier handled than the present total of nearly 180 pounds. The two sides might shut over by hinges, as one side does in the present chests, or a sheet of tin for each would suffice just lifted on and off without hinges, but fastened by buttons, would do, and I don't know but what cross wire supports and uprights would be sufficient for the whole of the interior frame, as I call it.

These ideas, Mr. Editor, are merely suggestive, but with the season of small fruits upon us, now is the time for some practical improvement, to the end that an abundant market may not be a positive loss to the grower. A. F. G.

## Small Fruits—Free Packages—Larger Sales and Better Profits.

Eds. Rural Press:—The season of small fruits is now upon us, with unprecedented abundance, and as they are selling at prices ruinous to the producers, I cannot but feel that we, the producers, as a mass, are to a certain extent, blamable for the present state of affairs. Now let us look squarely at the whole thing, the present mode of management, etc.

We may say that all the berries that finds their way into our markets, are sent in chests which contain 96 pounds of berries, while the lumber in the chest weighs 80 pounds. Now we ship by weight, and pay, from San José to San Francisco by express, 80 cents per chest, and as the chest is always considered returnable, for every time we ship a chest of berries to market; we have to pay freight on eighty pounds of lumber twice over the road; or, otherwise, we pay about thirty-one cents freight on berries, and forty-nine cents freight on lumber; and still the majority think the present mode of operation is all right.

I have talked the matter over with our commission men, frequently, and they tell me the present mode is about as near right as we can come at it. Now my conclusion is this: That the selling of commodities on commission, has become quiet, and the commission men think the great bulk of the berries must be consumed in the city of San Francisco. Is that so? Are there not as many berry eaters outside the limits of San Francisco as in it? We are inclined to the opinion that there is; but just as long as our commission men can get us to send our fruits to them in the present shape, we must rely on them and San Francisco for a market.

Just as long as the commission men can keep their stencil works on our cases they have about as good as a mortgage for the sale of all the fruits that may be sent to market in those chests. Many of us are using from 150 to 225 chests, all at a cost of from $6.50 to $8 per chest, and our chests are sent to the San Francisco market, to be hawked round the city for days at a time, by huxters; while we are waiting here for their return, and our fruit growing over ripe for the want of them. Now I admit it is hard to learn in any other way than by experience; and how can we have experience without an effort?

### I Will Suggest a Plan.

I am well satisfied from observation, that there are mouths enough for our fruits if we could only get the fruit to them. And how else can we do so than by free packages. Now then let us look at the matter a little. Suppose we get a case that will contain 75 one-pound baskets. The case we can get for 20 cents, and we can get the baskets for $7 a thousand. One case will cost 20 cents, 75 baskets 56¼ cents. Our case, when filled, will cost 76¾ cents, and in that shape will carry from here to Salt Lake and intermediate places, for they are doing so at present. There will be no return freight on our case; and just as soon as fruit vendors learn that they can be supplied with *free packages* there will be a largely increased amount of fruit used throughout the country; for who would not eat good strawberries at from 6 to 8 cents per pound?

We plainly see that the money we pay for freighting our cumbersome chests to and from the market would just about buy our proposed package, and as all buyers look to San Francisco for prices, we shall all be materially benefited by drawing as much fruit as possible out of the market at San Francisco, and distributing the same well over the country. By drawing from the market there, we shall do much to enhance the price, and make it nearly uniform throughout the coast. I should like to hear the suggestions of others on the subject. Wm. Boots.

San José, May 27th, 1871.

## Native Sense vs. Book Learning.

There is doubtless something ridiculous to the minds of men in the idea frequently put forth by a certain class of agricultural writers, in behalf of the position that the cultivation and other processes of drawing sustenance from the soil ought to be regarded as one of the high arts of human effort. But the laugh is not always on the side of those who may thing the fool of the family is best fitted for the farmer. Chancing to be in a book store not long ago, using Downing's work to indentify a certain variety of apple, there was present a plain farmer, who had never seen the inside of a high school, a professor who has charge of one of the leading schools on this coast, and the bookseller, who was educated in one of the best schools of Massachusetts. A conversation, commencing on the subject of varieties, and how they occur in the processes of nature, and how they can be made by artificial means, it was not long until the farmer had it all his own way, and he went on describing how the varieties of fruits might be *bred from*, so to speak, by the process of hybridization.

Both the bookseller and professor were evidently at a loss how to maintain their part in the conversation, and when the farmer proceeded to give his methods of propagation, and told how many different kinds of trees would make stocks for the propagation of the pear, the bookseller candidly acknowledged he did not feel at home on the subjects of botany and vegetable physiology, and the professor observed, when the farmer informed him he had in his orchard pears growing upon the common thorn, which had borne heavy crops of excellent fruit for many years, "that, according to the farmer's story, it might not be an utterly impossible thing for men to to 'gather grapes of thorns or figs of thistles."

The farmer smiled and replied, he did not know the limit of the possible, but he could produce a good imitation of figs off thorns, without difficulty, and went on describing how the thorn could be used to produce pears from soils utterly unsuitable to produce a healthy pear stock. The learned men became silent as the farmer closed by observing that to him it did not seem an impossible thing for medical science, when it became a little further advanced, to prevent such diseases as tropical fevers, and other forms of disease in the human body, by the transfusion of the blood of a native or acclimated person to the body of one who, coming from a temperate climate, desired to make his home in a hot one.

Upon this, the party separated, each to pursue his separate calling, but the incident left the impression very plainly on our mind, 1st. That supposing the two bookmen were fair representives of the average educated men of to-day, the farmer was much in advance of both in useful creative knowledge. 2d. That botany and its kindred branches must receive more attention in our schools, before the class of men now engaged in educating our youth can advance the knowledge of the farmers much; and, 3d. Until this is done, the field and garden are better places wherein to learn the nature of things, than the school-room where the names of things are mainly dealt with.—*Willamette Farmer.*

We see it stated that the Pullman Palace Car Company now employs over 1,400 persons, and large shops are to be erected at Chicago this year, where 1,000 men will be constantly employed in the construction of these cars. On the Michigan Central alone, the Pullman Company has now $398,000 worth of cars.

## Utilizing Gopher and Squirrel Skins.

A large part of this State is greatly annoyed by myriads of gophers and squirrels, which breed by millions, and do an immense amount of injury to our grain and pasture fields, and root crops. Various devices have been tried to get rid of them or keep them within reasonable numbers; but apparently, with very little success. If any one or two farmers devote time and money to destroying them by poison, or in any other manner, they only do so to see their fields immediately overrun, by emigrants from their neighbors' enclosures. Some counties have paid out large sums in the way of bounties for their scalps; but still the nuisance is not sensibly abated.

If they only ran up trees and lived on nuts, we might eat them, and the value of their flesh for food added to a small bounty, might tempt a more general and persistent effort at their destruction; but we are too fastidious in our appetites—it makes a wonderful difference (in our imagination), whether they live upon nuts or roots.

There is no question but they might be thinned out by persistent hunting, trapping, etc., if any one would pay a reasonable amount *per capita* for them. The *Encinal* of a late date, gives, as a ray of hope, as follows:

### The Skins of Our Pests.

It has been discovered that gophers, squirrels and moles are of enough value to make them worth hunting and capturing for their skins alone. A young hunter, named Frank Tracy, who lives in Contra Costa county, on the Maganos rancho, has been in the habit of hunting squirrels for their skins. He has killed and trapped ten thousand of them during the season, for which he has got the scrip from the county, and the skins has been sent to Paris, where they readily bring *fifteen cents apiece*, being in demand for the manufacture of gloves of the finest qualities. It is said that they are preferred to the best rat or kid, because, while they are equally soft, fine and elastic, they are tougher and more durable, and therefore chiefly worked up into the higher-priced gloves. An agent is at present in this State who is authorized to buy all the skins, properly prepared, at the above price. Thus ten cents a scalp from the county, and fifteen cents a skin from the agent of the Paris glove-makers, make twenty-five cents per squirrel, a price which one would think should make the capturing of these creatures profitable, and lead to their speedy extermination.

Now if this information is reliable, it should be more generally known. If even one-half the price named can be obtained for the skins of these pests, it ought to call out a large army of gopher and squirrel hunters from the idlers in this city, who ought to make good wages at the business. It is estimated that there are at least one hundred millions of these little rascals, whose gray jackets ought to be stripped off and converted into something useful. Say we could trap one-third of them and get 10 cents a piece for their skins, we should realize three and a third millions of dollars—a sum which would go far towards making up the deficiency in the wheat crop, which we all so much deplore. Does the *Encinal* reiterate its assertion, and thus render possible the great benefit hinted at?

A Novel Suit was tried at Bainbridge, Wednesday, the 10th instant: Miss Susie Evans against Curtis Cooper, of Guilford, on a contract made fifteen years ago, that Cooper give her an ewe lamb and its increase until she was twenty-one years of age, in consideration of a gold watch key. The suit was brought before Justice Newell to recover the sheep or their equivalent. The evidence showed that the increase was to be in ewe lambs, and that the natural increase of a flock of sheep would double every year. According to this estimate, Miss Susie would have at the end of fifteen years 18,064 ewe lambs, which at four dollars per head, would amount to $72,256. Justice Newell heard the evidence, and like a wise man reserved his decision.

## The Siege of Paris.

[Condensed from London Engineering.]

During the seven months of the siege of Paris, the industrial arts and sciences lent their earnest co-operation to the long sustained work of the defence; and a vast number of problems were presented, for which solutions more or less successful had to be discovered.

### What had to be Done at the Siege.

It was necessary to cast heavy ordnance, to make mitrailleuses, to build gun carriages and ammunition wagons, to obtain vast supplies of projectiles, to convert old-fashioned muskets and rifles into efficient pieces, to turn out powder and cartridges, and to prepare formidable explosives. Turning to other equal or even greater necessities, there had to be erected hundreds of mills to convert into flour the immense stock of cereals stored up in the city, and to build or adapt establishments for the salting, or preserving in other fashions, the flesh of thousands of oxen and horses, to boil down their fat, or produce concentrated soups. Again, the civil uses of electricity being held in suspension, it found a thousand uses for military purposes, for the transmission of orders, for the working of the torpedo service, for the electric light which played so conspicuous a part during the siege; the post-office pressed all aerostats into its service, and requisitioned many photographers; substitutes had to be found for gas and for coal. Such an enumeration might be extended indefinitely, but these few examples must suffice to give an idea of the manifold requirements.

There were two great and distinctive characteristics which gave to all these problems a special and peculiar interest. First, the rapidity with which it was necessary to arrive at the desired end; second, the constant absence of the ordinary elements of success necessary under usual circumstances. Often there were lacking the prime materials, nay, the very tools.

There are some very interesting facts connected with their experiments in the use and

### Manufacture of Dynamite.

A commission of experts, under the control of the Minister of Public Education, was appointed for this, and two manufactories were established. The glycerine was requisitioned from candle factories and the necessary acids were obtained in abundance. More difficulty was experienced in getting the absorbent body, it being of course impossible to obtain the silicious earth from Germany which Noble employs. After a variety of things had been tried in vain, the ashes, properly cleaned and sifted, of Scotch boghead, largely used in Paris in the manufacture of a portable illuminating gas, were employed. These absorb twice their weight of nitro-glycerine, without losing their granular appearance or becoming plastic.

### The Uses of Dynamite.

The dynamite was put into the hands of engineers and experimented with for its military applications. Special means were necessary to cause its explosion. Fire burns it without violence, concussion does not effect it, and there is scarcely any means of exploding it except with a strong cap heavily charged with fulminate. The cap can be exploded with an electric spark, or with a fuse, or by means of a priming. But it is absolutely necessary to keep the sparks from the fuse from contact with the dynamite, else this merely burns without exploding

Experiments were made in charging shells, which can be fired from the gun in the usual manner without exploding. A much smaller charge than that of powder suffices. But this application was not followed up.

Trials were made in destroying cannon. A bag of dynamite placed within the muzzle of a gun breaks it. A number of dynamite zinc cartridges wery prepared for the German guns, but the opportunity of using them never presented itself.

It was found useful in quickly preparing barricades for road obstruction, for protecting a retreat or for guarding a position. A linen bag holding 7 to 9 pounds wrapped around a tree of 5 feet girth, on explosion, brought it to the ground, now cut off short and clear at the point of explosion, now torn into long jagged splinters.

The explosion of 6.6 pounds simply placed on a 2-inch rolled iron armor plate, broke the plate in exploding, and made a large hole in the ground. For effecting breaches, blowing down gates, destroying stone walls, etc., it only required to explode the dynamite on the surface of the obstruction. It was often used thus, and was also employed effectively in breaking up the thick ice on the Seine, when the gunboats were frozen up. It was used, after the siege, for removing heavy masses of masonry and iron work, which would otherwise have required powerful cranes and other mechanical appliances which were not readily available. Another application was for wholesale fishing.

## When to Visit California.

The following advice of When to Visit California, is from a California Correspondent of the New York *World*, and our Eastern friends, who are contemplating a trip thitherward for *pleasure*, will find it perfectly correct:

Most of our visitors have hertofore come in the summer and fall seasons, which are the most uncomfortable seasons for travel, both on the railroad and in California. The heat in the cars is almost intolerable then, and cannot be mitigated by opening the windows without admitting another annoyance in the shape of dust, which in the dry season becomes thick and penetrating. The most pleasant seasons for travel are the winter and spring. There is no dust then, and the cars are always comfortable, even in the coldest weather. Spring is the season of greatest beauty in nearly all lands, but it is particularly so in California. Verdure and floral beauty meet the eye everywhere then; the air is balmy with gentle zephyrs and laden with the odor of a thousand flowers and shrubs. The streams and waterfalls, especially the crystal ice-cold ones of the mountains, are then full, and sing and dance with greatest noise and beauty, while dust, that omnipresent enemy of summer travel, is unknown,

The summers of California are rainless, and the grass dries up in them, giving the country that surface appearance of sterility which led the early residents to imagine that agriculture could never be successfully prosecuted in it.

Every preparation is being made to treat Atlantic visitors hospitably this year, but if they would enjoy the trip to and travel in our State they must come early. Parties of six, ten, or twenty persons travelling together can secure tickets at reduced rates in the railways, can thus enjoy themselves vastly more, and can effect large savings in their hotel bills and other expenditures. S. F.

## Are the Redwood Forests being Thinned Out?

Mr. Hihn, a twenty years resident of Santa Cruz county, through a correspondent of the *Bulletin*, of this city, denies that the redwood forests are being thinned out, as so often reported, and generally believed. He says that, in the vicinity of Santa Cruz the trees perpetuate themselves rapidly; unlike the pine, the redwood grows again from the stump. There are plenty of trees there only fourteen years old which have a diameter of fourteen inches and a circumference of forty-two inches. Fifteen years ago the people of Santa Cruz county, he says, thought the tan bark or chestnut oak would soon give out, although its consumption in county tanneries was then but about 200 cords per year; now the local consumption and export is about 4,000 cords per year, yet the trees are as plenty as ever, the tan bark oaks like the redwood growing from the stump. Mr. Hihn thinks it would take sixty years at the present rate of consumption to cut down all the magnificent redwood forests of this county, and that the new growth will supply the waste. Redwood land is worth $2 to $10 per acre, but where roads are open and the location for shipment is good, it is worth $20 per acre. This last is an extreme price, and $10 per acre would be about the average. In many places in the San Lorenzo cañon, between Felton and Santa Cruz, the trees seemed to stud the ground as thickly as there was room to stand. I was glad, says the correspondent, to learn that these beautiful rain and fog condensers, which are the renowned guardian of our climate and agriculture, are in no danger of being thinned out.

Cubical Lump Sugar.—Instead of being forced into moulds while moist, the sugar is now, in some cases, cut up by a gang of circular saws into discs, these by other gangs into strips, and these again into cubes.

# Good Health.

## Prevention Better than Cure.

[Written for the Press.]

Health is a necessary condition to happiness, and attention should be given to preserving rather than regaining it—our chief aim should be how to prevent rather than how to cure disease.

Let us take consumption. In the highest schools of medicine known, those of Paris, the principal advance lately made is the use of hypophosphite lime and soda to counteract or prevent the formation of tuberculous matter in the lungs. Now it can be proven that by excluding improper food, such as pork, milk, alcoholic preparations and all extraneous excitants; and using very little liquid at the time of eating, thus exciting the salivary glands to their highest state of efficiency; in fact, bringing out the national hypophosphite secreted by that important organ—the first step is taken to prevent consumption.

The age of man should average a hundred years, and he should be able to continue in active usefulness up to that period of life. The human race is capable of being brought up to that standard within a few generations; natural laws are wonderful in this harmony, and efficiency—the evils of diet are corrected, temperance and virtue fostered, man cannot long remain the puny creature of the present day.

Let us then be more agrarian, more Christain, more manly, and instead of wasting our energies in building cities, or in other words, hot houses to produce disease of body and mind, let us be satisfied with less of outside show, fashion, luxury; and cultivate—at the same time that we are cultivating our fields and gardens—a condition of health and contentment. If our suggestions as to the way to prevent consumption, are considered as food for reflection, we may offer others more full and explicit, about the way to prevent or cure some other of the more fatal diseases.

F. M. Shaw.

## Fruit Instead of Medicine.

There is no doubt but that the free use of good fruit is highly conducive to health, and indeed almost indispensable to it. Much of the sickness in the western country is occasioned by the want of it. It is the great scarcity of it that creates such a demand for physic in our western country. The various fevers and billious disorders prevalent in the summer seasons are more owing to the want of it than to any other cause. And not until fruit is generally cultivated, and used as an article of diet, shall we be rid of those disorders which are sapping the life fountains of thousands of our farmers annually. And if fruit were administered in many cases as an article of medicine, instead of the physician's prescription, we have no doubt it would be far better for the patient.

Nature in this, as in all other respects, has bountifully supplied us with varieties which, if properly cared for, will enable us to enjoy a succession throughout the year. But fruit is not only a necessary of life, but it is one of its great luxuries. What is more enticing to the palate than luscious fruit? And as an article of diet nothing equals it. It is easily raised, costs but little, promotes health, and is liked by everybody. Most people content themselves by cultivating two or three varieties. This should not be so. Fruit is more needed throughout the summer season than almost any part of the year. And the varieties which ripen at this time are least cultivated. The farmer cannot take a step which will add more to his own joys, and those of his own family, than by having such a succession as will furnish him the entire year.

First on the list in the spring time comes the delicious strawberry. But a little spot is required for its cultivation for the use of the family. Its healthful qualities are well known. Cities well supplied with it are remarkably exempt from diseases while the strawberry season lasts. We have accounts of wonderful cures effected in ancient times by its use. There are many varieties, but it is not our purpose to note the best of them at this time.

Next in order comes the raspberry, a most excellent fruit, and indispensable to every family. Then follows the blackberry, the cherry, currants and gooseberries. Then comes the apricot, the peach, the nectarine, and the plum. Apples and pears, also commence ripeuing early in the summer, and the winter varieties, if properly stored, may be kept till the appearance of fruit next season. Who will not have this succession? How much it could add to home happiness.

The above writer overlooks the grape, which in many countries is one of the most abundant and cheapest of all small fruits, while it is healthy in all.

## Don't Rock the Cradle.

If all the ultimate consequences of one's acts are to be laid to his charge, the man who invented rocking-cradles for children rests under a fearful load of responsibility. The downright murder of tens of thousands of infants, and the weakened brains of hundreds of thousands of adults, are undoubted results of this invention. To rock a child in a cradle, or to swing him in a crib, amounts to just this: the rapid motion disturbs the natural flow of the blood, and produces stupor or drowsiness. Can any body suppose for a moment that such an operation is a healthful one? Every one knows the dizzy and often sickening effect of moving rapidly in a swing; yet wherein does this differ from the motion a child receives when rocked in a cradle? It is equivalent to lying in a ship's berth during a violent storm, which sickens nine people out of ten. A very gentle, slow motion, may sometimes be soothing, though always of doubtful expediency; but to move the cradle as rapidly as the swing of a pendulum three feet long—that is, once in a second—is positive cruelty. We always feel like grasping and staying the arm of the mother or nurse who, to secure quietude, swings the cradle or crib with a rapidity equal to that of a pendulum a foot long. If any mother is disposed to laugh at our suggestions, or consider them whimsical, we beg of her to have a bed or cot hung on cords, then lie down in it herself, and have some one swing it with the same rapidity that she allows the cradle to be rocked. What she will experience in both head and stomach is just what the infant experiences.

We insist that this rocking of children is a useless *habit*. If not accustomed to rocking they will go to sleep quite as well when lying quietly as when shaken in a cradle. If they do not there is trouble from sickness, or hunger, or more likely from an overloaded stomach; and though the rocking may procure a temporary stupor, the trouble is made worse thereafter by the unnatural means taken to produce quiet for the time being.

## Sound Sleep.

Any man who can bound out of bed as soon as he wakes of a mid-winter's morning, is worth something. No fear of his not making his way through the world creditably, because he has the elements of a promtitude, decision and energy, which guarantee success. To invalids we make a comfortable suggestion worth knowing. If you have force of will enough to keep you from taking a second nap—and it is the "*second nap*" which makes its baneful influence felt on multitudes—it is better for you to lay awhile and think about it, until that feeling of weariness passes out of the limbs which you so commonly feel. But to sleep soundly and feel rested and refreshed when you wake up of a morning, four things are essential: 1. Go to bed with feet thoroughly dry and warm. 2. Take nothing for supper but cold bread and butter, and a single cup of tea of any kind. 3. Avoid over-fatigue of the body. 4. For the hour preceeding bed time, dismiss every engrossing subject from the mind, and let it be employed about something soothing and enlivening, in cheerfulness.—*Hall's Journal of Health.*

How to Administer Raw Meat.—It has latterly become quite common to recommend raw meat for diet for certain maladies, and the London *Lancet* gives directions for its manner of administration, as follows:—"The fillet should be preferred, as being the most delicate and the richest in muscular fibrin. It should be freed with the utmost care from fat and tendon. It should be finely minced, and then brayed in a mortar of wood and stone. When reduced to a paste it should be covered with sugar, gluten, or vegetable gelatine, to overcome the repugnance with which it is at first naturally regarded. Some prefer to squeeze out the juice, and swallow it mixed with a little orange-water, etc., whilst others again make it into blouses, and take it in slightly warmed beef-tea or soup."

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SAN FRANCISCO:

Saturday, June 10, 1871.

## Our Weekly Crop.

The harvest is approaching, and the World Reaper and Mower has been brought out for inspection preparatory to the work. The knowledge we acquire in our library of Mechanical and Scientific Progress enables us to see and understand the improvements in this and similar machines.

From the Cajon Ranch, San Diego County, from Roble and from Half Moon Bay, good words of prosperity come to us. The need of a little more "Stick" in our country is commented on. An interesting Decision for Settlers reaches us from the U. S. Land Office.

We visit the sheep ranch to see how it goes with the Wool Business. We are shown Angora and Common Goats, and are told and shown some interesting facts concerning a Disease of Sheep. Farm Novelties present themselves here to our view, and we glance over the Agricultural Notes of the Coast.

For our Small Fruit, there is a demand for Cheap Cases, and a gentleman proposes a plan in this connection which is worthy of attention. Another plan is also given concerning the Utilizing of Gopher and Squirrel Skins, and comments are made on Native Sense *vs.* Book Learning.

Concerning the Siege of Paris interesting statements are made. Advice is given as to the Time to Visit California. The question of our Redwood Forests is mooted, and advice is given concerning the preservation of Good Health.

The Fence Question is always an interesting one to farmers. The Partz Sugar Refiner seems to be doing good work. This leads us to examine other late Inventions. We take a short Trip Eastward to look up the Ornamental Stones of Nevada and to Search for Diamonds; and we find Palm Leaf Hats useful in the warm interior plains.

Then we return to the Home Circle and visit the Young Folks, with whom we go into the kitchen to study Domestic Economy. Hence we emerge to visit the Sanitarium and to have a little Humorous Conversation before parting.

THE NEXT HORTICULTURAL EXHIBITION, which will come off in August next, in connection with the Mechanic's Institute Exhibition, will eclipse anything of the kind yet seen on this coast. As the exhibition will be continued four weeks, instead of one, the usual length of such exhibitions, and will consist in a large measure of perishable articles, it will require much labor and sacrifice to keep it up through the term; but we doubt not the necessary public spirit and sacrifice will be found among those who have the means to furnish the material.

MECHANICS' INSTITUTE ELECTION.—This took place last Monday evening. The ticket was elected without opposition as made out by the nominating committee. The seven Trustees chosen were as follows: B. P. Bruner, W. H. Williams, J. Wartenstein, J. R. Wilcox, T. Nelson, C. F. Bassett and H. W. Jones. The term of office is two years.

## The Fence Question.

The subject of our fence laws is being discussed throughout many of the agricultural counties with a great deal of interest and earnestness. It bids fair to become a vital question in the election of legislators, in many portions of the State, especially in the southern counties. We are glad to see this question discussed and the rights of all parties concerned adjudicated before the bar of public opinion. It is a subject of great interest to the agriculture of the State, and the sooner the policy of the State is settled in regard to it, the better for all concerned.

Legislation should always be in favor of the greatest good to the greatest number. The first law upon the subject of fences in California was passed in 1850. At that time there was very little land under cultivation; but the country was full of cattle. It was not then supposed that agriculture proper would ever become a leading interest in the State. The breeding of cattle was already a great interest, and bid fair to remain so. Hence the Legislature at that time was very naturally and very correctly called upon to pass laws in favor of the leading interest. To have done otherwise would have been recreant to the principle, above laid down, of the greatest good to the greatest number.

It may be said that in laying down the above proposition we have forgotten or ignored the natural rights of property. That since grain or other growing crops cannot and do not trespass upon any other species of property, and since cattle do, that, therefore the owners of cattle ought in all cases to be required to keep them at home, or to prevent them from doing damage to their neighbors grain. Considered purely in the light of natural rights, this proposition is undoubtedly correct. But when men form themselves into communities, and agree to be governed by the majority they give up some of their natural rights and have to forego some of their individual interests in favor of the interests of a majority of the community of which they form a part.

Upon this principle all communities and all governments, especially all democratic governments, are formed. In consideration of individual rights and interests thus surrendered, the individual is guaranteed the protection of the government to an extent equal to the protection of each and every member of the community so formed. But in all cases the interests of the majority are expected to be sustained as against the interests of individuals or the minority. Upon the above principles the law of 1850 was grounded in justice and reason; though it seemed then to be a great hardship on those who were engaged in, or who desired to engage in the cultivation of the soil.

That law provided, that the owners of cultivated lands should fence the same, at their own cost, with lawful fences. Failing to do so they were liable for all stock killed or injured trespassing thereon. Owners of stock breaking through lawful fences and doing damage were made liable for simple damages for the first offence, and double damages for each offence repeated. With very little variation the law upon the subject of fines has remained the same throughout nearly all the State to the present day.

Laws regulating division fences have been passed, from time to time, for certain counties, and these have generally recognized the principle of the above law as correct and binding.

When this law was passed, as we have above stated, it was in the interest of a great majority of the people of the State, and hence was just and proper. Our Legislature followed the example of Texas, in which State we all know the cattle interest was also much greater than the strictly agricultural interest. But since 1850, things have undergone a great change in this State. The agricultural interest—the cultivation of the soil—has been gradually increasing, while the number of cattle and the cattle interest has, relatively, as gradually and as surely been decreasing, until, in nearly every agricultural county in the State, a very large majority of the people are now engaged in the cultivation of the soil. With this change the relative rights and interests of parties have changed in the same manner. Hence it is right and proper that the laws should be changed so as still to protect and maintain the rights and interests of the majority.

If in 1850 the relative numbers of those engaged in the cultivation of the soil and in stock-raising had been as it is to-day in the State, is there any doubt that the laws would have been made in the interest of the cultivators of the soil, instead as they were, in that of the stock power? No one doubts this, and no one would or could, with any degree of consistency, have condemned such laws. Then no one can condemn the actions of those who now demand a change of the present laws so as to conform to the changed conditions of things.

This change has already taken place in a number of the agricultural counties, and we believe it is found to work well. In 1864 a law was passed applying to part of Sacramento, to Solano, Marin, Butte and Yolo counties, providing that all animals found trespassing, whether on enclosed or unenclosed lands, may be detained and sold to pay for the damages they may have committed. We cannot speak from personal knowledge for any except Yolo county; but in that county there is not one man to fifty, and we think not one in a hundred, who would be in favor of going back to the old law.

In nearly all European countries, and in many of the Eastern States, the law requires stock-owners to take care of their stock, at their own cost and expense, and makes them liable for whatever damages their cattle may commit on their neighbors' possessions, whether fenced or not. We have but little doubt but it would be greatly in favor of the best interests of the State if such a law were made general here.

The expense of fencing is a great drawback to agriculture in California. It not only eats up the profits of the general farmer; but it operates to prevent many a poor laboring man from becoming an owner and cultivator of the soil. It keeps laboring classes in the towns and cities, where the chances are better for obtaining constant employment, and operates in many ways to retard the development of our agricultural resources. It discourages a diversified agriculture—one of the greatest needs of the State, it strips the county of the timber which should be preserved for other and more necessary uses, it increases the cost of all agricultural products and decreases the quantity produced.

THE THOMPSON ROAD STEAMER was put to plowing on Saturday last, upon the ranch of Hiram Fisher, near Stockton. A gang of seven plows was attached to it, which, according to the *Republican*, it drew with ease, turning furrows from seven to nine inches in depth and seven feet in width. It traveled at the rate of about three miles an hour, and performed its work in a satisfactory manner.

ORANGES TO LOS ANGELES.—A small shipment of Tahiti oranges was received, at Los Angeles, last week, from this city. The crop there was almost without reservation shipped to San Francisco. Hence the return shipment.

A WONDERFUL cave is reported discovered in the neighborhood of Owyhee, Idaho.

## How to Utilize Salt Marsh.

"D. C. S." writes from Napa City as follows:—"I am trying to convert my salt marsh into some other kind of pasture; but have thus far failed with every kind of seed which I have tried. I have been told that in many places in New England, the owners of salt marsh have succeeded in converting such ground into good pasture land. How has it been done?"

We know of no better way to reclaim salt marsh than by draining, dykeing, and covering the old sod with gravel to a depth sufficient to give a foot-hold for upland grass seeds. If any of our readers can furnish anything else, which will be of service to our correspondent, we shall be happy to give such information for the benefit of salt marsh owners generally.

IMPROVED SWINE—AND WHERE TO GET THEM.—In our last week's issue we alluded to a call for "Improved Stock," in which a party was desirous of obtaining some good breed of swine for his place, near this city, and in our reply, overlooked the fact that Mr. R. S. Thompson, of Hope Vineyard, Napa, advertises "Pure Berkshire Swine," in the columns of the RURAL PRESS. Mr. Thompson, in a note just received, refers to his stock as follows:—I have spared neither expense or trouble to procure the best blood that was to be had in the great hog-raising State of the West. The sire of one of my boars was first-prize pig at the Bourbon county (Ky.) Fair, and the St. Louis (Mo.) Fair in 1869. Last fall he took first prizes at the following, viz.:—The Illinois State Fair; the Warren County Fair, Ill.; the Iowa State Fair, and the Des Moines County Fair, Iowa.

The sire of the other was Grand Duke G., sire Royal George, G., dam Victoria, both the latter imported from England. My sows also are of as good stock as the above.

IMPROVED SWINE.—Mr. C. Wheeler, a subscriber at St. Helena, writes as follows: "In your paper of June 3d I note an enquiry for a fine breed of hogs. In answer to that enquiry I would say that a year ago, last fall, I was fortunate enough while loading with wheat a ship recently from Australia, to secure from the Captain a sow pig of a very superior Australian breed. Not having conveniences for keeping it, and knowing that Hon. N. Coombs, of Napa, was very fond of superior blooded stock, I sent it to him. A few days since I received from Mr. Coombs a sow pig, of that breed, two months old, which I think is, without exception, as fine a pig as I ever saw."

It is presumable that Mr. Coombs has a few more left of the same sort.--EDS. PRESS.

A WORKING WOMAN.—The Folsom *Telegraph* says that a farmer's wife residing in that county on the Placerville road, is said to have mowed many acres of hay this season, and that very few men can cut more hay than she can. She is a practical womans' rights advocate of the old fashioned kind.

ROLLER SKATES. C. H. W. Columbia.—For the right to use the Boone patent C-spring skate, apply to Underhill Boynton, General Agent, at No. 105 Montgomery street, San Francisco, who will also receive orders for skates.

SCIENTIFIC MEETINGS.—The American Association for the Advancement of Science, which holds its conversations at Indianapolis, in August next, it is understood will meet in this city in August, 1872.

A LITTLE COW in Castroville, weighing but 500 pounds, last week gave birth to two calves, the one weighing 65 pounds, and the other 70 pounds.

LIMA BEANS.—The Santa Barbara *Press* recommends a more extensive cultivation of the Lima bean in that county.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports to DEWEY & CO., U. S. and Foreign Patent Agents, and Publishers of the Scientific Press.]

For the Week Ending May 23d.

Printers' Furniture.—John Frederick Uhlhorn, Sacramento, Cal.

Fastener for Doors and Windows.—Jacob Z. Davis, San Francisco, Cal.

Privy.—Frank Riedel, San Francisco, Cal.

## Notices of Recent Patents.

Among the patents recently obtained through Dewey & Co.'s Scientific Press American and Foreign Patent Agency, the following are worthy of notice:

Operating Drills.—A. Blatchly, S. F. We have previously described the valuable drill invented by Dr. Blatchly and spoken of the excellent results obtained by it. But the doctor is ever seeking to improve on the past. His present invention relates to improvements in the devices for applying power to rock drilling machines, whereby power at the surface (as the hoisting or pumping engine of a mine) can be applied to operate any number of drills on any level or in any shaft or chamber in the mine. The object is to obviate the many inconveniences which arise when the engines are directly attached to the drilling machines and form a part of them. At the same time, he claims to get many important advantages by his method. His invention consists also in the peculiar construction of a set of sliding bars, operating in combination with pulleys, gears, shafts and universal joints to partially adjust the machine; and in the construction of a cross-shaft, operating with a similar combination, to perfect the adjustment, so that the machine can be operated in all positions and at any angle; also in the arrangement of shafts, gears and pulleys, so that any required number of drills can be operated simultaneously in different parts of the mine from one engine or source of power.

Dovetailing Machine.—E. Heath, S. F. This improvement in dovetailing machines is more especially applicable to a former invention of Mr. Heath's, for which he obtained a patent under date of June 14, 1870. It consists of an improvement in the cross pieces or guides which serve to hold the boards in the proper position for forming the tenons and mortises, so that, by means of adjustable projecting stops or springs, any width of board can be quickly brought to its place ready for the saws.

Amalgamating the Precious Metals and Preventing the Loss of Mercury.—J. S. Phillips, S. F. This invention relates to an improved process for preparing mercury for use in amalgamating the precious metals, both for the purpose of preventing loss of the quicksilver and for stripping the particles of the metals, which are being amalgamated, of the sulphurous coat or envelope in which they are frequently encased, so that the mercury can act upon them. It is also intended for the better covering of copper plates with mercury.

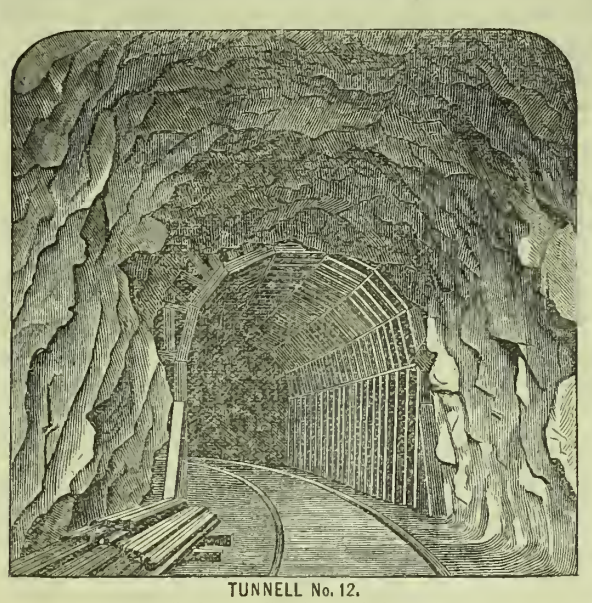
## Editorial Notes Eastward.—5.

After my ride on the locomotive, I retired to a more comfortable resting place in the sleeping car. Here I lay for a while, listening to the regular beating of the wheels over the track, keeping time to our passage, and to the roar and crash as we rushed through the tunnels. I could reflect on the views which might have been seen, were not the blackness of night around us, of mountain lake and stream, yet contented with my comfortable position in the warm car,—all the more contented from my previous exposure.

I thought of the beauties and the sad, romantic story of Donner Lake, and of the contrasting calmness of days on Lake Tahoe, which nestles under the snow-clad peaks whence it draws its life-supplies. But my thoughts grew indistinct, and with them mingled the ever-present monotone of the train, until I was surprised to find that daylight was creeping into the car and that I had been sleeping soundly for hours.

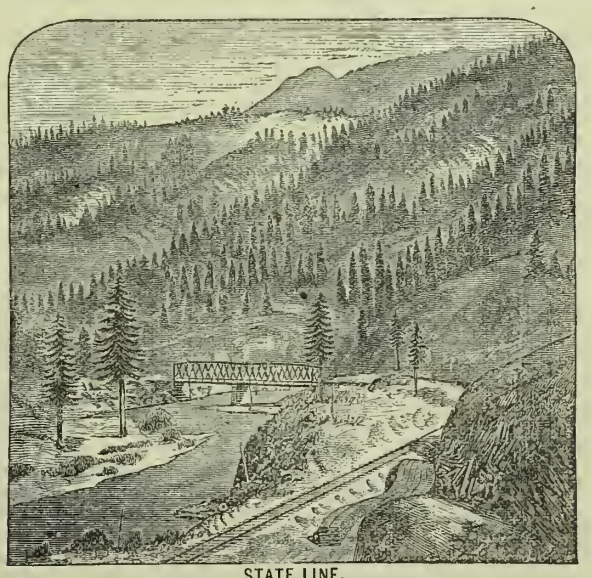
D.

LAKES IN ANDERSON VALLEY.
240 miles from San Francisco.



TUNNELL No. 12.
245 miles from San Francisco—Altitude 6,844 feet.

DONNER LAKE, AND TUNNELS 7 AND 8.
245 miles from San Francisco—Alt. 5,939 feet.



STATE LINE.
276 miles from San Francisco—Altitude 5,130 feet.

## Ornamental Stones of Nevada.

Although neither diamonds, rubies, emeralds, or other precious stones have yet been found in this State, many stones suited to the uses of the lapidary, from their hardness and beauty, are abundant. Jasper of every variety and shade of color is abundant throughout the State; carnelian is to be found in many places, and is quite abundant at Carneliau Bay, Lake Tahoe; agates are also plentiful at Lake Tahoe, at San Antonio, Nye county, at Aurora, and in many other localities. Fine moss agates are often picked up by prospectors in their rambles among the wild mountain gorges and over the stony table lands. Amethysts are quite abundant in the various mines upon the Comstock; those found in the mines at Gold Hill are the best. Garnets are to be found in Washoe county, near Steamboat Springs, but they are of an inferior quality. Chalcedony is to be found almost everywhere in the State. Fine specimens may be obtained at American Flat, and still finer ones in the neighborhood of Aurora. At the south end of Carson valley, on the Aurora road, good specimens of chrysolite may be found. The precious or fine opal has never yet been found in the State, though the common and wood opal occur. Petrified wood is very abundant—in fact, whole trees may sometimes be seen, and some specimens are very beautiful and make very handsome cane-heads and seals, when cut and polished. In many places in the State geodes are plentiful, and nearly all of these when broken will be found to contain beautiful crystals of various colors. Besides the stones mentioned above there are fine quartz crystals, and many specimens of quartz containing gold and silver are to be seen in cabinets, which would make fine seals, if properly cut. In short, Nevada is not unlike the land of Havilah, mentioned in the good book—"And the gold of that land is good: there is bedellum and onyx-stone."—*Virginia Enterprise.*

## Searching for Diamonds.

Several times persons have brought to us pieces of quartz crystals, enquiring whether they were diamonds. It is known that diamonds occur on our coast, although only very small ones, with one or two possible exceptions, have been found. Still, as it is very difficult for the unpracticed eye to distinguish the gem in its natural condition from quartz crystals or topaz, it is very possible that many a precious stone may have been passed by unnoticed. The diamond occurs of various shades and hues, as yellowish brown, green, blue and rose-red, the finest, however, being white (or colorless), and as it does not display its brilliancy in its rough condition, the unexperienced must test such stones as are suspected to be precious.

The first test is, as to whether the suspected stone will cut glass or quartz with its sharp edge. A diamond will do so readily. When the specimens are too small to be held between the thumb and finger for this purpose, they may be pressed into the end of a stick of hard wood. This test will distinguish from most other minerals, but not from all, as topaz, sapphire, zircon, etc., will also cut glass.

But the diamond is the hardest of all substances, scratches all other minerals and is touched by none, and yields to no file. As it breaks with difficulty, it is sometimes tested by placing it between two hard bodies, as two coins, for example, and forcing them together with the hands. Such a pressure will crush a quartz crystal, but the diamond will only indent the metal. It will not do, however, to place the stone on an anvil and strike it with a hammer—as some have done on this coast—as the blow will crush any stone. The diamond is heavy and can be separated with the gold or platinum particles, if they occur together, by panning.

The most certain test lies in the peculiar form of the crystals. They are never long and slender, but always, to lay aside technical terms, approaching a spherical shape. The chief point is the curved edges, which in small crystals can only be perceived by the aid of a magnifying glass, but which are always present. It is, perhaps, rare to find a diamond with four curved faces, but such a circumstance places its identity beyond doubt. A common form is a solid with eight sides (octohedron) whose edges are cut off by narrow, interrupted, convex surfaces. Such interrupted rounded angles are sure signs of genuineness.

Palm Leaf Hats.—The only place in the United States where palm leaf braid is manufactured, is in Massachusetts, the principal towns where the trade is carried on being Amherst, Palmer, Barre and Fitchburg. The raw material is brought from Cuba to New London, Conn., in bundles of [illegible] from [illegible] to five feet long. The bunches, placed on the stock end, are packed in the bleaching rooms and subjected for sixteen days to the fumes of brimstone. The leaf, after being bleached, passes into the hands of the splitters, and about one-third of the material is rejected. This waste, until recently, was useless, but is now sold as paper makers' stock for fifty dollars a ton, when delivered at the mills. The split leaves are now sent out into the country to be braided into hats and woven into webs for Shaker hoods. This work is done by the wives and children of the New England farmers, and large teams are constantly passing over the steep hills and into the most remote recesses of the country, carrying the raw material to be braided and bringing back the finished work. A large number of persons find employment in braiding, and nimble-fingered girls can earn as much as an adult woman. The pay is small, but odd moments, which otherwise would be disengaged, are devoted to this labor. Country merchants, it is stated, often take the leaf and put it out in the neighborhood, being satisfied with the increase of sales although they make no profit from the braiding.—*Philadelphia Ledger.*

Grasshoppers have made their unwelcome appearance in some parts of this State and in the interior. A man in Utah is said to have invented a machine which catches the creatures by the bushel-basket and passes them between two rollers, after which they need no further attention.

BY OUR LADY EDITORS.

## Helpful Harrie.

Perhaps you think Harrie was a boy? No, she was a girl. Her name was Harriet, only they called her Harrie, her brothers said, "for shortness."

She was not only a girl, but she was to a very great extent just what a girl ought to be. She had both eyes and hands, and she also had a head. Perhaps you will laugh and say that was not at all strange, for she would have been a very surprising girl indeed if she had been without these things. But there are girls who, though they have head and hands and eyes, do not at all make a good use of them; for they do not seem to think, they do not see what needs doing, and they do not use their hands to do the work that is lying all about waiting to be done.

I am glad to say that Harrie was not at all thoughtless, neither was she idle. She liked doing things for other people, and when a girl loves her work it is a good thing both for herself and for those around her. She is certain to do it well and cheerfully if her heart be in it.

I have told you that Harrie made good use of her eyes. When she was at home with her mother she liked to watch her, and see how she did certain things, that she might know how to do them too.

She never looked on without wishing to help.

"Mother, I wish you would let me try. I think I could do that," were words that Harrie often uttered.

One day she watched her mother darning the socks and stockings.

"What nice easy work darning is, mother."

"Is it, Harrie?"

"It looks like it, mother. I should like to learn to darn; will you show me, please?"

"Fetch a very old stocking from the drawer."

The next minute Harrie was receiving her first lesson in darning. Of course at first it was not done very well. She pulled the threads too tightly, and she did not put the stitches close enough together. But nobody expects to be perfect at first.

"Practice makes perfect," Said Harriet's mother. "It is very good indeed for a first attempt."

She kept on trying until she could do it quite well, and after that her mother never sat down to this work without saying, "Now Harrie, get your needle and thimble and come and help me with the darning."

There are some little girls who say they are sorry they have to do them afterwards, whether they like it or not. But Harrie was more sensible.

Harrie's great ambition was to make a pudding.

"Oh mother, dear, if you would only let me try to chop the suet I am sure I could do it."

"I am afraid you would chop your hands as well as the suet."

"No, indeed, mother. I will be very careful if only you will let me try."

Her mother allowed her to try while she stood by and watched to see that she made no mistake.

It was a very convenient thing that Harrie did learn, for one day there came a letter to her mother from her mother, and Harrie's grandma, begging her to go at once, for she was very ill.

"I do not know what is to be done," said Harrie's mother. "I should like to go very much, but there is no one here to do anything, and it will be so uncomfortable for your father."

"Do go, mother dear," said Harrie, "I will do everything I possibly can for father and the boys while you are gone, and I think you will say that I have not managed very badly."

"I must hear what your father says."

"Oh, go directly," said Harrie's father. "We can put up with it a day or two even if it should be uncomfortable."

The house seemed very dull after the mother was gone. But Harrie immediately set to work to make it as bright and clean as possible.

When her father came home, he looked quite surprised.

"Why, Harrie, who has been helping you?" he said. I expected to find nothing ready, and here is a bright fire and clean hearth, and the kettle boiling, and tea ready. The room looks almost as comfortable as if your mother were at home. Have you done it all yourself?"

"Yes, father, every bit. I knew you would miss mother, so I thought I would do the best I could."

"Well done, little maiden," said her father. And Harrie was delighted with his praise.

The next morning when he came down, scarcely expecting to find breakfast ready, the toast made, and the coffee smelling deliciously.

"I shall have to call you Helpful Harrie," said he, "or my little housekeeper, or some fine name."

When he was gone, Harrie bustled about like a little woman. There was plenty to do, as there is in every house, but Harrie was quick in her movements, and soon made the rooms look tidy, and began to see about cooking the dinner. She had no time to lose, and did not lose any. And by the time her father came home, she had done everything that was necessary, and he found a clean cloth upon the table, and clean knives upon it and a nice dinner smoking hot.

You will not be surprised that Harrie's father thought his daughter was quite a treasure.

After dinner, Harrie wondered what she could do as a surprise and a help to her mother.

She found plenty of things that wanted doing. There was a pinafore of her little brother's that needed a patch, and a hole in the carpet that wanted darning. Harrie did them both that afternoon.

When her mother returned she did not forget to bring a little present for Harrie; and she gave her what she valued quite as much—most loving words. Harrie was, a happy little girl because she was so willing to be useful.

Some little girls left as Harrie was, would have done only just what they were obliged; and even that unwillingly.

## Boys and Girls.

Boys and girls are not the same. They are born different and show it while they are infants. The boy-baby is restless and uneasy in his mother's arms. He is never still except when asleep, and even then tumbles from side to side in his crib with sudden flings of arms and legs. When he grows beyond baby-hood he plays differently. Without ever being told of it he instinctively turns away from dolls; lays them aside in indifference, and freely donates them to whatever little girl will have them. He demands balls and bats and drums; he turns down chairs for horses, lays hold on all the strings in the house for lines, wants all the little sticks made into whips, mounts lounges and drives four in hand; he asks for guns, and wants you to tell him stories of bears and lions and tigers, and is amused beyond measure at their leaping upon and eating up cows and oxen. The girl-baby is gentle, even from the first, and looks quietly out of the blue eyes, or laughingly out of the dark ones. She takes naturally to her dolls, and never wearies of dressing them and arranging the baby-house; she is gentle in her plays, and would be frightened with what would fill her brother with a paroxysm of delight; she loves fairy tales, and will not laugh and ask some absurd question about the babes in the wood, but rather cries over their sorrows. The sister will smooth pussy and hold her lovingly in her lap, while the brother wants to see if the cat can jump, and when she tries to get out of his undesirable company will detain her by the leg or tail. And these same divergencies of disposition and character perpetuate themselves as the boy or girl grows older. There are exceptions, it is true; some boys have all the tastes and gentleness of a feminine nature, and some girls have much that is masculine. I do not regret seeing it in each. The gentle boy will not make any the less noble man because there was so much that was girl-like in his childhood, nor will the girl that was, in her rudeness, often called a boy, be any the less, but perhaps, all the more, a true and lovely woman.—*Life at Home.*

THE FAITHFUL WIFE.—Nothing upon this earth can compare with the faithful attachment of a wife; no creature who, for the object of love, is so indomitable, so persevering, so ready to suffer and to die. Under the most distressing circumstances, womans' weakness becomes a mighty power; all her sinking and shrinking pass away and her spirit acquires the firmness of marble—adamantine firmness, when circumstances drive her to put forth her energies under the inspiration of her affections.

FIGHT BETWEEN A CAT AND A SNAKE.—Last week a cat down in Tennessee had a fight with a snake, and puss whipped the snake through pure generalship. The battle took place in an open field. The snake, about three feet in length, coiled himself to strike as the cat crept stealthily upon it. She put out one of her paws and the snake struck at it; but she was too quick; the paw was withdrawn ere the fangs reached it, and then the snake, before he could recover, received a sharp blow on the head. These tactics were successfully repeated several times, when the snake became discouraged and attempted to beat a retreat. This was the cat's golden opportunity. While the snake was extended, puss pounced upon him like a flash of lightning, and before he was aware of it, bit him several times through the body. She watched the dying agonies of her slimy opponent, then quietly turned round and walked away. The brief combat brought to the surface a display of brilliant generalship.

LITTLE WOMEN.—Dr. Dio Lewis, referring to the greater disparity in size between men and women in this country than is observable in Europe, says:—This petite size can be accounted for. Nothing, to my mind, is plainer. Exercise is the great law of development. Our girls have no adequate exercise. Besides, the organs on which growth depends, viz., the lungs, stomach and liver are reduced, by the corset, to half the natural size and activity. These two causes, with living in the shade, explain the alarming decrease in the size of the average American woman."

A WORD TO BOYS.—Truth is one of the rarest virtues. Many a youth has been lost to society by allowing falsehood to tarnish his character, and foolishly throwing truth away. Honesty, frankness, generosity, virtue—blessed traits! Be these yours, my boys, we shall not fear. You are watched by your elders. Men who are looking for clerks and apprentices, have their eyes on you. If you are profane, vulgar, saloon-going, they will not choose you. If you are upright, steady and industrious, before long you will find good places, kind masters, and the prospect of a useful life before you.

AN ENIGMA.—The following enigma, is said to have been written by Mr. Canning, which, for a time, baffled the skill of England to solve:

"There is a word of plural number,
A foe to peace and human slumber;
Not any word you chance to take
By adding 's' you plural make;
But if you add an 's' to this,
How strange the metamorphosis;
Plural is plural then no more,
And sweet what bitter was before."

The word is "cares." to which by adding "s" you make "caress."

NEWS FROM ABROAD.—The *Woman's Journal* has this bit of information: Agnes Lewis, the young girl sixteen years old, who has this year plowed sixteen acres of land on her father's ranch, near Antioch, California, is said to be a cousin of Ida Lewis, the Grace Darling of New England, who, several years ago, had earned a national fame by the number of lives she had saved during the storms on the Atlantic sea board.

A PRETTY apron for a little girl from six to eight years old may be made by cutting a gore for the front part, with two half gores for the side pieces; pockets trimmed with lace, fringe or braid. Let the trimming run from the pockets down to a point in the center of the front gore. Black silk is the prettiest material. Have two or three rows of trimming.

A STYLISH Fall suit for a boy of five or six years, consists of Knickerbocker pants and a belted blouse made in dark green cloth, trimmed with wide Hercules braid. The trimming is continued up the outside of the pants, and the blouse is double-breasted, and fastened with jet buttons.

THE child is born who is to give shape, so far as a single mind can, to the thought of the opening period of the twentieth century! In heaven's name, let us teach him no shams! Only solid food will stay by him, for his manhood!

VICTORIA receives only $1,200,000 a year; but she owns several large dairy farms, and her butter commands the highest price in the London market.

A GIRL in Madison county, Illinois, has challenged any man in the State to a plowing match.

REMEMBER that if you sanction the custom, you are answerable for its fruits.

## Young Folks' Column.

### Bessy's First Round Comb.

I have got a round comb, and I will tell how I came to get it. One day when Aunt Lizzie was going down town she said, "Does Bessy want to go out walking with me?" Of course I did, and I told her so, and while she was getting ready, I went to wash my hands and fix my hair, 'cause it always comes in my eyes. Willy's grandma said to me, "Did you ever have a round comb, little one?" And I told her no, I never had one in all my life, 'cept cousin Ella's, which she lended to me, and it hurt my ears so I cut and cut it with the scissors till I broke it all up.

Then that good grandma—not mine, but Willy's—gave me a big silver money, and telled me to let Aunt Lizzie buy me a comb and Ella a comb. How I did jump for joy, and cry, "jolly." Then Aunty put on my shaker hat and scarf and away we went. At the store Aunty set me up on the counter and asked the man if he had a round comb to fit this little head, and she took my hat off and tried one on which fitted so nicely. Then we bought a bigger one for Ella, and when wrapped in paper I carried it all the way home myself; and ever since, Ella and little me wear our round combs every day, and they feel so good. Was not Willy's grandma a good lady to do all that for me? NELL.

### A Key to a Person's Name.

By the accompanying table of letters the name of any person or any word may be found in the following manner:

| | | | | |
|---|---|---|---|---|
| A | B | D | H | P |
| C | C | E | I | Q |
| E | F | F | J | R |
| G | G | G | K | S |
| I | J | L | L | T |
| K | K | M | M | U |
| M | N | N | N | V |
| O | O | O | O | W |
| Q | R | T | X | X |
| S | S | V | Z | Y |
| U | V | V | Y | Z |
| W | W | W | | |
| Y | Z | | | |

Let the person whose name you wish to know inform you in which of the upright columns the first letters of his name is contained. If it be found in but one column, it is the top letter; if it occurs in more than one column, it is found by adding the *alphabetical number* of the top letters of these columns, and the sum will be the number of the letter sought. By taking one letter at a time in this way, the whole name can be ascertained. For example, take the word Jane. J is found in the two columns commencing with B and H, which are the second and eighth letters down the alphabet; the sum is ten and the tenth letter down the alphabet is J, the letter sought. The next letter, A, appears in but one column, where it stands at the top. N is seen in the columns headed B, D and H; these are the second, fourth and eighth letters of the alphabet, which, added, give the fourteenth, or N, and so on. The use of this table will excite no little curiosity among those unacquainted with the foregoing explanations.

### A Toad Undressing.

He commences pressing his elbows hard against his sides and rubbing downward. After a few smart rubs his hide begins to burst along his back. He keeps on rubbing until he works all his skin into folds on his sides and hips; then grasping one hind leg with his hands, he hauls off one leg of his pants, the same as anybody would: then strips off the other hind leg in the same way. He then takes his cast off skin forward between his fore legs, and swallows it; then by raising and lowering his head, swallowing as his head comes down, he strips off his skin underneath, until it comes to his fore legs, then grasping one of these with the opposite hand, by a single motion of the head, and while swallowing, he draws it from the neck and swallows the whole.

A LITTLE boy, three years old, who has a brother of three months, gave as a reason for the latter's good conduct: Baby doesn't cry tears because he doesn't drink any water, and he can't cry milk."

PLAYING AT DOCTOR.—Ma, dear, Ada won't take her physic. I've mixed her a dose of vinegar and sand, and she says I must take some first. Doctors never do, do they ma?

# DOMESTIC ECONOMY.

## Oysters in the Kitchen.

OYSTER SOUP.—Put two quarts of oysters, liquor and all, in a pan; set them on the stove to heat, but don't let them boil, or come very near to it; now drain all the liquor into your soup kettle, put in a pint of water and two quarts of new milk, half a pound of butter, a little whole allspice and pepper; have the oysters all this time where they will keep warm, add them and salt to taste; just as you are to serve the soup, break up some crackers fine and put into the soup before the oysters are put in. Salt should always be the last thing put in any soup, stew or fricassee, where milk is used, or it is apt to curdle. Oysters should never be boiled, but only scalded; it makes them tough and shrinks them all up; if they are to be stewed, heat them hot, but don't boil them. Always have the soup or gravy hot.

OYSTER STEW.—Put as many good oysters, with their liquor, as you think you will need, into a pan on the stove to heat, but not boil. Drain the soup into a sauce pan; as soon as it boils add half a pound of butter and some pepper; when this boils add a pint of cream and thicken a little with flour; after this boils up once, put in the oysters and more salt if necessary. Serve hot.

OYSTER PIE.—Line a deep basin with puff paste, fold a large towel and place inside to support the lid, then roll and ornament a piece of paste, the same as for a common pie; put on the basin and bake slowly; have an oyster stew made as above, without cream, and fill the basin as soon as the paste is done. Serve immediately.

OYSTER TOAST.—The, same only no cream, thicken the juice a little with flour; when the stew is ready have a few slices of toast laid in a dish (well buttered), and pour the oysters into it. It is best to heat the dish hot that you put your oysters in to send to the table, as they are so much better hot than merely warm.

OYSTER FRITTERS.—Make a batter of milk, flour, eggs, cream of tartar, saleratus, salt in proper proportion. Don't make any thicker than for pancakes. Drop an oyster into each spoon of batter as you dip it out and fry in hot lard; brown well on both sides.

OYSTER STEW WITHOUT CREAM.—Make in all respects the same as with cream, only substituting half a pint of water for the cream. Many persons prefer oysters stewed in this way.

OYSTERS FRIED.—Drain the oysters well, roll in fine rolled crackers, and fry in hot lard and butter, two-thirds lard and one-third butter.

CONSOLING.—Housekeepers who groan under the burden of "Blue Monday," (wash day), will be glad to know that the process of washing in Europe, or in many parts of it, requires twice as much time as in the United States. In this country clothes dry far more rapidly. On the other hand bread dries very quickly in this climate, and a new supply has to be made with discouraging frequency. In Germany, housekeepers make up a batch of bread that lasts several weeks, keeping soft and fresh all the time. The greater dryness of our atmosphere is attributed to the prevalance of west winds, which instead of coming from the sea, as in Germany, sweep across great dry prairies, losing in the transit much of their moisture.

## Eating Economically.

We copy the following highly valuable and interesting article from a medical work, thinking it well worth preserving:

What kind of food has the most nourishment and the least cost, is a question of great practical importance. The following tables may be studied with considerable interest by every family. They will show the mode of preparation, the amount of nutriment, and the time required for the digestion of the most common articles of food placed upon our tables. A dollar's worth of meat at twenty-five cents a pound, goes as far as fifty cents' worth of butter, at half a dollar a pound. Three pounds of flour, at eight cents a pound, is said to contain as much nutriment as nine pounds of roast beef, which, at twenty-five cents, is $2.25; that is, twenty-five cents' worth of flour goes as far as nine times that much money spent for roast beef, as weighed at the butcher's stall. A pint of white beans, weighing one pound, and costing seven cents, contains as much nutriment as three and a half pounds of roast beef, costing eighty-seven and a half cents. Of all the articles that can be eaten, the cheapest are bread, butter, molasses, beans and rice. A pound of corn meal (Indian) goes as far as a pound of flour; so that fine family flour at sixteen dollars a barrel, in New York city, in July, 1864, and corn meal at four cents, the latter is just one-half as expensive. If corn and wheat were ground, and the whole product, bran and all, were made into bread, fifteen per cent. of nutriment would be saved with much greater healthfulness. These are standard tables:

| Food. | Preparation. | Nutriment. Per cent. | Digestion. Hrs & Min. |
|---|---|---|---|
| Cucumbers | Raw | 2 | |
| Turnips | Boiled | 4 | 3.30 |
| Milk | Fresh | 7 | 2 15 |
| Cabbage | Boiled | 7 | 4.30 |
| Apples | Raw | 10 | 1.15 |
| Potatoes | Boiled | 13 | 2.30 |
| Fish | Broiled | 20 | 2.00 |
| Venison | Broiled | 22 | 1.30 |
| Pork | Roasted | 24 | 5.15 |
| Veal | Roasted | 25 | 4.00 |
| Beef | Roasted | 26 | 3.30 |
| Poultry | Roasted | 27 | 2.45 |
| Mutton | Roasted | 30 | 3.15 |
| Bread, Wheat | Baked | 80 | 3.20 |
| Bread | Baked | 80 | 3.30 |
| Beans | Boiled | 67 | 2.30 |
| Rice | | 88 | 1.00 |
| Butter and Oils | | 96 | 3.30 |
| Sugar, Syrups | | 96 | 3.30 |

## Cooking as a Science.

We heartily endorse the following from Moore's *Rural New Yorker*:

"If Medicine is a science, then Cookery is a science; and to tell the exact truth of the matter, the more important science of the two. If the science of cooking were advanced to the same degree as that of medicine, how very little need there would be of the latter! But alas! it is largely in the hands of the most ignorant women in the world. A few men have given their time and talents to the advancement of the science, and the gratitude of the race should be theirs.

Why must this science, so vital with interest and value, longer languish? Must women have the elective franchise before they learn to cook? Must they first learn to cure our ills, before learning how to prevent them? Must the title of M. D. be so immeasurably and falsely greater than that of C. D.? Are they to fold their hands and wait until men have lifted the science to high honor, usurped the domain themselves, and then moan because they are shut out of the science kingdom on account of unfitness?

It seems to us that *now* is the day and the hour for women to *act* in this matter. How many RURAL-reading women are willing to devote two or three years to the study of Cookery which must necessarily embrace chemistry, physiology and hygiene? It would be folly, indeed, to found a university for Domestic Science, if there be no active demand for one. Will not the enterprising young women who read this, digest the matter, and send us their thoughts in regard to it.

DRINKING BUTTERMILK.—Persons who have been in the habit of drinking buttermilk consider it disagreeable, because slightly acid in consequence of the presence of lactic acid. There is not much nourishment in buttermilk, but the presence of the lactic acid assists the digestion of any food taken with it. The Welsh peasants almost live upon oat-cake and buttermilk. Invalids suffering from indigestion will do well to drink buttermilk at meal times.

HOW TO COOL A ROOM.—Now that the hot weather is full upon us it may be interesting to be reminded that the simplest and cheapest way to cool a room is to wet a cloth of any size, the larger the better, and suspend it in the place you want cool. Let the room be well ventilated, and the temperature will sink from ten to twelve degrees in less than an hour. This is the plan adopted by many eastern nations.

POISON.—The house wife cannot be too careful in handling poison or in allowing it to be kept about the house. To prevent constantly recurring accidents, it has been suggested that arsenic and other poison, be put up by druggists in *red paper* and marked with the skull and cross bones, as is done in some parts of Europe, and that in fluid poison the same symbol should be put on the bottle. This the most illiterate could understand. Especially *that* skull and cross bones.

THE VALUE OF A COOKING RECEIPT.—The Prussian Government, about the time of the breaking out of the late Franco-Prussian war, gave $50,000 to a Berlin cook for his secret of making peas-pudding sausages that will not turn sour.

## Domestic Receipts.

TO PRESERVE STRAWBERRIES AND RASPBERRIES WITHOUT BOILING.—A correspondent of the Germantown *Telegraph* who has long practiced the method, recommends the following:—The berries should be picked when the fruit is dry, and put at once into a deep bowl or pan, and bruised gently. Mix with an equal weight of best "sifted" sugar, and put immediately into wide-necked bottles; cork these firmly without delay, and tie bladders over the top. Keep them in a cool place, or the fruit will ferment. This mixture should be stirred softly, and only just sufficiently to blend the sugar and the fruit. The bottles must be perfectly dry, and the bladders, after having been cleaned in the usual way, and allowed to become nearly dry, should be moistened with a little whiskey or alcohol on the side next the cork. I have thus successfully put up both strawberries and raspberries for future use for ice creams, or cakes or for tarts, without boiling.

HOME-MADE INK.—The ink made as described below is said to be beautifully black and flows freely, and does not in the least corrode the pen. It is far superior to the usual acid inks, which will spoil the best steel pen in a few hours' use. To five gallons water at boiling heat, add one-half ounce bichromate of potash, and one-half ounce prussiate of potash. Your ink is then made and ready for use. The cost is not more than fifteen cents per gallon.

A SWISS SOUP.—Boil three pounds of potatoes, mash them well and add slowly some good broth, sufficient for the tureen. Let these boil together, and some spinach, a little parsely, lemon, thyme and sage, all chopped very fine. Boil together five minutes; pepper and salt to taste. Just before taking it off the fire to serve, add two well-beaten eggs.

BUNS.—One pound of flour, one spoonful of baking powder, mixed well together; two ounces of lard, sugar, currants or seeds, one egg and a teacupful of milk. Make into buns, and bake immediately.

TO CLEANSE BLACK SILK.—Boil an old black kid glove till it begins to dissolve, strain the water, and sponge with it the right side of the silk; iron while damp on the wrong side.

## Mechanical Hints.

TO MAKE A CONCRETE FLOOR.—The following recipe, supplied by a famous English authority, is quoted by the *Agricultural Gazette*, and may be useful to some of our readers:—"Three parts coal ashes (those from the blacksmith's forge to be preferred) and two parts gas lime from gas works, to be thoroughly mixed and then made into a mortar with gas tar. If the gas tar come from gas works where the ammoniacal liquor is not separated, it will be sufficiently mixed for the purpose; but if the latter be separated, and the tar be thick, it will set quicker if about one-fourth part of water be mixed thoroughly with the tar when used. For the floors of cow-sheds, this should be laid about three inches thick in one layer, on an even surface of gravel, or stone broken very small with a sprinkling of gravel over, and rolled down. The mortar may be laid on with a common shovel, and merely patted down flat. In dry, warm weather, if the mortar has been carefully made, the floor will set firm in a few days. For any ordinary out-house, half the thickness will make a permanent floor."

A WATER AND FIRE-PROOF CEMENT.—Water-proof cements for mending crockery, glass, etc., are not usually fire-proof; and fire-proof cements are not usually water-proof. The following, however, is said to be both:—Mix two ounces of milk with two ounces of vinegar. It will curdle. Separate the curd from the whey, and mix the latter thoroughly with the white of an egg; then add quick lime through a sieve until the mass is as thick as paste. The cement is then ready for use. A simpler cement or one more readily or easier made cannot be asked for.

DRIVING NAILS.—A Humboldt, (Kansas) paper says that city has the champion nailer in the world, in the person of Albert Minor, a lather by trade, and a son of Vermont. The paper adds that "Minor can drive more nails in one day than any other living man. He will drive nails faster than the fastest compositor can pick up type. He will drive sixty lathe nails a minute, ten hours out of the twenty-four, the year through, which would be 3,600 an hour, 36,000 a day, or 5,268,000 per day."

# LIFE THOUGHTS.

HEAR as little as possible of whatever is to the prejudice of others.

BELIEVE nothing to the prejudice of others till you are absolutely forced to it.

NEVER drink in the spirit of one who circulates an ill report.

NATURE will always have her due; but whatsoever is beyond necessity is precarious and unnecessary

ALWAYS believe that if the other side were heard, a very different account would be given of any matter.

MIND your business, and the public will commend you for so doing.

REMEMBER that drinking retards education, industry, and every branch of political and social improvement.

THE greatest pleasure I know is to do a good action by stealth and have it found out by accident.—*Lamb.*

No man will ever be poor who goes to himself for whatever he wants; and that is the readiest way to obtain riches, whether material or mental.

A FRIENDSHIP of interest cannot last longer than interest itself; and this is the reason why many in prosperity are to much followed, while he who is going down is without friends.

## One Idea Men.

He who suffers himself to be wholly engrossed by one relation of life, soon ceases to be of value in any other. He loses the balance of character, and becomes one-sided and narrow minded. Business is naturally and rightly a *means* to many high and noble ends, and when thus followed it deserves all honor. But it is too frequently pursued as an *end*, and is to some the very essence of life itself. It takes the place of the very objects to promote which is its true destiny, and crowds them out by its own continual presence. He whose soul is always in his business grows unconsciously hard, cold and contracted in his views and feelings. His mind is closed against the light of truth, wisdom and intelligence; his heart is shut out from the warmth of domestic love and social sympathy. He pleads that he has no time for self-culture, for parental duties, for friendly intercourse; when the truth is that he ought to have no time for a business so engrossing as to crowd out these unmistakable duties. The truth is, that even business itself is better conducted by the man who resolutely lays it aside at regular intervals, and throws all his energies into other channels. The mind grows rusty by long confinement to one train of thought, and works less vigorously even on its favorite topic. Especially if one dwells much on the dark side of his affairs, and indulges in gloomy forebodings of ill, a weakness and timidity will ensue that will prevent the firm, prompt, energetic action which is so necessary to the successful prosecution of business. There is no doubt that many failures, and much of the ill success in the mercantile world, proceed from the pernicious habit of carrying the burden of business cares into hours from which they should be banished.—*Phila. Ledger.*

GREATNESS AND GOODNESS.—It is not possible for us to make our children great, but we can do much toward making them good. Great influences that we cannot understand, stretching over the whole span of our life, will make one man as great as a Mariposa redwood, and another as small as a dwarf pear. Yet this, in its degree, shall be as good as that, while the sun will shine, and the rain fall, and the blessing of heaven rest on both. But the possibility is that the little one may become not only good, but great. Goodness of itself may be greatness, as it was in Washington and Lincoln; or there may be greatness without goodness, as the vast catalogue of mighty men who have been the scourge and curse of the race can testify.—*Robert Collyer.*

A DISTINCTION WITHOUT A DIFFERENCE.—When a rakish youth goes astray, friends gather to bring him back to the path of virtue. Gentleness and kindness are lavished upon him to bring him back to innocence and peace. No one would suspect he had ever sinned. But when a poor confiding girl has been betrayed, and receives the brand of society, and is henceforth driven from the ways of virtue, the betrayer is honored, respected and esteemed—there is no peace for her this side the grave. Society has no helping, loving hand for her, no voice of forgiveness. There are earthly moralities unknown to Heaven.

## The Partz Sugar Refiner.

As this will create a revolution in an important industry, if it shall prove a success, we trust it will be interesting to our readers to keep them on the track of the experiments. The first two trials were to find the best consistency of the boiled syrup, for casting sugar-loaves containing 1,500 pounds in one body. The third filling proved this point; for the sugar was all right. But another obstacle exists, which probably the 4th filling will remove, as it is merely a matter of mechanism. It was supposed that lifting the big sugar-loaf from the upright cylinder was a mere affair for ordinary block and tackle. But it is found necessary to make a change in the preparation of the cylinder, to escape the adhesion of the sugar to the sides. When this is all that stands between experiment and success, it may be considered that this invention is soon to be added to our list of noteworthy California discoveries.

Too much praise cannot be given to Mr. Otto, the master sugar-maker at Alvarado, for the kindly aid he has given in bringing this invention to the success it has achieved. The Directors of the Alvarado Sugarie merit equal praise for the sanction they have given to the experiments.

Irrigation Canals.—The Fresno Canal and Irrigation Co., of King's river, incorporated last February for the purpose of irrigating the plains between the Upper San Joaquin and King's river, have dammed a portion of the latter river to take out 3,000 feet of water, and have already running over the plains a stream of water 80 feet wide, which is said to have saved this year all the crops in its vicinity.

The San Joaquin and Calaveras Irrigating Co. met on June 1st, to raise money for the completion of a canal, already commenced, conducting the water of the Mokelumne out upon the upland south of that river and along the township range line a distance of seven or eight miles. The amount required is given as $150,000 to $200,000.

The Rhoad's Settlement, Tulare county, has just completed an extensive irrigating ditch which is supplying the farmers with water.

The Burnt River Ditch, in Oregon, has been completed for 57 miles, and the remaining 13 miles will soon be in working order.

For the Mountains.—Stock of all kinds, and in great numbers are being driven to the mountains for better grazing. The grass in the valleys which had become dry before the last rain, still furnished good nutriment for stock; but the rain has destroyed it, just as it destroys hay, which has been cut and dried. Hence the herders have been obliged to seek the mountains rather earlier than they would have done had the last rain been withheld; but what they have lost has been many times repaid to the tillers of the soil. The best grazing just now is found at elevations ranging from two to three thousand feet, and as the season advances the stock will be driven higher and higher into the mountains, until the highest valleys are reached, where they will remain until danger becomes imminent from next winter's snow.

Tomatos from Cuttings.—George Henning, Saratoga, N. Y., plants his tomato seeds in January and February, and when the plants are five or six inches high, cuts off the tops just above the seed leaves, and sets them out as cuttings in a properly prepared hot bed, where they take root and grow. In April they are transplanted to cold frames, and finally set out in the open ground. Mr. Henning claims that by this treatment the plants have better roots than when allowed to retain their original ones, and that they bear earlier and are more productive.—*Hearth and Home.*

[From the Sacramento Reporter.

## Our Sanitarium.

"From the bleak pole no winds inclement blow,
Mold the round hail or flake the fleecy snow:
But from the breezy deep the blest inhale
The fragrant murmurs of the western gale."

The notion, so long and fondly held by our people, that California is a vast sanitarium, is effectually exploded. On the whole, California is a highly favored State, rich in her agricultural, mineral and other resources, and posessed of a good climate; but it is far from being true that invalids from other parts of the country can come here and find everywhere within our borders the balm they seek.

Even our most delightful localities, like Santa Cruz and San Rafael, where health seems to "float amid the gentle atmosphere and mantle on the stream," when visited by eminent medical men, have been found to be unsafe places for invalids, particularly consumptives. The robust denizens of those charming little towns may be disinclined to accept this, but their places have been weighed in the balance and found wanting.

Many of the distinguished medical men who attended the convention of their fraternity recently in session in San Francisco, visited our State with a tripple purpose—to participate in the deliberations of the Convention, to recreate themselves, and to find suitable places where they could safely send their invalids. This latter object was not neglected, though we are sorry to say it was not accomplished. The gentlemen having this object in view visited many localities in the central portion of the State, the advantages and climate of which had been lavishly praised by the San Francisco press and people. Santa Cruz and San Rafael were among the places visited. Dr. Logan of Sacramento, Health Officer of the State, accompanied them, hoping that they would find, at more than one locality, the object of their search. But the result utterly failed to justify any general clapping of hands over our climate that has been going on so long and boisterously. Our Escalapean visitors turned their faces homeward in the firm belief, which we understand some of them expressed, that California had *no climate at all.*

But though this impression may have been justified by the examinations made so far as the places visited are concerned, it would have been entirely dispelled by further and more extended observations. To this end Dr. Logan labored, but could not induce the medical gentlemen to tarry longer. They believed they had seen the best climate and most favored regions in the State. How can we blame them for giving their hunt up as "a bad job" when, to use another vulgarism, Santa Cruz and San Rafael had "gone back" on us?

Dr. Logan, however, pushed his investigations further. He visited the southern counties and took a careful survey. He has returned home exclaiming "Eureka!" The Pacific Rural Press has a four-column article from Dr. Logan's pen, entitled "Santa Barbara as a Sanitarium," which is a decidedly interesting report of the doctor's visit to Santa Barbara, giving a description of the place, agricultural features and influences, temperature and moisture, vital statistics, etc.

[Here follows a short digest of Dr. Logan's article from our last issue, after which the *Reporter* further adds:]

We are pleased to learn that Dr. Logan will submit to the State Board of Health an elaborate report upon this interesting and important subject. Many thousands of copies of the report should be printed and distributed among medical men throughout the United States. We hope this will be done.

Morton's Door and Gate Springs.—These springs, though well known and extensively used at the East, have never, until now, been introduced into this State. Mr. Davis, well known in connection with his patent "Refrigerator Fruit Cars," which have so successfully transported California fruits to the East, has purchased the right for the above-named springs for the seven States and Territories on this coast, and is now here for the purpose of introducing them. The object of the invention is to obtain a more reliable and serviceable spring than has hitherto been in use for closing doors and gates. The device is simple, cheap, durable and not unsightly, and may be seen and examined on the doors of the *Alta* office, on California street, where builders, architects and others may call and examine them at their leisure.

## Humorous.

Counter Irritants.—People who examine the whole stock and buy nothing.

Some signs are very suspicious. For instance, "I Steele, Dry Goods."

Speculation is a word that sometimes begins with the second letter.

What was the end of St. Stephen? He was "rocked to sleep."

Little fish have a proper idea of business. Not being able to do better, they start on a small scale.

Whence does a cook learn the time to sound "his shrill clarion?" From his crownometer.

Punch thinks it would be a real blessing to mothers if somebody could invent a soap that would enable mammas to get their daughters off their hands.

Jokes.—A little boy in a Danvers school was asked by his teacher for some reason why women should not vote, and triumphantly answered: "Cause they are afraid of caterpillars."

When a cat prepares to wash her face, it is a certain sign that at least one in the house is to have a licking.

An old farmer's description of a pointless preacher was, "A good man, likely, but he rakes with the teeth up."

Poverty is the flour of literature; prose is corn, potatoes and meat; satire is the aquefortis: wit is the spice and pepper; love-letters are the honey and sugar; and letters containing the remittances are the plums.

A boy eight years old, in one of our public schools, having been told that a reptile "is an animal that creeps," on being asked to name one on examination day, promptly replied, "the baby."

A brutal old bachelor declares that pretty women kiss one another on coming into a room because it is a graceful custom; they do it on going away because they are delighted to loose sight of one another.

If matters that are useless generally, end in smoke, "how useless must cigars be," remarks a correspondent.

A gentleman in the country, a few days ago, sat down on a hornet's nest to rest himself. It did not take him long to rest.

## On Strawberries.

The strawberry is one uv nature's sweet pets. She makes them worth fifty cents, the furst she makes, and never allows them to be sold at a mean price.

The culler uv the strawberry is like the sitting sun under a thin cloud, with a delicate dash uv the rainbo in it; its fragrance iz like the breath uv a baby when it furst begins to eat wintergreen lozzingers; its flavor iz like the negtar which an old-fashioned goddess used to have in the bottom uv the tumbler when Jupiter stood treat on Mount Ida.

There is many breeds of this deliteful vegetable, but a mean one in the hull lot.

I think I heve stole them lying around loose, without any pedigree, in somebody's tall grass when I wuz a lazy schoolboy, that eat dreadful easy, without any white sugar on them, and even a bug occasionally mixed with 'em in the hurry of the moment. Cherrys is good, but they are too much like suckin' a marble with a handle tew it. Peaches is good, if you don't git anny ov the pin feathers intew your lips. Watermillons will sute ennybody that is satisfied with half sweetened drink; but the man who can eat strawberries, besprinkled with crushed sugar and bespattered with kream, (at somebody else's expense.) and not lay hiz hands on hiz stummuck, and thank the author ov strawberrys, iz a man with a wornout conscience—a man whose mouth tastes like a whole in the ground, and don't care what goes down it.—*Josh Billings.*

Mary had a little lamb, With hair as fine as silk; Tho longer Mary lived, the more She found that lamb a bilk. For all the hair was only flax, On that deceitful brute; But Mary hadn't much to say, For her's was only jute.

**Another Version of the Above.**

Mary's got von leetle schepe;
His vleece vas white as vool;
Und every place vhere Mary's bin
Dat leetle schepe has been come too.

A Correspondent who has read much about women as "etherial creatures," wants somebody to throw a lively girl over his shoulder and attempt to elope with her. He adds: "You will think she is made of pig iron. It will take at least three men to run away with one girl if she is anything of a kickist."

## Meteorological Observations.

At Sacramento, Cal., by Thos. M. Logan, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″ W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. Month and Day. | Daily Means of: Barometer Corrected. | Temp. Air. | Rel. Hmdty. Saturn 100. | Force of Vapor. | Amount of Cloudiness. | Tser*: Maximum. | Minimum. | Range. | Wind: General direction f'm which it moves, and the Forces. | | R'n† Gauge 30 ft. ab've surf'ce |
|---|---|---|---|---|---|---|---|---|---|---|---|
| May. | Inhs. | Deg. | Fr. C. | Inhs. | 0–10 | Deg. | Deg. | Deg. | Direction. | F'ce. 0–10 | Inhs |
| Thurs...25 | 29.888 | 70 | 56 | .401 | 3 | 82 | 56 | 26 | S. | 2 | ..... |
| Friday..26 | 29.844 | 61 | 62 | .319 | 10 | 72 | 48 | 24 | S. E. | 2 | 0.250 |
| Sat'day..27 | 30.036 | 59 | 63 | .315 | 6 | 70 | 46 | 24 | S. E. | 3 | 0.180 |
| Sunday..28 | 29.855 | 54 | 69 | .296 | 10 | 57 | 47 | 10 | S. E. | 2 | 0.106 |
| Monday.29 | 29.885 | 57 | 45 | .229 | 1 | 67 | 42 | 25 | S. E. | 2 | ..... |
| Tuesday 30 | 29.910 | 61 | 48 | .285 | 0 | 75 | 42 | 33 | N. & S. E. | 2 | ..... |
| Wednes 31 | 29.960 | 64 | 47 | .281 | 0 | 81 | 46 | 35 | S. E. | 3 | ..... |

* Thermometograph. † Rain.

Remarks.—The meteorology of the last week in May affords an instructive lesson to our agriculturists, which, among its other teachings, should lead them to calculate, at least, upon a late rain in May, and always to be ready to take advantage of it, for "opportunities are angel's visits."

In our table, published last week, of the rain-fall in May for 22 years, it is found that the average for that month is 0.799 inches, and that in one year only did it fail to exceed a sprinkle. It will be observed, also, by referring to the same table, that the rains in May fell during the latter half of the month, just in time to revive the vegetation—attended as they always are with cool refreshing weather, as the week's record above shows. Such a seasonable spell as has just occurred, demonstrates the value of our statistics, and the benefits that may accrue from their close study, to our intelligent culturists. The rain-fall for this season stands now, thus:—

| | | | |
|---|---|---|---|
| October | 0.020 inches. | February | 1.919 inches. |
| November | 0.584 inches. | March | 1.690 inches. |
| December | 0.971 inches. | April | 1.154 inches. |
| January | 1.875 inches. | May | 0.556 inches. |

Making a total of 7.769 inches; being about the same amount we had in the season of 1863–4, when the crops failed to come up to anything like the present promising yield. The reason of this latter fact is to be found in the more uniform distribution of the moisture during each month—the slow and gradual manner of the precipitation — the large proportion of cloudy days, and the concomitant cool and genial weather. It is remarkable, however, as pointed out by a correspondent in last week's issue, that February, which is one of our last rainy months, constituting generally a period of interregnum between the former and the latter rains, should have proved the most humid—thus affording ground for the plausible supposition, that it was the abundant rain in this month that secured the present promising crop.

## Meteorological Observations in Tulare County.

[Reported expressly for the Press, by Isaac B. Rumford, of Orange Grove.]

| May, 1871. | Ther. S* | 1½ | S† | Barometer. S* | 1½ | S† | Ins of R'n | Remarks. |
|---|---|---|---|---|---|---|---|---|
| Mon. 1 | 53 | 76 | 76 | 29.16 | 29.10 | 28.99 | | Clear. |
| Tu. 2 | 62 | 90 | 85 | .09 | 28.94 | .82 | | Clear. |
| We. 3 | 71 | 96 | 88 | 28.99 | .77 | .70 | | Variable. |
| Th. 4 | 54 | 84 | 70 | .95 | .89 | .95 | | Variable. |
| Fri. 5 | 62 | 61 | 65 | 29.09 | 29.12 | 29.09 | | Cloudy. |
| Sat. 6 | 57 | 79 | 70 | .15 | .10 | .05 | | Variable. |
| Sun. 7 | 53 | 72 | 73 | .17 | .13 | .01 | | Fair. |
| Mon. 8 | 48 | 73 | 71 | .17 | .11 | .09 | | Fair. |
| Tu. 9 | 52 | 79 | 74 | .20 | .07 | .06 | | Variable. |
| We. 10 | 58 | 74 | 68 | .18 | .14 | .14 | | Variable—blustery. |
| Th. 11 | 46 | 74 | 68 | .19 | .14 | 28.98 | | Fair. |
| Fri. 12 | 50 | 77 | 73 | .13 | .07 | 29.10 | | Fair. |
| Sat. 13 | 55 | 83 | 78 | .24 | .11 | .07 | | Fair. |
| Sun. 14 | 58 | 87 | 83 | .21 | .10 | 28.97 | | Fair. |
| Mon. 15 | 60 | 76 | 79 | .15 | .10 | 29.00 | | Variable. |
| Tu. 16 | 58 | 73 | 70 | .12 | .10 | .04 | | Variable. |
| We. 17 | 52 | 71 | 66 | .09 | .03 | .01 | | Variable. |
| Th. 18 | 48 | 73 | 70 | .16 | .12 | .11 | | Fair. |
| Fri. 19 | 55 | 82 | 76 | .21 | .06 | .05 | | Fair. |
| Sat. 20 | 58 | 86 | 82 | .17 | .01 | .00 | | Fair. |
| Sun. 21 | 60 | 90 | 81 | .13 | 28.85 | 28.88 | | Fair. |
| Mon. 22 | 50 | 75 | 63 | .21 | 29.18 | 29.14 | | Fair. |
| Tu. 23 | 52 | 80 | 72 | .20 | .10 | .06 | | Fair. |
| We. 24 | 52 | 87 | 83 | .17 | .00 | 28.92 | | Fair. |
| Th. 25 | 69 | 96 | 85 | .04 | 28.84 | .93 | | Variable. |
| Fri. 26 | 65 | 89 | 72 | .00 | .82 | 29.02 | | Variable. |
| Sat. 27 | 58 | 75 | 70 | .17 | 29.09 | .03 | | Variable. |
| Sun. 28 | 57 | 69 | 63 | .11 | .03 | .01 | | Cloudy. |
| Mon 29 | 50 | 61 | 57 | .04 | .05 | .04 | .20 | Variable—rain last nt |
| Tu. 30 | 50 | 73 | 69 | .15 | .09 | .10 | | Fair. |
| We. 31 | 59 | 83 | 71 | .16 | .05 | .05 | | Fair. |

* Sunrise. † Sunset.

Rainfall.—Dr. Canfield, of Monterey, reports the total rainfall of that place at 6.46 inches; that for the month of May amounted to just half an inch.

The rainfall in Grass Valley, according to Dr. Kibbe's rain gauge, has been 31.62 inches. Nevada City, only four miles distant from Grass Valley, has been favored with 44.62, or just 13 inches more than the latter place.

The rainfall of San Francisco has been 13.98 inches.

Five inches of rain fell in Portland, Oregon, in the month of May,

## California Industrial Fairs for 1871.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of Septemher.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., June 8th.

FLOUR—The market still continues quiet with a further small decline, and little or no demand, for export.

Transactions embrace 2,000 bbls. California extra, 1,500 bbls. Oregon extra, at current rates.

We quote superfine, $6.75@8.00; extra, $7.62@7.87.

WHEAT—Has still further depreciated during the week, and we quote about 25 cents lower than our last figures. The market is still quiet, under this decline. We quote good to choice at $2.25@2.50. Sales of 10,000 sacks have been reported, during the week, at $2.25@2.50. The only buyers are millers and distillers.

The Liverpool market has advanced a penny, to 12s. 3d. New York rates are given at $1.65.

BARLEY—The market still continues quiet. A sale of 800 sacks is reported at $1.80. At the close we quote at $1.70@1.80.

OATS—The market has slightly declined, with small sales. Quotable at close at $1.80@2.10.

CORN—Is still lower with a weak market; quotable at $2.05@2.15 per cental.

CORNMEAL—Is quotable at $2.75@3.25. according to quality.

BUCKWHEAT—Still quotable at $3.

RYE—Nominal at $2.50 for choice.

FEED—Has still further declined, and we quote: STRAW, $8@9; BRAN, $27.50; MIDDLINGS, $37.50@40.00; OIL CAKE MEAL $40.

HAY—We quote ordiuary to choice at $16.00@$20.00 ₱ ton.

HONEY—Is coming in freely. We quote 12@16c. Potters in 2-lb cans. $9@12 per doz.

POTATOES—Best descriptions are selling $1.75@2.00—inferior may be quoted at $1.25@1.50.

HOPS—Demand light—prices nominal at 9@12½c. for California crop of 1870. Hops of choice quality are scarce at present.

HIDES—We quote Dry, slaughterer's stock, 17@18½c; Salted, 8@9c. Sales duriug the week 2,610 Cal. dry.

WOOL—The market is still active and prices a trifle improved from our last report. It is probable that good prices will continue until the clip is fully exhausted. Even inferior grades are iu better favor. We quote the range, to-day, from burry to choice at 25@33c while faucy lots, as heretofore are still taken at an advance of regular quotatious. Sales of 375,000 pounds are reported for the week.

The New York market was reported quiet on the 3d, with prices less firm aud the stock of domestic fleece well nigh harvested. There was no disposition on the part of manufacturers to purchase beyond their immediate necessities. Receipts from California were on the increase, and some lots of Northern California, were considered the best yet seen in the market, both as regards staple and conditiou. It is considered that the cheapest lots of wool disposed of in California were the best clips at the highest current rates.

TALLOW—The extremes may be quoted from 8@8½c.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 15½@16c; Oregon, 15@16; Chicago 16c; California Hams 14@15; Oregon do, 16@17c; Califoruia Sugar-cured Hams, 18c; Oregon do, 18@20c; Eastern do, 21@24c; California Smoked Beef, 13@14c.

BEANS.—Extremes of quotations—Bayo, $2.62@$3.25; Butter, small White and Pea, $2.50@$2.75; Piuk, $1.87½.

NUTS—Califoruia Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 7@8c; Hickory and Walnuts, 12½c; Pecan, 23@25c ₱ lb, Cocoanuts $12@16 per hundred.

FRESH MEAT—Owing to the high price of feed, owners are crowding the market with their stock, and prices have materially reduced.

BEEF—American, 1st quality, 8@ 9c ₱ lb.
Do 2d do 6@ c7 ₱ lb.
Do 3d do 4@ 5c ₱ lb.

VEAL—Extremes, 7@10c.

MUTTON—5@5½c ₱ lb.

LAMB—May be quoted at from 6@7c ₱ lb.

PORK—Undressed is quotable at 5@8c. dressed, 10@11.

POULTRY, ETC.—The Market unchanged, Hens $6½@7¼; Roosters $6½@7¼; Ducks, tame, $6@7 ₱ doz; geese, tame, $1.85@2.00 ₱ pair; live turkeys, 18@19c ₱ lb.

WILD GAME—Hare, $1.50@$2.00; Rabbits, $1.25@1.50;

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 30@32½c; California firkin butter, 30@32c. Faucy brands Cal. new are held at a slight advance.

CHEESE—In fair supply, California new, 12@14c., Eastern, 15@16c. for new.

EGGS—California fresh, 28@29c; Oregon 23@24c.

LARD—California Lard, 11-lb tins, 14@15½c; Oregon, 16@17c, according to package.

FRUITS—We submit the following prices, for which we are indebted to A. Lusk & Co.: Strawberries, 2@7c; Apricots, 5@4; Cherries; 8@35c; Gooseberries, 7c; Rhubarb, 1@3c; Asparagus, 3@8c.

CASE GOODS—In 2 lb cans, per doz., Apricots, $4; Apples, $2.50; Blackberries, $4; German Prunes, $4; Grapes, $4; Peach, table, $4; Peach, pie, $3; Pie, assorted, $3; Plum, table, $3,50; Plum, pie, $3; Pears, $3.75; Quince, $3.50; Tomatoes, $2.25; Table, assorted, $3.75.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Dealers report a good enquiry. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demaud for export—local demand has improved. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Luuber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, headed | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and hattens, ½-inch | 20 00 | 14 00 |
| Surfaced, ¾-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, Germau, 12c ₱ lb; Raisins, layer, $3.50@4.25 per box; Currants, Zaute, 10½@11½c.; 50c.

### TABLE OF MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Sugar, crsh'd, lb. | $ 14½@$ 15 | Hemp Seed, lb., $ | 7 @ | 9 |
| Hawaiian, do. | 9 @ 12 | Castor Beans, lb. | 4 @ | 4½ |
| Coffee, Cos. R, lb | 15½ @ 16 | Castor Oil, gal.. | 1 75 @ | 2 00 |
| Rio, do | 16 @ | Linseed Oil, gal | 1 05 @ | 1 10 |
| Tea, Japan, ₱ lb. | 50 @ 90 | Broom Corn, ₱ lb | 3 @ | 5 |
| Green, do | 50 @ 1 00 | Beeswax, ₱ lb | 27 @ | 30 |
| Rice, Haw'n, ₱ lb | 8½@ 9 | Peanuts, ₱ lb | 5 @ | 7 |
| China, do | 6 @ 7½ | Corn Meal, cwt | 2 50 @ | 4 00 |
| Coal Oil, ₱ gal | 50 @ 60 | Onions, cwt | 1 50 @ | 3 50 |
| Candles, ₱ lb | 15 @ 18 | | | |

## San Francisco Retail Market Rates.

FRIDAY, June 9, 1871.

### MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Butter, Cal fr. lb | 35 @ 45 | Wool Sacks, new | 40 @ | 90 |
| Pickled, Cal. lb | 35 @ | Second-hnd do | 67½@ | 70 |
| do Oregon, lb | @ | Wheat-sks, 22x36 | 15 @ | 16 |
| Honey, ₱ lb | 25 @ 30 | Potato G'y Bags. | 23 @ | 24 |
| Cheese, ₱ lb | 20 @ 25 | Second-hnd do | 15 @ | 16 |
| Eggs, per doz | 30 @ 35 | Deer Skins, ₱ lb. | 15 @ | 22 |
| Lard, ₱ lb | 18 @ 20 | Sheep sks, wl on | 50 @ | 75 |
| Sugar, cr., 6½ lb. | 1 00 @ | Sheep sks, plain. | 12½@ | 25 |
| Brown, do, ₱ lb | 10 @ 13 | Goat skins, each. | 25 @ | |
| Beet, do, 7 lb | 1 00 @ | Dry Cal. Hides | Weak | 65 |
| Sugar, Map. lb. | 25 @ 30 | Salted do | Dull | |
| Plums, dried, lb. | 15 @ 25 | Dry Mex. Hides. | 15 @ | |
| Peaches, dried,* | 15 @ | Salted do | 9 @ | |

### PRODUCE, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Codfish, dry, lb | 6 00 @ 12½ | Barley, cwt | 1 75 @ | 1 85 |
| Flour, ex, ₱ bbl | 7 50 @ 7 75 | Beans, cwt | 2 50 @ | 3 00 |
| Superfine, do | 5 50 @ 6 00 | Potatoes, cwt | 2 00 @ | 2 37½ |
| Corn Meal, 100 lb | 3 00 @ 3 25 | Potatoes, new | 2 00 @ | 2 37½ |
| Wheat, ₱ 100 lbs | 2 35 @ 2 50 | Hay, ₱ ton | 18 00 @ | 24 00 |
| Oats, ₱ 100 lbs | 1 90 @ 2 10 | Live Oak Wood | 10 00 @ | 12 00 |

### FRUITS, VEGETABLES, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Pine Apples, † | 5 00 @ 9 00 | Garlics | 5 @ | 8 |
| Bananas, ₱ lb | 3 00@ 5 00 | Green Peas, ₱ lb | @ | 6 |
| Cal. Walnuts, lb. | @ 20 | Green Corn, doz. | 25 @ | 35 |
| Cranberries, ₱ g | 75 @ 1 00 | Sugar Peas, ₱ lb | @ | 6 |
| Cranberries, O.,¶ | @ 1 00 | Lettuce, ₱ doz | 12 @ | 25 |
| Apples, No. 1, lb. | 4 @ 5 | Mushrooms, ₱ lb | 25 @ | 50 |
| Pears, table, ₱ lb | @ 12½ | Horseradish, ₱ lb | @ | 20 |
| Oranges, ₱ doz | 50 @ 75 | Okra, dried, ₱ lb | @ | 50 |
| Lemons, ₱ doz | 75 @ 1 00 | Okra, green, ₱ lb | @ | |
| Figs, dried, ₱ lb | 15 @ 20 | Pumpkins, ₱ lb. | 3 @ | 4 |
| Asparagus, wh,* | 12 @ 15 | Parsnips, † bnchs | @ | 25 |
| | | Parsley | @ | 25 |
| Artichokes, doz. | 50 @ 75 | Pickles, ₱ gal | 50 @ | 75 |
| Brussel's sprts,* | @ 15 | Rhubarb, ₱ lb | 8 @ | |
| Beets, ₱ doz | 20 @ 25 | Radishes, † buns | @ | 25 |
| Potatoes, ₱ lb | 2 @ 3 | Green Peppers,* Red, do | @ | 25 |
| Potatoes, sweet,* | @ | Summer Squash | 8 | |
| Potatoes, new | 4 @ | Marrowfat, do. | @ | 6 |
| Tomatoes, ₱ lb | | Hubbard, do | @ | 5 |
| Broccoli, ₱ doz | 1 50 @ 2 00 | String Beans, lb. | 8 @ | |
| Cauliflower, † | 2 50 @ 1 25 | Dry Lima, shl | @ | 8 |
| Cabbage, ₱ doz | 3 00 @ 1 50 | Spinage, ₱ bskt. | 25 @ | 50 |
| Carots, ₱ doz | 10 @ 25 | Salsify, ₱ bunch | 12 @ | 25 |
| Celery, ₱ doz | 75 @ 1 00 | Turnips, ₱ doz | @ | 25 |
| Cress, ₱ doz bun | 20 @ 25 | Asparagras | 8 @ | 12½ |
| Dried Herbs, b'h | 25 @ 50 | New Tomatoes,* | @ | 50 |
| Egg Plant | @ | | | |

### POULTRY, GAME, MEATS, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Chickens, apiece | 75 @ 1 00 | Tongues, pig, ea | @ | 15 |
| Turkeys, ₱ lb | 20 @ 25 | Bacon, Cal., ₱ lb | 18 @ | 20 |
| Ducks, wild, ₱ p | | Oregon, do | 18 @ | 20 |
| Tame, do | 1 50 @ | Hams, Cal, ₱ lb. | 18 @ | 20 |
| Teal, ₱ doz | | Hams, Cross' s c | @ | 25 |
| Geese, wild, each | 37½@ 50 | Choice D'field | @ | 25 |
| Tame, ₱ pair | 2 50 @ 3 00 | Whittaker's | @ | 25 |
| From Chicago. | @ | Johnson's Or. | @ | 25 |
| Hens, each | 75 @ 1 00 | Salmon, ₱ lb | 10 @ | 12 |
| Snipe, ₱ doz | 1 25 @ 1 50 | Smoked, new,* | 10 @ | 12 |
| English, do | 2 50 @ 3 00 | Pickled, ₱ lb | 6 @ | 8 |
| Venison, ₱ lb | @ | Rock Cod, ₱ lb | 10 @ | 12 |
| Quails, ₱ doz | | Kingfish, ₱ lb | 25 @ | |
| Pigeons, dom. do | 3 00 @ 3 50 | Perch, s water, lb | 10 @ | 12½ |
| Wild, do | 1 50 @ 2 00 | Fresh water, lb | 12½@ | 15 |
| Hares, each | 40 @ 50 | Lake Big. Trout* | @ | 25 |
| Rabbits, tame | 50 @ 1 00 | Smelts, ₱ lb | 6 @ | 8 |
| Wild, do, ₱ dz | 1 75 @ 2 00 | Herring, fresh | | |
| Squirrel, ₱ pair. | 25 @ 38 | Sm'kd, per 100 | @ 1 00 | |
| Beef, tend, ₱ lb. | 20 @ 25 | Tomcod, ₱ lb | @ 20 | |
| Sirloin and rib | 18 @ 20 | Terrapin, ₱ doz | 3 00 @ 4 00 | |
| Corned, ₱ lb | 10 @ 12 | Mackerel, p'k, ea | | |
| Smoked, ₱ lb | 15 @ 18 | Fresh, do | | |
| Pork, rib, etc., lb | 12½@ 15 | Sea Bass, ₱ lb | @ | |
| Chops, do, ₱ lb | 12 @ 15 | Halibut | 62 @ | 75 |
| Veal, ₱ lb | 15 @ 20 | Sturgeon, ₱ lb | 4 @ | 5 |
| Cutlet, do | @ 20 | Oysters, ₱ 100 | 1 00 @ 1 25 | |
| Mutton chops,* | 12½@ 15 | Chosp. ₱ doz | @ 1 00 | |
| Leg, ₱ lb | 12½@ | Turbot | @ 40 | |
| Lamb, ₱ lb | @ 12½ | Crabs ₱ doz | @ 1 00 | |
| Tongues, beef, ea | @ 75 | Soft Shell | 37 @ 50 | |
| | | Shrimps | 10 @ 12 | |

* Per lb. † Per dozen. ¶ Per gallon.

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## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations*

FRIDAY, June 9, 1871

| | | |
|---|---|---|
| IRON.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb | | |
| Scotch and English Pig Iron, ₱ ton | $32 50 | @$33 00 |
| White Pig, ₱ ton | 40 00 | @ — — |
| Refined Bar, bad assortment, ₱ lb | — 03 | @ — — |
| Refined Bar, good assortment, ₱ lb | — 04 | @ — — |
| Boiler, No. 1 to 4 | — 04¾ | @ — — |
| Plate, No. 5 to 9 | — — | @ — 04½ |
| Sheet, No. 10 to 13 | — 04½ | @ — 05 |
| Sheet, No. 14 to 20 | — 05 | @ — 05½ |
| Sheet, No. 24 to 27 | — 05 | @ — 06½ |
| COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb. | | |
| Sheathing, ₱ lb | — — | @ — 26 |
| Sheathing, Yellow | — 20 | @ — 21 |
| Sheathing, Old Yellow | — 10 | @ — 11 |
| Composition Nails | — 21 | — 22 |
| Composition Bolts | — 21 | — 22 |
| TIN PLATES.—Duty: 25 ₱ cent. ad valorem. | | |
| Plates, Charcoal, IX ₱ box | 12 00 | — — |
| Plates, I C Charcoal | 10 00 | 10 50 |
| Roofing Plates | 10 00 | 10 50 |
| Banca Tin, Slabs, ₱ lb | — — | — 42 |
| STEEL.—English Cast Steel, ₱ lb | — 15 | — 15½ |
| QUICKSILVER.—₱ lb | — — | — 80 |
| LEAD.—Pig, ₱ lb | — 06 | — 07 |
| Sheet | — 09 | — |
| Pipe | — 10 | — 11 |
| Bar | — 08 | — 09 |
| ZINC.—Sheets, ₱ lb | — 9½ | — 10 |
| BORAX.—Refined | — 25 | — 30 |
| Borax, crude | — 5 | — — |

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, June 8.

SOLE LEATHER.—Price still continues the same, there being a scarcity of light weights.

| | |
|---|---|
| City Tanned Leather, ₱ lb | 26@30 |
| Santa Cruz Leather, ₱ lb | 26@30 |
| Country Leather, ₱ lb | 25@28 |

All French goods still have an upward tendency, with a growing scarcity of leading stocks. No change in domestic skins.

| | | |
|---|---|---|
| Jodot, 8 Kil., per doz | $62 00@ | |
| Jodot, 11 to 19 Kil., per doz | 82 00@ | 96 00 |
| Jodot, second choice, 11 to 15 Kil. ₱ doz | 68 00@ | 88 00 |
| Levin, 12 and 13 Kil., per doz | 68 00@ | 70 00 |
| Cornellian, 16 Kil., per doz | 72 00@ | |
| Cornellian, 12 to 14 Kil., per doz | 68 00@ | 70 00 |
| Ogerau Calf, ₱ doz | 54 00@ | |
| Mercier Calf, 16 Kil., per doz | 65 00@ | |
| Common French Calf Skins, ₱ doz | 35 00@ | 75 00 |
| French Kips, ₱ lb | 1 00@ | 1 30 |
| California Kip, ₱ doz | 60 00@ | 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ | 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ | 1 25 |
| Eastern Calf for Backs, ₱ lb | 1 15@ | 1 2[illegible] |
| Sheep Roans for Topping, all colors, ₱ doz | 8 50@ | 13 00 |
| Sheep Roans for Linings, ₱ doz | 5 50@ | 10 50 |
| California Russett Sheep Linings | 1 75@ | 5 50 |
| Best Jodot Ca f Boot Legs, ₱ pair | 5 25 | |
| Good French Calf Boot Legs, ₱ pair | 4 50@ | 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 | |
| Harness Leather, ₱ lb | 30@ | 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ | 72 00 |
| Skirting Leather, ₱ lb | 34@ | 37½ |
| Welt Leather, ₱ doz | 30 00@ | 50 00 |
| Buff Leather, ₱ foot | 20@ | 24 |
| Wax Side Leather, ₱ foot | 18@ | 20 |

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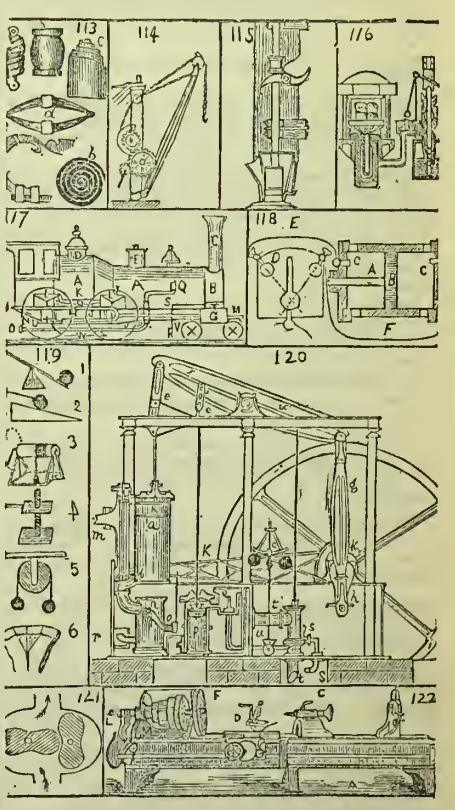


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Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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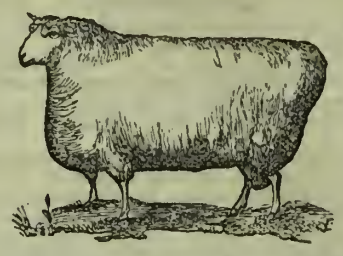

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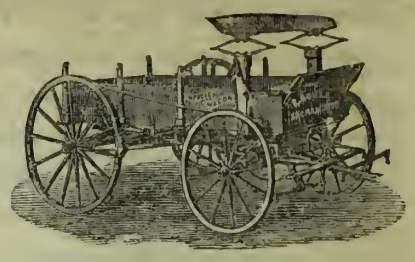

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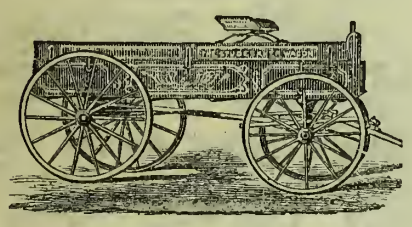

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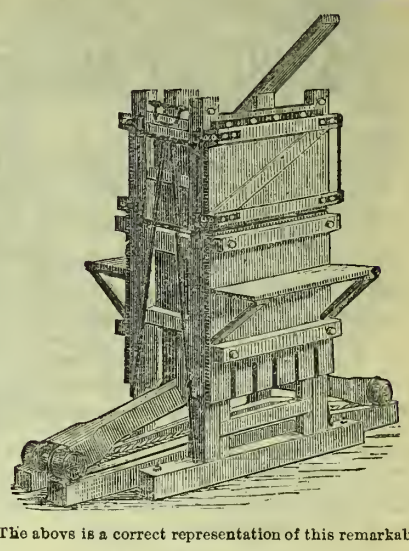

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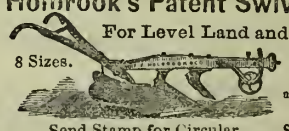

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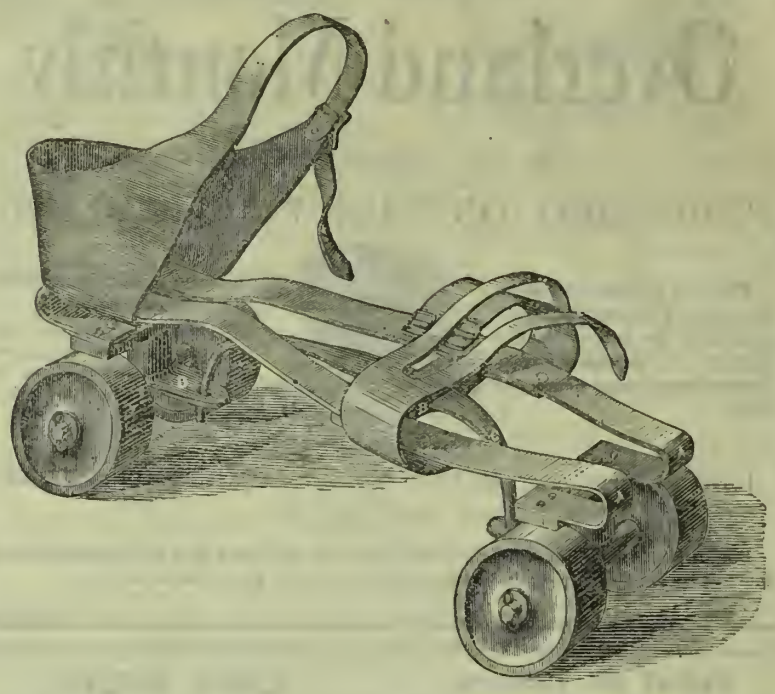

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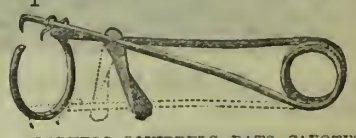

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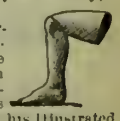

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PACIFIC RURAL PRESS

Volume I] SAN FRANCISCO, SATURDAY, JUNE 17, 1871. [Number 24.

## The Percheron Horse.

We have the pleasure of offering to our readers the annexed beautiful portrait of a pure Percheron, which it is hardly necessary to say, was taken from life.

"Leo" is a splendid stallion imported by and the property of Edward Schreiber, a prominent farmer near Allentown, Pa.

About two years ago being impressed with the value of this breed of horses for the American farmer, and also aware of the difficulty of procuring the best strain of blood there, by sending for them through others, he visited France himself, so as to procure the very best selections by personal examination. He travelled around extensively, seeing large numbers of these horses, and finally selected five stallions and one mare, for shipment. Owing to a long and rough voyage one of the stallions was so severely injured that he could not recover, and was thrown overboard. The other five arrived safely, and are now at his fine farm near Allentown.

If it is true that "he who makes two blades of grass grow where only one grew before," deserves well of his country, it is equally true of persons like Mr. Schreiber, who risk their capital in introducing into the country at an outlay of several thousand dollars, valuable improved breeds of live stock of any kind, and especially such as these splendid Percherons.

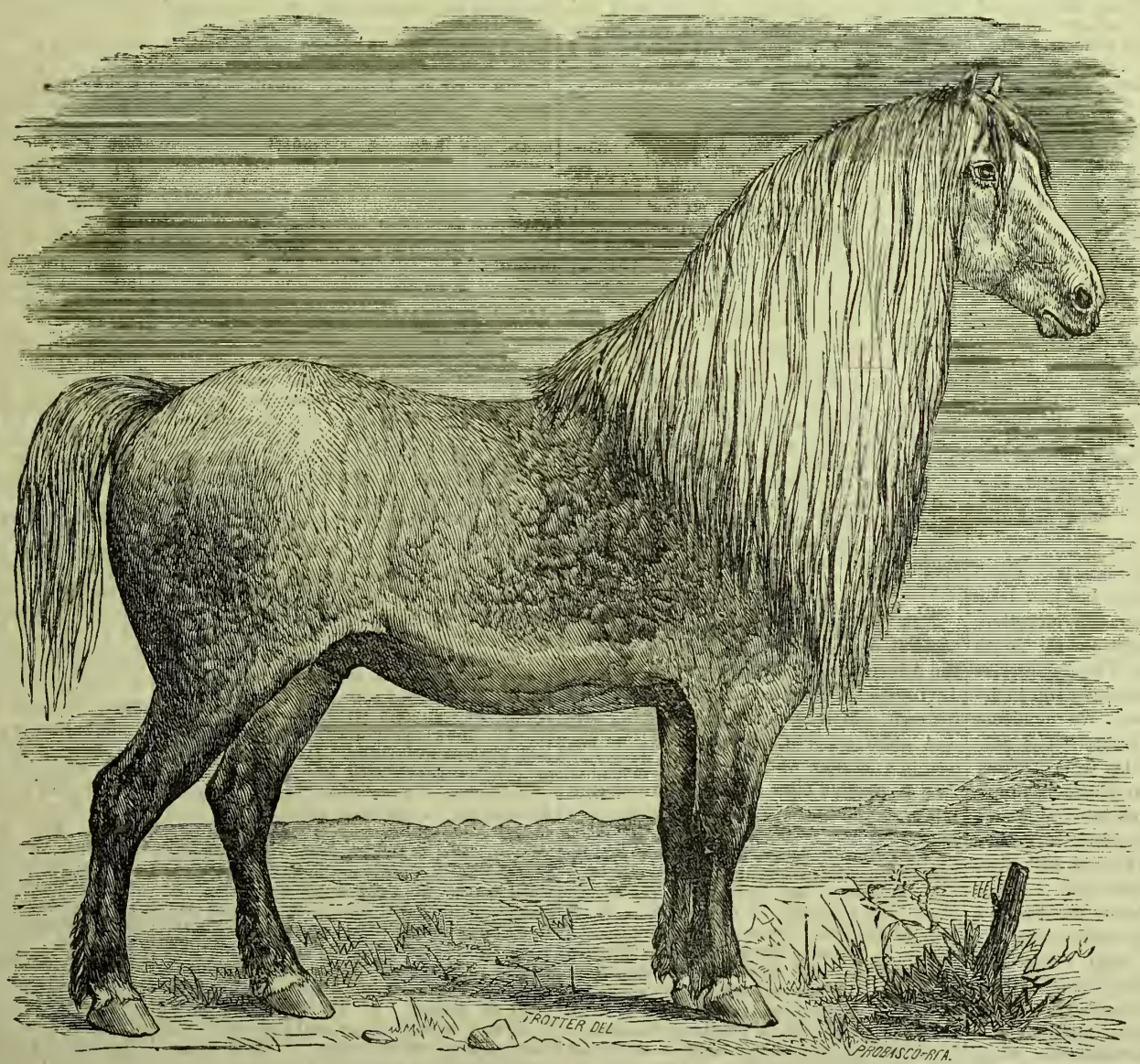
Leo, herewith represented, shows in a very marked degree the Arabian descent, in his long silky mane, prominent eye, fine ear, and general conformation. No other breed of horses combines such general and sometimes opposite qualities as the pure Percheron, and in his native country he seems required to possess what cannot be obtained from any other horse—great draft power with quick step and action. These are qualities which perhaps more than any others are at this time are of the greatest practical value on the Pacific Coast.

Of the courageous patience of this class of horses, samples are constantly seen in the streets of Paris, "where he drags at a trot heavy loads, the weight of which is said to frighten the imagination, stopping short both in ascending or decending, starting off freely, and always without balking, never sulking at his work or food, and fearing neither heat nor cold."

The Percheron horse, dating back to the time of the Crusaders, when the Arabian cross was obtained, propagates with sufficient uniformity, and has such definitely marked typical qualities, as to be entitled to the designation of a distinct breed. His native province, Perche, is a hilly country, ascending and descending which, has developed wonderfully strength and soundness in shoulder and limb. While in London a traction of only 2,000 lbs. is required of a draft-horse, in Paris a Percheron, harnessed to stone-carts, often drags 5,000 lbs. and sometimes more.

Another strong peculiarity in this horse is his uniform good temper. They are the family pets and favorites in Perche, and the children, as soon as able to hold a whip, are said "to live among the horses and play between their legs. The women and children have the care of them while the men are in the field at work.

It is gratifying to notice the interest which is now being taken on the Pacific Coast to improve our working horses with this really valuable blood. An article will be found in another column of the present issue making further reference to this breed of horses—especially with regard to their color. The representation herewith given is from an electrotype taken from the original, which first appeared in the Philadelphia *Practical Farmer*, in February last.




PERCHERON "LEO."—PROPERTY OF E. SCHREIBER, NEAR ALLENTOWN. PA.

Important Coal Discoveries are reported on one of the islands of the coast of Alaska. The coal is said to be superior to any yet discovered on this coast, and can be delivered here at six dollars per ton. If such is the fact, the discovery is most important and opportune.

## Fine Sheep.

By invitation, we this week visited the flock of pure-blooded Silesian sheep, lately imported by Robert Beck, Recording Secretary of the State Agricultural Society. These sheep may be seen on the farm of Daniel Flint, about one mile south of Sacramento City.

There are in the lot twenty-three bucks and sixteen ewes. We think this is one of the most valuable importations of sheep ever made into the State. They will do much towards improving our flocks. They produce wool on all parts of the animal except the hoofs, ears and eyes; and the peculiarity of this class of Merinos is that the wool is even and fine on all parts of the carcass. The finest German doeskin or broadcloth is manufactured from the wool of this particular stock. The sheep were being sheared when we visited them, and one of the fleeces just taken off was weighed in our presence. The weight was seventeen pounds—heavy. This fleece was from a three-year old ram. Those who want to breed fine wool sheep have now a rare opportunity to prepare themselves to do so.

The Grape Crop.—Favorable reports still continue to come in from the grape crops. An immense number of new vines will come into bearing for the first time this season.

## Exchange of Fruits.

A large number of the Eastern Agricultural and Horticultural Societies have accepted the invitation of our State Society to exchange specimens of fruit for exhibitions at the respective Fairs, and the arrangements for such exchanges are being completed. We may therefore expect to see, side by side, at our State Fair, fruits from very many of the Eastern States, and thus to be able to judge of the relative merits of each. This will be a portion of the exhibition that must prove very interesting and instructive, and will probably lead to an exchange of other classes of articles in the future, and thus introduce a custom that cannot be otherwise than useful to our State.

Samples of our own fruit will be exhibited at the several Fairs in the East and will be worth more to us in the way of attracting attention and immigration to our State, than thousands of dollars spent in circulating published facts and documents on our resources and advantages. It is impossible now to foresee the many advantages that will grow out of the introduction of this new feature in our fairs.

Farmers' Club at Watsonville.—The subject of the formation of a Farmers' Club for the Pajaro Valley is being agitated at Watsonville. The *Pajaronian* is urging the importance of such an organization. So much has been written and said as to the benefits which attend the organization of Farmers' Clubs that it would seem to be needless for us add a single word commendatory of their purpose.

Fair at Petaluma.—The Directors of the Sonoma and Marin District Agricultural Society have fixed upon the 25th day of September for the commencement of their annual exhibition, which will continue six days, at Petaluma. The plentiful harvest in that portion of the State will no doubt bring out a large attendance at their annual festival.

White Canaries.—Pure white and grey canaries were imported on the last China steamer.

Rain-Fall.—Three and a half inches of rain fell at Shasta in the month of May, 1871. There ought to be good crops there. A slight shower visited the central coast regions of the State on Monday, and another "sprinkle" on Tuesday night.

Corn and Hogs by Rail.—A lot of corn was received from Iowa by rail, a few days since, which met with a prompt sale at $1.85. Two more car loads are at hand. A procession of 300 hogs passed through this city a day or two since, just arrived by rail from the East.

## MECHANICAL PROGRESS.

THE "WOOLWICH INFANT."—This is the nickname of the 35-ton gun, which has recently been tested. *Nature* for May 18th has a notice of it, from which we condense: "That the gun is not merely a show production, as was the case with the monster Krupp cannon, but a really serviceable and efficient fire-arm, is shown by its endurance of the severe test to which it was subjected at proof. On this occasion the 700 lb. projectile was thrown from the gun by the enormous charge of 130 lbs. of gunpowder—the largest, in fact, that has ever been safely consumed in any fire-arm—the explosion being without the slightest injurious effect upon the steel bore or surrounding wrought-iron castings. The solid cylinder of iron which constituted the shot issued forth at the terrible velocity of 1,370 feet per second, and, after traveling some fifty yards, buried itself in the butt of loose earth to a depth of thirty-three feet. * * It is calculated that at a distance of fifty yards the heavy projectile would be thundered forth with such force as to penetrate fourteen and a half inches of solid iron, an armor plate such as no vessels of our present construction are enabled to carry. At two thousand yards—at upwards of a mile, therefore—the shot would possess enough penetrating force to pass clean through the side of the strongest ironclad afloat. * * The utmost distance to which "the Woolwich infant," as it has been nicknamed, will in all probability be capable of projecting a shell is about ten thousand yards, supposing the arm to be laid at an elevation of some thirty-three degrees. So satisfactory, indeed, has this experimental structure turned out, that a further batch of sister guns have forthwith been commenced, and will serve to arm some of our heavy iron-clads which are now building. Only a small number of such weapons will be carried by these vessels—two, or at the most four, apiece—and thus our modern men-of-war will present a perfect contrast to those of a dozen years ago, when a ship, being regarded merely as a box of guns, sometimes received on board as many as a hundred and thirty cannon. Nevertheless, a broadside delivered from four guns of these giant dimensions (for the whole armament being carried in turrets may be brought to bear at one time), representing almost a ton and a half of metal, very far exceeds that which an old first-class three-decker could throw into her antagonist, and would indeed be sufficient to sink most vessels at a first discharge."

TERRA COTTA.—This material, which sixty years ago was in favor, but has been out, is again attracting much attention. The International Exhibition at South Kensington is rich,—says *The Engineer*,—in terra cotta. That journal goes on to describe the manufacture. We condense from the issue of May 12th:—"The substance of the article is clay from Dorsetshire and elsewhere. The blocks or lumps being dried, are hammered into fragments, ground and sifted; the fine powder is then moistened, and becomes plastic, and, after kneading, perfectly homogenous. It is then pressed by hand into plaster moulds, and afterwards hand finished with all the care bestowed by the artist upon a block of marble. The 'touching-up' process having been completed, the cast is allowed to stand in a room until a considerable portion of the remaining moisture has evaporated. A lighter tint then shows itself, and the clay becomes sufficiently hard to be handled without receiving any impression or distortion. It is very important that this drying of the clay should take place equally in all parts. A draught of air setting in one direction may produce an unequal drying, and the effect will be seen in a cracked and distorted figure when the object is taken out of the kiln. When duly hardened by the atmosphere, the terra cotta casts are put into the kiln and baked, or 'fired.' If this operation be effectually performed, the clay becomes slightly vitrified and extremely hard, so much so that a pointed steel instrument, such as a knife, produces no effect if drawn across the surface, but sends forth brilliant sparks. This is the test of true terra cotta. Arches, pillars, friezes, chimney shafts, and other architectural devices and decorations, are produced in terra cotta, at a price from half to one-third that of Portland stone. In some instances it is glazed, as in the case of garden seats, thereby producing a smooth and glassy surface. In reference to the decorative use of terra cotta, it is observable that the more elaborate the decoration is made the greater is the cheapness as compared with stone. The manufacture is largely on the increase, and there can be no doubt that the present Exhibition will give additional impetus to this ornamental industry."

A NEW LATHE.—The *Cabinet Maker* for May 20th has a description of a recent English invention, from which we extract:—"It is for turning articles in wood of any desired shape, and any length, without "chucking" the pieces. The machine is of a lathe-like form provided with a hollow mandrel, through which the blank is caused to pass by feeding mechanism which consists of a pair of rollers, one of which is plain and the other toothed or serrated. The rollers are adjustable by springs, so that blanks of any size within the diameter of the hollow mandrel can be placed between them. The blank as it leaves the feed rollers is acted upon by rotating cutters, which reduce the wood or metal to a circular form to prepare it for the shaping cutters. The blank then enters the hollow mandrel and passes through it, when the shaping cutters are caused to act and produce hollows and projections upon it according to the shape of the pattern plate, which is upon a wheel on the side of the machine. The wheel is fitted in a slot in the frame, so that it can be removed and others placed in its stead according to the length of the article to be produced. The cutters are preferably of V shape and revolve at a high speed; they are caused to act upon the blank by means of a pin which works against the pattern plate. The cutters are adjustable and follow the undulations of the pattern by means of springs. The article as it leaves the shaping cutters is received by an automatic holder, which is also a polisher or finisher, so that the article before it finally leaves the machine is in a finished state. The hollow mandrel can be reduced in size by inserting short tubes into it, and the knives adjusted accordingly. There is scarcely any limit to the variety of articles which can be produced by this lathe; among them may be mentioned wheel spokes and naves, chair legs, table legs and rails, banister columns, pen holders, billiard cues, crochet needles, broom handles, furniture knobs and rails, piano action rods and walking sticks, knife and tool handles, vent pegs and railway trenails, curtain rods and bedstead poles. All that has to be done is to set the machine in motion and enter the stuff between the feed rollers, keeping up piece after piece as the work is completed for any period of time."

NEW SOUNDING APPARATUS.—At a late meeting of the New York Association for the Advancement of Science and Art, G. Livingston Morse described a device of his own, which consisted in arranging several glass spheres, one above the other, within a casing of hemp or leather, the case tapered at both extremities, and containing at its lower portion a small flexible mercurial reservoir, so constructed that, on receiving pressure, the mercury will be forced from the reservoir into another vessel. When the instrument descends in the water, the quantity of mercury forced by the pressure from the reservoir into the receiving vessel determines the precise pressure, and indicates the exact depth of the water. A freezing mixture is intended to surround the mercury, and keep it at an even temperature. A weight is fastened to the instrument, which weight is detached when it strikes bottom, and then the instrument immediately rises to the surface. No line is used.

PINS.—The annual product of pins in the United States is 2,000,000 packs, each pack containing 3,300 pins, or a total of 6,600,000,000. This is the yield of eight factories. One manufacturers' agent in Boston, according to the *Commercial Bulletin*, sells every six months 1,000 cases, each containing 672,000 pins. The factory represented turns out eight tons of pins per week. Hair pins are jobbed by the cask, and but one factory makes them, but that at the rate of fifty tons per month. The machine which cuts and bends the wire, makes 360 hair pins a minute, ready for japanning. The production and consumption of pins increases ten per cent. annually.

## SCIENTIFIC PROGRESS.

A NEW CONNECTION FOR THE INDUCTION COIL.—Prof. E. J. Houston describes in the *Journal of the Franklin Institute* for June, some experiments made with a view of increasing the quantity of the spark of the induction coil without greatly diminishing its length. By connecting one of the poles with the earth, and the other with a large insulated conductor, a thick quantity spark five inches in length was obtained with an instrument which throws a six-inch spark in free air. We quote: "One of the poles or ends of the secondary wire was connected with the earth by a copper wire attached to a gas pipe. The other pole was connected with a wire, which rested on a large lecture table holding the coil. On turning the break piece, the electricity, instead of being lost by passing along the wires to the earth, jumped from the pole connected with the table, to that connected with the earth. The thickness of the spark was greatly increased, its length diminished, and its color changed to a silvery white, as when a Leyden jar is placed in the path of the discharge. While the electricity is flowing between the points, long sparks may be drawn from any part of the table, or from any metallic article within eight or ten feet of the coil. * * A large insulated conductor was extemporized by placing some old tin stills and percolators on large glass jars. On connecting one of the poles with the gas pipe, the quantity of the spark was increased. The conductor was then divided into two, of about equal size, which were connected with the poles. The quantity of the spark was increased, with, however, great diminution in the length. By successively diminishing the size of one of the conductors, and increasing that of the other, the length of the spark was increased, without any sensible diminution in its quantity, until, when one of the conductors was less than one square foot in surface, a fine quantity spark of about *five inches* was obtained. * * * In all the experiments in which one pole was in partial connection with the earth, as when it rested on the table, the loss of electricity must have been very great, for several gas and water pipes are in connection with the table. If, then, the table merely serves as an imperfectly insulated conductor, which allows the rapid induction of electricity in the secondary wire by its rapid discharge, and thereby, notwithstanding the loss, gives so great an increase in the quantity of the spark, it would seem, that if, instead of the table, an insulated conductor of very large surface were used, a much greater increase in quantity would be obtained."

LIGHT THROUGH COLORED GLASS UPON VEGETATION.—At the last monthly meeting of the Pennsylvania Society for promoting Agriculture, General Pleasanton read an essay upon the chemical effect of the sun's rays upon vegetable life when transmitted through different colored glass. The following experiment with a grapery was noticed. The grapery was 84 feet by 26, and 16 feet high at the ridge. Into the glazing, at every seventh row of panes of white glass, a row of violet glass was introduced, alternating on opposite sides of the roof, so that a violet beam should fall eventually on every leaf in the grapery. The cuttings planted grew rapidly and new wood was noticed daily. In a few weeks the walls and inside of the roof were closely covered with luxuriant foliage. Experts pronounced the vines thus treated far superior to those grown in the usual way. Cuttings planted in 1861, in 1862 produced a wonderful crop of grapes. In 1863, the amount of fruit was equally large, and has continued thus, season after season without abatement, the vines seeming to require no time to rest.—*Iron Age, May* 18.

OZOCERITE.—In our issue for June 3d we gave an item from London *Engineering*, in which this substance,—there called "ozokerit,"—is spoken of as a vegetable wax. Prof. Wurtz, in a late number of the *Gas-Light Journal*, says of it: "Ozocerite is nothing more, or less, or other, than mineral paraffine, which is an abundant natural product concomitant with our Pennsylvania petroleums. It was first discovered as a mineral species in 1833, in Moldavia, by Von Meyer, and is known throughout the German countries quite familiarly as "*Erdwachs*" (earthwax.) Its composition approaches carbon 85 hydrogen 15, which appears to indicate (if it belongs to the saturated hydrocarbons, as the most eminent of living chemists, Berthelot, appears to have proven, or what he calls the "formene" or marsh gas series, of the generic or molecular formula $C^n H^{n+2}$) somewhere about the composition $C^{34} H^{36}$, which corresponds exactly to this. I must be remarked that Berthelot's examination of American paraffines by his method of synthesis by hydrogenation, gave him a molecule much more highly condensed than this, namely $C^{30} H^{32}$, calling for the centesimal composition carbon 85.04, hydrogen 14.96. An analysis of Galician ozocerite, by Hofstaedter, is cited by Dana, in his last edition (p. 732) which gave carbon 84.94 hydrogen 14.87. All paraffines, however, both natural and artificial, are evidently mixtures of compounds of typical composition, which may vary within small centesimal limits."

ACTION OF HEAT ON PROTOPLASMIC LIFE. At the meeting of the Royal Society in London May 4th, F. Crace Calvert, F. R. S. read a paper upon this subject which gave rise to a discussion, some of the experiments detailed seeming to prove that life might remain even after a temperature of 300° F. for half an hour. Dr. C. Bastian considered the experiments wholly inconclusive. "With regard to the influence of heat upon the life of Bacteria and many other organisms, Dr. Bastian gave some particulars concerning experiments, which tended to show, as he thought, conclusively, that they were all killed by an exposure in fluids, for ten minutes, to a heat of 60° C. (140° F.) There was no difficulty in ascertaining when Amœbæ or Ciliated Infusoria were killed, though with respect to Bacteria there was much more difficulty. Where the movements were not of an active character, after the Bacteria had been subjected to different degrees of heat, no reliable opinion as to their life or death could be arrived at. Bacteria which were really living might in many cases exhibit movements different in no respect from those which dead Bacteria would display. From the exhibition of such movements, therefore, it could not be positively affirmed that the organisms were living, or that they were dead. The case was different, however, with regard to reproduction—dead organisms could not multiply. Having found a fluid, therefore, which was most suitable for the nourishment of Bacteria, but which seemed wholly incapable of giving origin to them *de novo*, he inoculated portions of it with living Bacteria, and then found that those fluids which had been heated to 50° C. or 55° C. for ten minutes became quite turbid in two or three days, whilst others, heated for the same time to 60°, 65°, 70°, 75° C. and upwards invariably remained clear and showed no signs of turbidity. As living Bacteria will always multiply under suitable conditions in suitable fluids, their failure to multiply was the best evidence that they had been killed."

PHOSPHATE PROCESS FOR UTILIZATION OF SEWAGE.—David Forbes, F.R.S., has a second paper upon this subject. Our readers will remember a notice in the PRESS of his paper read last year before the British Association. He now gives results of the working of the process upon a large scale. We quote from the *American Chemist* for May: "To the disposal of the sewage by distributing it at once over the land, there are several objections. The suspended and most offensive solid matters in the sewage cannot sink into the soil, but remain upon the surface, covering the plants with fœtid matter and polluting the atmosphere; moreover, sewage, although rich in ammoniacal salts, is very poor in phosphates, and therefore its application in general farming is restricted. By the application of the phosphate process these difficulties are overcome. This consists in treating the sewage with a solution of the native phosphate of alumina dissolved in sulphuric or hydrochloric acid, which arrests decomposition and causes the precipitation of the suspended matter. The liquid thus purified will now carry to the land a considerable quantity of soluble phosphates in addition to its other ingredients. The process as in operation at the Tottenham Sewage Works, goes a step further by precipitating *all* the fertilizing materials. The sewage is run into reservoirs along with a suitable quantity of the phosphate solution, and immediately afterwards milk of lime is run in sufficient to neutralize the acid of the solution. This precipitates the phosphates in solution together with all the organic matter, and, after settling, the supernatant water can be discharged into the streams, without polluting them. The purification requires from three to eight hours. * * The writer, however, does not think the manure will pay the cost of the process, though it will nearly do so, and is considerably more advantageous and economical than the other processes proposed."

# CORRESPONDENCE.

## The Sanitary Effects of Coal Oil Questioned.

EDITORS PRESS:—Your correspondent was much astonished by a statement which has been going the rounds of the papers of late, purporting to emanate from a distinguished physician of Santa Barbara, ascribing the immunity which that country enjoys from the ravages of such diseases as scarlet fever, small-pox, diptheria, chills, and the like, to the presence of such large quantities of petroleum in that portion of the State. On perceiving in your last issue that this hypothesis had received the sanction of so eminent an authority as your Santa Barbara correspondent, it becomes necessary to examine the subject more carefully and the result is the unqualified adhesion to the new doctrine by your present correspondent.

The Santa Barbara savans evidently explain the action of the "peculiar ambrosial influence pervading the air," by the aid of the germ theory of disease, and the "well known action of carbolic acid in destroying low forms of animal and vegetable life," and as petroleum is supposed to contain in its complex arrangements of atoms those necessary to the formation of carbolic acid, it does not require a very strong effort of the scientific imagination to convert the potential into the actual.

These curious speculations led your present correspondent to search for some equally startling hypothesis whereby to account for the remarkable fact, that, while San Luis Obispo county enjoys the same immunity as Santa Barbara county from these epidemic diseases, we have here no coal oil save in our lamps and oil cans, so our atmosphere lacks the "ambrosial sweetness" of Santa Barbara. After an immense expenditure of brain force, we have been enabled to give birth to an hypothesis, which we think will explain all the facts, without dimming the lustre of the oleagenous theory of our sister county. We start with the same major premise, viz., that these epidemic diseases are propagated by the presence in the atmosphere of the germs of certain low forms of animal or vegetable life, which in Santa Barbara have been eliminated or destroyed by the happy ambrosial influence of coal oil.

Now Prof. Tyndall in his lecture on Haze and Dust, mentions the remarkable discovery made by Schroeder in his experiments on spontaneous generation, that this microscopic filth can be completely removed from the air by simply passing it through a thin stratum of cotton wool;—the wool acting as a filter; indeed he recommends that the respiratory made of cotton wool be worn by persons who are obliged to enter a contaminated atmosphere.

We suppose that in the discussion of such an important subject as this the change of an adjective will make no material difference, and indeed when we venture to substitute "sheep" for "cotton" as the qualifying word to "wool," we only follow the example of our worthy brothers of Santa Barbara, who make "petroleum" equivalent to "carbolic acid."

A third argument is derived from the well-known fact, that San Luis Obispo county is pre-eminently distinguished from all other counties in the State by the universal presence of sheep. The hills and valleys in every portion of the county, from morn to dewy eve are white with innumerable bands and flocks of Merino sheep. The conclusion therefore is self-evident, that the salubrity of our climate can only be accounted for by the fact that the winds which blow down to us from the northern portions of the State, laden with the germs of scarlet fever, small-pox, diptheria and every other hideous disease which is endemic in those unfortunate regions, having to pass over and through the fleeces of so many thousand sheep are completely filtered of those organic impurities, and that the wretched germs, by a peculiar process of pangenesis, are transformed into that pest of all sheepmen, the scab, and as such require the "carbolic acid dip" for their destruction.

Were it not malicious we would suggest to the Santa Barbara savans that probably the thick stratum of wool between here and Santa Barbara might be as effectual a disinfectant as the coal oil—that there *may* be no germs in the atmosphere—that, indeed, the immunity which we both enjoy *may* be explained more simply than by either hypothesis, i. e., both are sparsely settled counties and in comparatively little communication with the outside world, and these epidemics have never prevailed for the same reason that the climate is not good for bed bugs or cockroaches, which is—that they have never been brought here.

As for us, we live in the belief (shall we say the hope?) that as the county settles up and communication with the outside world is more frequent, we shall be as severely afflicted as other civilized countries, and the time will come when the physician of these southern portions of the country, instead of having to eke out a miserable existence in patching up the effect of night's debauch and assisting into the world a yearly crop of children, will be able to see in this daily practice the same types of disease which they now read in their medical journals with envious eyes! MEDICO.

San Luis Obispo, June 5, 1871.

## The Great Valley of Los Angeles.

EDITOR PRESS:—In your comments upon my letter to Mr. Northam, which was published in your issue of May 13th, your request that some one of your Los Angeles correspondents would give you some information on the character of the soils of this climate.

Although I am not included in this category, not having been one of your correspondents, I will endeavor, however, to give you what information I possess in this relation, and as I have not seen an intelligible description of the great valley of Los Angeles, will premise by giving one as brief as possible.

The great valley, or alluvial plain of Los Angeles county, extends from the sea coast north of the isolated hill of Point Pedro, in a southeasterly direction, parallel to the sea coast, a distance of some forty miles in length, by ten to fifteen in width; embracing all the space between the foothills and the sea. This plain is crossed by the San Gabriel and New rivers, which are in fact, the same stream, running in two channels, the intervening strip of land being called "Los Nietos," or the wet lands; the same terms including also the lands lying contiguous on the east and west sides of said rivers.

This tract extends from the sea to the "Moute," which is simply a continuation, and has heretofore been known as the famous corn region. Next east of the San Gabriel, is the "Coyote," a smaller stream; and lastly we have the "Santana," which rises in the lofty mountains east of San Bernardino, and flows on through the San Bernardino valley, and the low hills, separating that from the Los Angeles valley, passes the town of Anaheim, on its way to the sea, and furnishes an ample supply of water for irrigating the lands contiguous to it, for a distance of some sixty miles.

This great plain or valley seems to have been originally an extensive salt marsh, resembling those around the Bay of San Francisco, and has been reclaimed and made valuable by the constant and long continued deposition of sand, gravel and soil brought down by the rivers, streams and gulches from the adjacent hills and more distant mountains, so that it must be from the manner of its formation, entirely alluvial.

The soil, which is many feet in depth, is composed of a mixture of fine sand, clay and vegetable mold, and is the "cream" from the surface of the back country which has been "skimmed off" by the action of the rains, and deposited in this favored valley, for the benefit of those who have foresight enough to settle upon and possess it.

Its productive powers are wonderful. Its capacity for absorbing and retaining moisture is remarkable, and when once thoroughly broken up and pulverised, it is as mellow and friable as an old and well cultivated garden, and can be plowed and planted at all seasons of the year.

A large proportion of the water flowing in the rivers, sinks during their passage through the low lands, and permeating through the porous soil, *maintains its level throughout the whole extent of the valley*, and is found at a depth of from one to twenty feet from the surface, (averaging about six feet), the depth depending entirely upon the undulations of the surface. The supply is practically inexhaustible, and has not been affected by the drouths of the past two years.

The lands in which sand predominates, and which are not covered with a crust of "hard pan," are always moist to within an inch or two of the surface. Those in which the clay is in excess, (which are much the best) are generally covered with a crust (hard pan) of from six to fifteen inches in thickness, which, when dry, is exceedingly hard to break and pulverize with an ordinary agricultural implement; but which, when wet, swells and becomes friable. If, in this condition, it is well pulverized, and not permitted again to become sodden with excessive moisture, it will remain permanently loose and mellow, receiving from below an ample supply of moisture by the process of capillary attraction, and will never again be dry.

This valley, when properly cultivated, *will be independent of rain;* and the cultivator, in years of drouth, will always be able to raise fair crops.

As this letter is already spun out to a considerable length, I will close with this remark, that, if you desire, I will, on some future occasion, give you my views and experience in regard to this and kindred topics. WM. R. OLDEN.

Anaheim, May 31, 1871.

We should be pleased to hear again, and often from our correspondent.

## The Color of the Norman Horse.

EDITORS PRESS:—I do not wish to bore you on the horse question, and yet I should like to be permitted to answer Mr. W. C. Myer's note, which appeared in the PRESS of May 27th. Mr. Myers there states, at some length, that I have made a false statement in regard to the stock of my horse, and also to prove, by authority, that a Norman horse must necessarily be gray, in order to be a Norman; and if he is gray, then he is all right, according to Mr. M.'s logic; for he says, "Young Rawley was sired by Rollin, and imported into Champagne county, Ohio,"—does not say where from. Now, Mr. Myer makes a wrong statement of the above, and still further says:—"and was a dapple brown; Rawley jr.'s dam, Lady Jane, was from a French horse, Louis Napoleon, from his own statement," he continues, "his horse Rawley is not more than three-quarters blood."

Now Mr. Myer is not excusable for the above statement on any ground but one, and that is, he may not take the RURAL PRESS, but has replied from hearsay to my note to you. I will be lenient and give him the benefit of that doubt; for I don't think any gentleman would so misrepresent, with the facts before him. I would respectfully suggest to Mr. "W. C. M." the propriety of taking the PRESS, so as to post himself on facts. I will re-state the pedigree of Young Rawley and his sire:—"Young Rawley was sired by Rollin; he by Rob Suescard; Rawley's dam, Lady Jane, was sired by the imported horse Louis Napoleon; granddam was a full-blooded Shurman Morgan mare.

*Importation of Rollin.*—Rollin was imported from Normandy, France, by Erastus Martin and Benjamin Gorton, of Champagne, Champagne county, Ohio, landed in New York, Feb. 9th, 1857, by the ship Lion, Capt. Davis; was a dapple brown, or mahogany bay, stood 16 hands high and weighed 1,600 pounds. In the fall of 1857 he was sold to Messrs. Russ & McCota, of Iroquois county, Ill., where he has stood until the year 1868 or 1869, wren he was sold to a farmer in Vermont.

Mr. "W. C. M." says:—"I was in Iroquois county, last October, looking at the Percherons, I did not learn or hear of any brown, bay, or black Percheron horse being imported. Now it is very singular that he did not hear of Rollin; for in 1865 I went to the States, from here, to buy draft horses; and while I was in Wabash, Indiana, I heard of Rollin, and heard him spoken of in the highest terms as being the best Norman horse ever imported to the United States; I also heard of him in Chicago. He was known far and near.

I think the reason why Mr. Myer did not hear of Rollin is that he has a strong preference for gray. And he had purchased, and his horse was gray, etc.

Again, Mr. Myer says (where he is speaking of the Norman as a gray horse), "Those that will read in this matter, and who are familiar with the French author, C. DeHuys, know this to be so." I have his favorite author before me, and this is what he says:—"Formerly I liked the gray horse very much, and have more than once praised this color; but time has dissipated my illusions. Thus, while acknowledging my former preference for the gray horse over the horse of a different shade, I am now very far from showing myself exclusive, and quarreling with the mass of enlightened persons who seem desirous of adopting the dark-colored coats."

Finally, fashion wishing positively no more gray horses, Percheron will find himself in a tight place if he does not conform to the exactions of the age, and become more stylish and darker colored. Let us occupy ourselves, then, seriously in looking up breeding stock of dark coats. Let us look about us and seek for this in Perche. If you there find, under a dark coat, a Percheron possessing all the qualities and specialities of the race, make haste, take him and color your horses. Sincerely I give you this advice."

So much for the authority of C. De Huys, and for my well-read friend and colaborer in supporting and breeding the Norman horse in Oregon.

I will now refer Mr. M. to another author of note, whom he probably knows nothing about—Henry William Herbert. Where this writer is speaking of the Canadian horse, he says:—"The Canadians are generally distinguishable by their colors, of which the prevailing one is black, and probably the second one is a rich, dark brown, often dappled with lighter brown on the shoulders and quarters; after these colors come chesnuts of different shades, but generally running to the sorrels and duns, with manes, tails and legs of lighter color than the body; and lastly dark iron-greys, with black legs. The last, however, which in Normandy is at the present day—with the single exception of black—the commonest color, is, in Canada and the United States the least common."

Mr. Myer can see by *his* author that blacks are the best, and by the other author that blacks are the most common in Normandy. I hope Mr. Myer will improve the liberal offer of the State Agricultural Society and fetch his Norman horse of gray and exhibit. I will be there with Young Rawley and a family of his colts. A. WILSEY.

Petaluma, Cal., June 5th, 1871.

## Personification—California and Oregon.

The following passages were written by Mrs. Frances Fuller Victor, of Oregon, a lady whose genius has given her national fame:

I have thought if I were a painter how I would personate California. She should be a girlish Cleopatra; large, supple-limbed, dusky-brown, fiery, yet indolent; voluptuous, yet unconscious; intellectually a queen; really a dreaming romantic maiden. Her throne should be the russet colored hills; her mantle the violet haze. Her girdle should be gold; her scepter silver, and her crown the native laurel, mingled with wild oats. Behind her throne should tower the grand Sierras; at her feet should murmur the blue Pacific, stretching far away to where on the horizon a white-winged fleet fixed the dreamy look in the lustrous dark eyes of my girl-queen. A fair and fascinating picture, is it not? Fit to fill a niche of our Western Art Gallery.

But opposite to it I would have my Cleopatra's Antony. Young, lithe, strong, and beautiful, with empire written on his brow, and power tempered by mildness beaming from his eyes. Of fair complexion he, with tawny blonde hair and curling golden beard. His robe should be of the richest purple, embroidered with wheat ears, and his crown of burnished gold. His throne should be amidst the rugged mountains, with rolling yellow plains on one hand, and smiling green valleys on the other. His sceptre, shaped like the tapering fir-tree, should be of silver set with opals, garnets and diamonds. At his feet should roll the magnificent Columbia, while in the distance mighty ships should seek its entrance, and over his shoulder the white crest of Mount Hood stand blushing in a rosy sunset. So would I personate the young giant, Oregon.

A REMARKABLE PUMPKIN VINE.—It is said there is a pumpkin vine at Lihue, near Honolulu, which was planted fifteen years ago, and is still growing and bears every year. It grows on the bank of a never-failing spring, which may account for its longevity.

It is quite possible, also, that the distance at which it grows from the place whence this paragraph originated might have had some effect upon character of the report.

# The Orchard.

## Facts About Apples.

Apples dried before they are fully ripened will make more pounds to the bushel than those fully matured.

Very large apples will not yield as many pounds of dried apples to the bushel as smaller ones.

Large apples have larger sap cells than small ones, and less fibre.

Small sized apples will often yield eight pounds of dried apples to the bushel.

A bushel of Baldwins will sometimes make nine pounds of dried apples.

Apples with thick, close textured skins, keep longer than thin-skinned apples.

When a tree overbears the flavor of the fruit is impaired.

The flavor of fruit is dependent upon the maturity of the sap through the leaf.

The leaves are the expanded lungs of the tree, in which the sap is oxygenized and purified.

The flavor of the fruit does not depend upon the character of the sap as carried up from the root, but upon the manner in which the tree breathes; hence the character of the fruit does not follow that upon which it is grafted, but the leaf which the scion produces.

If there is a much larger relative proportion of fruit than leaves, the fruit will be of inferior flavor.

Pick all the leaves from a tree, and not an apple on it will fully ripen.

Large leaved trees always produce large apples, and a nurseryman can pick out of a nursery the trees that will bear large apples before they bear fruit.

Many varieties are naturally tender, and are easily killed out of the nurseries in cold locations; hence the advantage in buying the hardy remaining trees in nurseries so located.

## Trimming Fruit Trees.

If you wish to have flavor in fruit, you must hang it outside of the tree. Inside fruit grown in the shade, is sure not to mature. It lacks color; it will lack fragrance and flavor; will be less crisp and juicy. It is less healthy, also. All fruit should be kept on the outside of the tree, and distributed uniformly. It is no excuse to say the orchard is large. What pays in one tree wil pay in a thousand. We may as well have good fruit, all of it, as not. Some trees will do their own thinning, but many will not, and must be attended to if good, fair, and uniform fruit is desired.

By thinning and distributing, the tree will be strengthened for future bearing. It will have a good look, with the fruit all visible and all alike, and all good, as good as sun and air can make, and is not so apt in a rainy time to become mouldy.

When the top is dense and the circumference close, there should be an opening made at an apex, a thinning out of the branches. Some trees will do this of themselves, but if not it must be done by the pruner. This is not only to let the moist air out, but the moisture from the ground where the branches reach it, the tree seeming like an inverted cup, holding the moisture. Fruit inside of this in a wet season will necessarily be spoiled. There must be air and light, and a degree of dryness for the fruit. If a little sun gets through the apex or elsewhere, it will not hurt any. It breaks the monotony also, and adds to the beauty of the tree. An orchard can thus be treated artistically, and æsthetically, and be made an object of interest to the eye, while at the same time the beauty will be heightened by the sense of the profit. Utility is always a good foundation for beauty.—*Country Gentleman.*

## Eve's Apple Tree.

One of the great botanical curiosities of the Island of Ceylon is "*the forbidden fruit*," or "*Eve's Apple Tree.*" Its native name is *Diwi Kaduru. Kaduru*, signifying "forbidden," and *Diwi* "tigers." Its botanical name, *Tuber memontura dichotoma.* The flowers of this extraordinary production are said to emit a fine cent. The color of the fruit, which hangs from the branches in a very peculiar and striking manner, is very beautiful, being orange on the outside, and a deep crimson within; the fruit itself presenting the appearance of having had a piece bitten out of it. This circumstance, together with the fact of its being deadly poison, led the Mohammedans, on their first discovery of Ceylon—which they assigned as the site of Paradise—to represent it as the forbidden fruit of the Garden of Eden; for although the finest and most tempting in appearance of any, it had been impressed—such was their idea—with the mark of Eve's having bitten it, to warn men from meddling with a substance possessing such noxious properties.

Its effects are so poisonous that two European soldiers, shortly after the capture of Colombo, in 1795, being unaware of the nature of the fruit, were tempted by its appearance to taste it, and very soon sickened and died.—*Horticulturist.*

Whitewashing Trees.—Don't whitewash the bark upon the bodies of fruit or ornamental trees. We are at a loss to know for what purpose some persons thus coat the bark of fruit and shade trees about their premises with lime, unless it is to make them look nice. It certainly does them more harm than good, as it serves to obstruct the respiratory organs, and in a measure, prevents their thrifty growth. Should the bark become diseased and rough, or covered with moss, scrape it lightly with a hoe or a scraper of suitable description; after which wash thoroughly with a strong solution of soap and water. If this is done properly every season it will prove a great benefit, by destroying the insects which prey upon the bark, and otherwise promoting a healthy condition thereof, and increasing the vigor and vitality of the tree.—*Farm Journal.*

To Restore Leaning Trees.—When a tree, after having been planted a year or two, leans badly—its direction cannot generally be changed entirely by the use of the pruning knife. In this case, go to the opposite side of the tree, and with a spade, loosen and remove the earth from under the roots, and bring back the tree in this way, pulling it over to an erect form, then pack the earth firmly about the roots, so as hold it steady in its place. Only a few of these having been interfered with, the growth is but little checked. Prune it rather more than if not disturbed, especially on the side to which it leaned, and the tree will scarcely feel that it has been touched.

Make Your Trees Branch Low.—Train your pear trees for garden or field use, so that they will branch at a distance of one or two feet from the ground. The advantages are easily enumerated:

1st.—It is easy to trim.

2d.—It is easy to gather the fruit.

3d.—Falling fruit is little injured.

4th.—All branches being sturdy, will not be strained by over-bearing or over-weight of fruit.

5th.—Soil will be kept shaded and moist.

6th.—Trunk will be protected from the scorching sun.

7th.—Tree will grow more and more beautiful.—*Horticulturist.*

## Requirements of a Successful Farmer

A man must know something about farming before he can become successful. He may desire to become a farmer or gardener; but before he becomes one he has something to learn. We are constantly meeting men, both old and young, who say they would like to become farmers. They like fresh milk, butter and eggs, the country air, and fresh strawberries. Oh, yes, they like all these good things, and many of them think they can be had for the asking, no skill being required in their production. "I would like," says another. "to be a doctor or lawyer." Well, do *they* become rich without study? No; nor does any one think of such a thing. Yet it would be just as foolish to think of becoming a scientific and successful farmer without study, as to become a successful lawyer or doctor. A love for the country is not enough of itself to prepare one for being a farmer. There is no business which requires a more thorough observance or a clearer perception of the laws of nature than farming, except, perhaps, that of being a physician; and the two professions are very much alike, for we must study the laws which control life, in both. We trim our trees and care for them, as though they were patients under treatment, and our knowledge of natural laws and principles must be our guide. Perhaps this will account for the success of most of the doctors who have become farmers and gardeners.—*Dr. F. M. Hexmar.*

Kid Gloves.—In France, the great center of the manufacture of kid gloves, it has been found that the hands of the ladies of the higher classes are losing their beauty of form, and scientific men ascribe it to their wearing kid gloves.

Kettles may be cleansed of onion and other odors by dissolving a teaspoonful of pearlash or saleratus in water and washing them.

# The Dairy.

## Dairy Stock.

The Devons were first imported into England from Denmark, in 1623. These were of a prevailing yellow color, their descendants being similar in the main characteristics. They were inter-bred, as a general thing, with occasional crosses with the native Briton. Soil, climate, etc., have improved the original type, and at the present day the Devons, as oxen for draft, have no superiors. The Brittany cow, peculiar to Brittany and adjoining provinces in France, dates back quite as early as the Devon, and has descended through a period of over two centuries, with all its main characteristics preserved. This is the result of close in-and-in breeding the greatest care being observed in breeding, them only with different families of the same breed. They are comparatively small, but are good milkers, yielding a good supply of the richest milk, and, as a consequence, good butter and cheese. They are hardy, easily kept, and eat anything fed to them.

The Jerseys, though good milkers, are dainty creatures, and will not answer for hard or coarse keeping, being much better adapted to family use than for business purposes.

The Ayrshires were first introduced into this country in 1828; and, though not a favorite with the butchers, and but medium for oxen, they make good cows, especially for cheese, yielding large returns for cheap keeping. In Scotland, whence they come, they are highly esteemed, and are exclusively used for dairy purposes. The Ayrshires are also hardy, and are long livers.

The Herefords are large, with spreading horns and white faces, and make excellent oxen, but they are not good for dairy purposes.

The Holsteins, or Dutch, are a late importation. Messrs W. A. & H. L. Green, of Riverpoint. R. I., imported in 1869, from Holland, one bull and four cows of the Holstein breed. They are large, noble looking animals, black and white in color, except one cow—the best in the herd—which is dun and white. The cows are good milkers, yielding rich butter, and are kind feeders, hardy, and healthy. It is through the progeny of these imported animals, when they are sufficiently matured that the question of the adaptation of the Holstein breed of cows to dairy purposes will be determined. As yet, it would be premature to hazard an opinion. Some think very highly of this breed, and unhesitatingly pronounces the Holstein "the coming dairy stock of the country."

A few years ago, a small herd of the famous Brahmin was imported from India into Kentucky. These turned out good oxen and beef, but they are not adapted to the dairy. Damascus cattle, a herd of which was imported by A. Keene Richards, Esq., of Georgetown, Ky., make excellent milkers, fatten readily, and make good beef and fine oxen.

The Alderney is a well-known variety. For the dairy, they are prized more for the richness of their milk than for the quantity they yield. They do not make good oxen, and, are seldom turned into beef, except when their milking career is over.

We come now to the Short-Horns, last but not least in the list of imported stock. As the question of the Short-Horns being thoroughly good milkers, when properly crossed with other stock, has long since been settled to the satisfaction of almost every dairyman in the United States, who is fortunate enough to own them; no further reference will be made to this point. We can say this, however, that, besides being hardy, they have improved every breed with which they have been crossed. They make good oxen, and may be fattened young, and the beef is in the right place. Where the natives are ripe at five years old, the Short-Horns are ready for the butchers at three.

Taking into consideration, therefore, the many advantages this particular breed affords, we must give the preference to well-crossed Short-Horn cattle, especially where 'milking qualities' and beef are the chief desiderata.—*Turf, Field, and Farm.*

## Our Dairy Products.

Although the drouth has reduced somewhat the product of butter and cheese, the past year has been one of general thrift with our dairymen; the prices of their produce having been good throughout the entire year—a very high price for a good portion of it. At one time, the long-continued drouth promised to work a great reduction in the quantity of butter and cheese made, and even threatened serious consequences to the stock; but with the recent moderate amount of rain this danger has been measurably abated, though not yet wholly averted. With railroad communications with the East, however, prices could in no event touch the extreme figures that have sometimes obtained in this market; wherefore there has been no perceptible advance in prices, though dairy products have been in rather more limited supply than usual at this season of the year. The importations of butter here amounted to 31,000 firkins in 1869, to 7,500 last year, and much of this was sold at a loss; wherefore, should any be brought here from abroad the present year, it must be a surplus and will likely entail loss on the importers.

In regard to cheese, there are particular kinds that certain parties prefer, and these will continue to be imported in small quantities. We now make in California, Limberger and Swiss cheese, about equal to the best imported. Martin, and perhaps others of our dairymen, also make the celebrated Gruyere cheese, and other choice varieties, producing an article about as good as the original. In their desire to realize early, many of our dairymen send their cheese to market before it has had time to dry sufficiently. Lying in the warehouse without further attention, it is then apt to get hard and contract a sour or otherwise disagreeable flavor. Last year the production of cheese here was somewhat overdone; an error that is not likely to be repeated this year. The most of our large dairies are so arranged that a change can readily be effected from making cheese to butter, or the reverse, as circumstances may require.

### Increase of Dairies.

A good many new dairies have been started and some of the older enlarged during the year—the increase being equal to 15 or 20 per cent., and making up in part for the deficiency growing out of scanty pasturage. At the rate we are multiplying our milch cows, we will ourselves become exporters of butter and cheese in the course of a year or two, unless we should meantime have a large increase of population.

### General Remarks.

The lowest wholesale price that fresh butter of fair quality has reached in this market the past year has been 27½c ℔ lb. Owing to the profits attending the making of butter and cheese, the prices of cows remain high in this State, ranging from $45 to $50 ℔ head, taken by the herd; pick of the flock or very choice cows, selling for much more. They even rent at from $20 to 32.50 ℔ head for the season, including pasturage, many being let on those terms. Where parties having milch cows stick exclusively to the dairying business, they almost invariably do well; though where some other branch, as grain-raising, is sought to be added to this, both frequently prove failures. It often happens that what is made out of the dairy, is lost by some other branch of farming carried on in conjunction with it, admonishing to the pursuit of but one of these callings at a time. Viewed in all its bearings, there is probably no business in the State promising a more certain success when properly engaged in and carried on, than the one we are here considering.—*Com. Herald.*

A Remarkable Cow.—A farmer in Wisconsin claims that he has a cow, now fifteen years old, which has regularly given milk every day for the last six years, although she has not had a calf during that time. He states that she now gives some five quarts of milk daily, and also states that the milk is of good quality. He estimates that the average quantity given per day during the six years is at least seven quarts. It has been asserted that spaying a cow will produce similar results.—*Dairy.*

Milking.—The practice of milking but once a day, when cows give but little late in the year, is a bad one. They shrink much faster, and if young, the habit of not "holding out" is found to the owner's subsequent cost. They should be milked, as long as they are milked at all, twice each day, and, if well fed and stabled, the process may profitably be continued up to withing six weeks of their calving.

How Long will Butter Remain Sweet? A firkin of butter, found in a well at Kingston, N. H., which had remained there twelve years, was found to be as sweet as when put into the well.

Carding Cows.—The importance of this practice is becoming more and more generally recognized, as its value is learned by actual practice.

# Agricultural Notes.

## CALIFORNIA.

### The Harvest in Progress.

The farmers are now getting well into the harvest work. A large portion of the hay crop has already been cut, and the reapers and headers are busy in every direction. There are short crops in many places; in some the returns will scarcely pay for labor and seed, while in many localities, where in times past we have looked for our largest returns, there has been an utter failure. On the other hand, in most of our coast and mountain counties the yield is fully up to, or above the average of previous years.

We shall soon be able to take an account of stock, with an approximate degree of correctness, and when the account is taken and the better prices considered, we shall find the aggregate value much above what is now generally conceded, and by no means so discouraging as many would have us believe.

We are inclined to think that those who first put their wheat at a figure which exporters can accept, will do the best. The news from Europe is not so discouraging for the coming crop there as many had expected; in evidence of which we note a decline of four cents during the past week in the price of wheat in Liverpool.

A correspondent writes us that the general appearance of the crop in Sonoma is remarkably promising. Mr. J. H. Bailhache, near Healdsburg, has 70 acres of wheat in the blossom which stands uniformly *six feet high!* The entire crop of hay and grain is a fair average yield. Large fields of potatoes and corn in every direction, are growing luxuriantly.

The Yolo *Mail* says that Sonoma expects to reap the best crop of grain since the dry year of 1864.

Another correspondent writes from Gilroy that stock of all kinds is looking remarkably well in the hills, and gaass is quite as plenty as at this time last season; but water is scarce, and our correspondent thinks stock will suffer more from want of water than for grass before the rains set in. Most of the sheep, and a good many cattle have gone to the mountains and to Nevada, which will be to the benefit of the few which remain.

Crops in Pajaro Valley present a very flattering appearance, with the exception of a few fields which have been slightly injured by the frost.

The reports from Napa are more favorable than ever. In some fields the wheat is reported as standing *six feet high*, with a prospect of 60 bushels to the acre.

The farmers in Suisun are busy with the barley harvest, the yield of which will be very satisfactory.

Big Headers.—As a proof that some farmers have got grain to cut, attention is called to the fact of the large sale of reapers, the present season, from the different agricultural warehouses in this and other cities. Mr. Baxter of Stockton has sold 20 12-foot headers, and is now building to order three which will cut, each, a 20-foot swarth.

Healdsburg.—Farmers in this vicinity, says the *Flag*, are in the midst of their haying. The yield is better than ever before. The grain crop will also be above the average.

Napa—A Big Yield.—P. G. Gesford, a Napa farmer, who resides in the edge of town and whose land adjoins that of the Odd Fellows' College, expects to get sixty bushels of wheat from every acre this year. All about there the crops are in prime condition, and farmers are wearing smiles in consequence.

Angora Goats.—The Grass Valley *Union* hears of several parties who are preparing to go into the business of raising these animals. This is right; and will make the chaparral and the rocks of now useless places in the mountains useful in the production of wool. There is no danger of the busines being overdone.

Mulberries.—Dr. McCormick has 1,000 mulberry trees in a flourishing condition on his ranch near Rough & Ready, Nevada county. Silk and wine and wool, will eventually "pan out" more gold in the mountain counties of this State than the mines—and will pay 100 per cent. better than the same amount of labor and capital expended in mining.

Cache Creek.—The Marysville *Appeal* learns that the summer-fallowed crops on Cache Creek road, ten miles from Marysville, are good, but not up to the average. The difference between the summer-fallowed and that not so treated is so marked, as to convince any of the benefits of summer-fallowing in a dry season.

Short Grain.—Some of the farmers along the slough, on the Cache Creek road, are mowing their grain—that which they intend to thresh. It is too short to cut with a reaper or header. Still the heads are very well filled and the grain is heavy—what there is of it.

The haying season is about over along the Cache Creek road. The crop is very light, but of good quality. Whenever the growth of straw is light, the value of the crop secured is increased in proportion.

Discouraging.—The *Appeal* learns that Mr. Ebert, who lives between Marysville and Bear river will not harvest over twelve or fifteen hundred bushels of grain from seven hundred acres planted. This amount will be secured from summer-fallow, the winter plowed yielding nothing.

Indian Valley.—A correspondent of the Plumas *National*, writing from Indian Valley, says that both grass and grain are looking splendidly there. "The cows are giving the richest of milk, and our wives are making the best of butter. We have eggs to sell without limit, and chickens and pigs by the dozen."

Marin Butter for Arizona.—Messrs. Watson & Brady, of Salmon Creek, Marin county, are putting up large quantities of butter in 4¼-pound glass jars, for the military stations in Arizona. Sonoma and Marin counties bid fair to acquire an "Orange county" reputation for their dairy products.

Bearded Chile Wheat.—The Sutter County *Banner* speaks of a fine field of wheat in that county, of the above named variety, samples from which measure from 42 to 46 inches in length of straw and head. The grain was sown early in December on summer-fallowed and. The yield will be very large. There are several other fields of the same kind of wheat in that vicinity, all of which yield largely, and some of which is now being harvested. This variety does not shell out in the hot, dry winds of harvest time like many other kinds.

Extensive Reclamation Project.—The property owners on the Island Swamp Land District are about to build twenty-eight miles of levee. The estimated cost is over $150,000, and work will be given to 1,000 men. Bids for work are now in, on Tuesday, but several days will elapse before contracts will be awarded. E. B. Dorsey, of this city, offers to undertake the entire job for 17½ cents per cubic yard.

The success which has attended the reclamation projects already carried out, and the uncertainty of crops in many of our valleys is calling attention more than ever to the tule and overflowed lands along our great valley water courses, and numerous reclamation schemes are being considered, most of which will be consummated much earlier, in consequence of the partial crop failure of the present season. The tule lands, such as are capable of being reclaimed, are now considered as among the most desirable land in the State.

Norway Oats.—Mr. James McNeil, of Sonoma, has left at the office of the Yolo *Mail* a sample of Norway oats, measuring seven feet in height; 244 kernels were counted on one head.

New Wheat.—A sample of new wheat was exhibited in Stockton a few days since, from Miller's ranch, on the Sonora road, four miles from Stockton. The grain is full and plump, although a short time ago the crop was considered a complete failure. The average yield will not fall short of 15 bushels to the acre.

Early Pears.—Peter Lesher, according to the Stockton *Independent*, last week shipped to Montana a box of ripe pears, produced in the orchard of Peter Young, who resides about a mile and a half from this city.

Tall Barley.—The Tulare *Times* has seen a sample of very tall barley raised by T. M. Brown and brothers, on Outside Creek, near Farmersville. The field contains eighty acres and is covered with barley, standing about thirty-six inches in hight, evenly, all over the ground, the heads of which will average three and a half inches in length through the entire crop. This is, without doubt, the finest crop of barley in the county, and probably, in the State; but no better than can be raised on thousands of acres in this valley with proper cultivation.

Cattle and Horse Thieves appear to have a hard time of it, generally. We hear of their being corralled almost simultaneously, with the news of the depredations. The farmers are determined to root out all such rascals from their midst.

Large Fruit Trees.—Without any intention of boasting, says the Ventura *Signal*, we believe San Buenaventura has the largest pear, palm, English walnut and olive trees in the United States. Back of our office is the old Mission orchard, containing trees of the following dimensions: Three date-palms, from seven to nine feet in circumference, and from forty to fifty feet high. Pear trees eight feet in circumference, and olives seven. Three English walnuts, the largest six feet in circumference, about thirty feet in height and a spread of top sixty feet. Except the palms, they are all loaded with fruit. If any place can beat this we will be happy to chronicle the fact.

The Scale Bug, an insect which infests the orange tree—though not to any destructive extent—has recently, according to the Los Angeles *News*, been made the subject of microscopic examination by Dr. R. T. Hayes, who has kindly furnished the results, as follows: The scale on the leaf of the orange, from which the bug takes its name, is but the nest of the insect and is found to contain from twenty-five to fifty eggs of oblong form. The substance of the scale is very similar to some species of cocoons. The insect itself is of microscopic dimensions, oblong and flattened in shape, of a very light color, with numerous prehensile and locomoter members, and seems very active. The nests present the egg in every stage of incubation even to the escape of the larva from its prison. The black matter on the leaf is but the debris of the nest and excrement of the animal. The length of the bug when full grown is 1-200th of an inch; width about half the length.

The Fruit Orchards in Alameda.—The Cherry crop, says the *Encinal*, is prolific, but the fruit is of smaller size than usual. The dry, cold winds to which we have been subjected throughout the present year, seems to have affected this fruit more than any other. The plums look unusually healthy. Currants never were better or larger. Pears are progressing finely. Peaches look very promising; while the yield and quality of apples bid fair to rival those of two seasons ago. In fact, the only fruit we noticed that looked anything like a failure was the cherry—and even that is far better here than in many other localities. The drouth has played havoc with some of the cherry trees in this vicinity. On Monday we saw the trees almost broken down with their weight of fruit, all shrunken and unfit for market as fresh cherries; but they will make admirable dried ones, retaining their flavor and sweetness better than those dried off the branches.

The fruit crop in Santa Barbara county will be large and fine beyond all precedent. Almost every variety of fruits and nuts will be fully represented in this year's crop. This is the crop that defies the drouth.

## OREGON.

Crop Prospects.—Favorable reports still continue to reach us with regard to the prospects of the crops generally, in Oregon. Owing to the heavy rains the season has been unusually backward, but the results will be in every way satisfactory.

The *State Journal* says:—Never before with such a late seeding time, have the crops shown so well as now. From all parts of the State come cheering accounts that a bountiful harvest will be realized. In our own county, grain and grass never looked better, and will undoubtedly yield much more per acre than for years before.

Flax.—The Willamette *Farmer* is informed that there are about six thousand acres of flax under cultivation in Oregon the present season. The product it is thought will reach at least sixty thousand bushels, and will yield a revenue to the farmers of not less than $100,000.

Blooded Stock.—Mr. Cross, of Salem, informs the editor of the Willamette *Farmer* that he will receive in a few days some fine blooded stock, purchased by him while in Chicago, consisting of ten South Down sheep, from Alexander's farm, in Kentucky; twenty Leicestershire sheep, from Mr. Cochran's farm in Canada; ten Cotswold sheep, from the same party; and eight Bershire swine, bred from imported stock, and the best Mr. Cross could find. A portion of the Cotswold sheep were purchased in England by Mr. Cochran.

Southern Oregon.—The Jacksonville *Times* says that large numbers of sheep are being driven from the Umpqua country toward Goose Lake valley.

Messrs. Ashbury & Monks, who have a wood ranch south-east of Jacksonville, several thousand feet above the level of the valley, have determined to test, this season, the adaptability of such high lands for agricultural purposes. They have sown considerable ground with wheat, oats and barley, and planted different kinds of vegetables.

Emigrants from California continue to arrive in the Willamette Valley in great numbers, generally from portions of this State which have been seriously affected with the drouth.

Goose Lake.—Rev. C. Alderson reports to the Jacksonville *Times*, that the weather in the region of Goose Lake has been very good, although the nights have been rather cool and frosty. A large amount of grain had been sown, but the crops were four to six weeks behind those of this valley. The black crickets, so destructive in their raids, were becoming alarmingly numerous. A grist mill and a saw mill were in full operation. Notwithstanding that the past winter had been the severest known for years, stock has done well.

Eastern Oregon.—The fruit crop in Grande Ronde valley is pronounced a great success. The ground was covered with snow there on the 27th ult., so that the country looked quite winterish. Large amounts of freight are passing west to Idaho.

Costly Pigs.—B. W. Griffin, of Dry Creek, says the Walla Walla *Union*, has lately received by express from Pennsylvania, a pair of White Chester pigs. They cost $32 in Pennsylvania, when one month old The express charges were $64. Mr. G. believes in raising fine stock, as it costs no more in the long run than poor, and he is willing to pay whatever is necessary to get a start. He is right.

Artesian Wells in Oregon.—The subject of artesian wells in Oregon is considered one of considerable importance by the Willamette *Farmer*. An experiment made by the State Agricultural Society at Salem, in the Willamette valley, has not yet, however, resulted in success. The water is wanted for the public and charitable institutions, the surface water being both inferior and in insufficient quantity.

## Mineral and Agricultural Lands.

Mr. J. G. McCallum, Register of the U. S. Land Office at Sacramento, has written a letter with regard to disputes of mineral and agricultural land claimants. The letter, dated May 11th, is, in substance, as follows:

In a question between mineral and agricultural claimants as to the character of land applied for by both as between them, the proofs are confined to the land surveyed and applied for as a mining claim, whether a 10-acre tract or less.

Where there is no other survey than the usual one returned by the township plat, the proofs are taken as to the smallest legal subdivision; that is, 40 acres when not fractional. If, for instance, in a 40-acre tract, a 10-acre tract is so valuable for mining as to make the whole 40 acres more valuable for mining than for agriculture, the whole is reserved as mineral; if, however, the 30 acres are so valuable for agriculture as to make the whole more valuable for this than for mining, the whole is awarded agricultural.

It is therefore important to both miner and farmer that the mining claim upon such 40-tract should be surveyed and segregated. The law does not require this of the miner, but by so doing he saves the expense of proving his claim and the costs of litigation. Otherwise it may be merged in the balance of the legal subdivision which may be valuable agricultural land.

If the miner declines to have the survey made, the farmer would have to pay for such survey, unless the Surveyor-General will order it on application. Whether he feels authorized to do this, under the present law, is for the Surveyor-General himself to decide, and to him the matter should be referred.

## The Eclipse of 1870.

Of all astronomical phenomena none can compare with a total eclipse of the sun for grandeur and for effect on the mind of man. We know from the history of the world what the effect has been on the human race, how it has caused first fear and reverence, then wonder and a strong desire to investigate into the reasons and concomitants of so extraordinary an appearance.

As each eclipse has occurred, the scientific world has given to it more and more attention, for the occasion gives opportunity for investigating matters which are, at other times, difficult to examine. Probably no such extensive preparations have ever before been made as were taken for the eclipse last year, and although we have noted the results from time to time, yet a general article on the matter will not be superfluous at the present time.

The United States took a prominent part in investigating the phenomena of the total eclipse of Dec. 22d, 1870. This eclipse passed southwesterly over the Atlantic, across the southern part of Spain, the north coast of Africa, through Sicily, to Greece and Turkey. Congress appropriated $29,000, and two expeditions were sent out from our country.

The Washington Observatory also fitted out an expedition. The English government was somewhat backward in the matter, but was finally induced, mainly through the efforts of Prof. Pierce of the U. S. coast survey, to furnish a man-of-war to carry observers to various points in Spain, Algeria and Sicily. Another expedition was fitted out by Lord Lindsey, a young English nobleman; and the French were represented by the eminent physicist, Jaunsen, who left Paris, then besieged, in a balloon.

The Americans at Sicily and Spain were the most successful, although not entirely so. The English party were wrecked, but still were able to take some observations. The French savant reached Algiers only to find the day so cloudy that he could see nothing.

The *main* object of all the expeditions was to investigate the nature of the corona, that halo of silver light of strange and varying forms, which has proved such an enigma to astronomers. Was it altogether a solar phenomenon, or was it only due to atmospheric influences, to diffraction or irradiation, or was it due to both, or was it only an optical delusion? Such were the questions to be answered.

To give an idea of the singular difference existing between drawings of the corona, we give the following illustrations. Fig. 1 is a copy of a drawing made by the Italian Professor Agnello, and Fig 2, that made by Dr. Mayer, of Burlington, Vermont, of the eclipse of 1868. They have been previously published in the London *Engineer*.

We cannot go into the details of what was done. These we have already published. Suffice it to say that the observations were of four kinds:—spectroscopic, photographic, polariscopic, and sketching with the naked eye or with the telescope. Various instruments of ingenious construction were devised to aid in the observations.

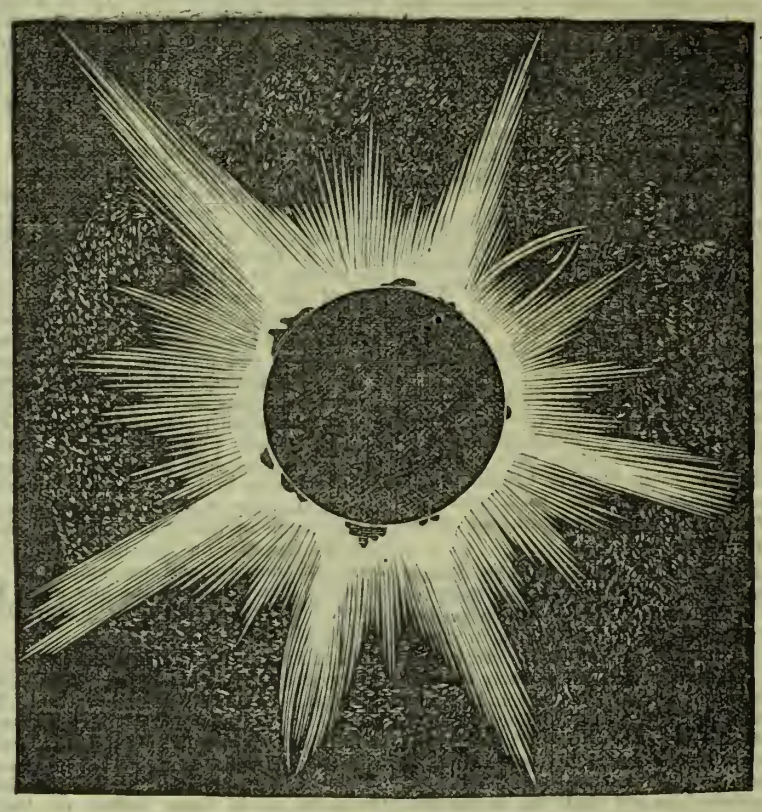
It was found that the corona is a solar phenomenon, and that there is what is supposed to be a new chemical element. It exists to a hight of 50,000 to 150,000 miles above the sun's surface, shines partly by its own light and partly by the light of the sun. The atmosphere has at its lowest depth not more than one-twentieth the density of our atmosphere, yet sustains the weight of an atmosphere at least 50,000 miles high and attracted by the great mass of the sun. Such an elasticity denotes a tremendous amount of heat.

The amount of light during totality was measured. The existance of dark spaces in the corona was proved. Photographs and drawings were made and valuable observations. Until all of these are published, it is impossible to form exact conclusions; but enough has been done to show that man's knowledge concerning the great luminary which supports our life, is much more complete than it was before the hundred seconds of darkness fell on the face of the earth at 2 P. M. on the 22d of December, 1870.

## Lotteries vs. Industries.

In open violation of the constitution of the State, to say nothing of their official oaths, a majority of the last Legislature specially authorized the Mercantile Library Association of San Francisco, to give, not more than three public entertainments or concerts, at which personal property or other valuables might be disposed of by chance, raffle or scheme of like character, anything in the laws of this State to the contrary notwithstanding.

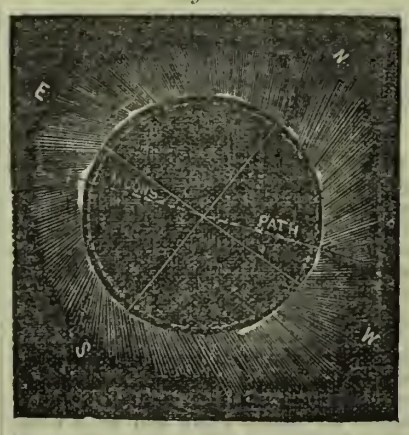
The true object and intent of this Act was to authorize the Association to organize and carry out a scheme of public and open gambling by which they might, under the protection of law, cheat the people out of sufficient money to pay off the debt of the association and pay the incidental expenses of getting up and perfecting and executing the gambling scheme.



ECLIPSE OF THE SUN, DEC. 22, 1870.—FIG. 1.

Subsequent events have proved that this law has a much wider scope—that in effect it has induced and protects gambling in all portions of the State, and among all classes and conditions of society. Even boys, taking their hint from the men, are clubbing together and getting up gaming schemes in favor of debating clubs, etc., and inviting the girls to become public gamblers for their benefit.

*Fig. II.*




This Act, by the approval of the Governor, became a law on the 19th of February, 1870. Under its authority and protection the Association in whose interest it was passed, boldly advertised a "Grand Gift Concert" and to provide the means for this "magnificent entertainment," the managers proposed to sell 200,000 tickets to said concert at $5 each; or in the aggregate for one million of dollars. This large sum of money they proposed to collect from the people—from the laboring men and women and children, of this and adjoining States, in small sums of $5 for each ticket sold.

To induce people to buy these tickets (for it was well understood that no tickets could be sold unless some other inducement than the privilege of attending the concert was held out) the managers proposed to return to the holders of tickets, by lottery, the sum of $500,000, or just one half of the amount collected, in sums running from $100 to $100,000.

To be more definite, they proposed to give back to 628 of the 200,000 persons holding tickets, one-half of what they had collected from them, retaining the other half for the expenses of collection and for the gaiming bank, or in other words for the benefit of the Association.

One would scarcely believe that men could have the cheek to propose such a barefaced swindling scheme to any intelligent people, much less that such a scheme could be successfully executed! Yet the whole affair is an accomplished but disgraceful and demoralizing historical fact. By this single operation $1,000,000 was thus withdrawn from circulation and locked up for a term of not less than three months, at a time too when all the business interests of the State were depressed and suffering for want of money. Thus $1,000,000 was withdrawn from the productive industries of the State, and by the consent and approval of all branches of our State government, was converted into a corruption fund to make indiscriminate gamblers of our men, women and children!

It would be an interesting, but sad inquiry, to ascertain how many of the same persons who had been, in the hope of gain, persuaded to invest the trifling sum of $5 for one of these library tickets, were, during the time that million of dollars was thus laying idle, compelled, unsuccessfully, to travel about the country, and beg for labor, and even for bread!

### Other Lotteries.

The success with which the money involved in the Mercantile Library scheme was used as a corruption fund may be determined by the number of lotteries which have followed, and which are now in progress of execution, throughout the State. The original law was ostensibly intented to protect gambling in favor of one association only, but the executive and law officers of the State having thus been committed in favor of this particular scheme, have not yet had the moral courage to come forward and enforce the law against others; hence our whole State is now one grand gambling room, and more money is being invested in gambling operations to-day, within our State, than in the development of many of our productive industries.

The result is natural—idle men and idle money—a scarcity of labor for the poor, and general dull times for all.

The following list of lotteries drawn, and now in progress, will show the truth of the above propositions. We give the names of the schemes and the amount of money collected or proposed to be collected from the people by each.

| | |
|---|---|
| Mercantile Library | $1,000,000 |
| Grass Valley first | 250,000 |
| Marysville | 150,000 |
| Nevada first (from memory) | 150,000 |
| Calaveras County | 500,000 |
| Sacramento Pioneers | 150,000 |
| Grass Valley second | 150,000 |
| North San Juan | 75,000 |
| Woodland | 187,500 |
| Placerville | 125,000 |
| Nevada second | 250,000 |
| Folsom | 75,000 |
| Alameda County | 100,000 |
| Combination at Sacramento | 180,000 |
| Boys' Debating Club at Sacramento | 2,000 |
| Amador and others, the amount involved not definitely known, say | 200,000 |
| Total | $3,534,500 |

Here we have over three and a half million dollars that has already been, and is now proposed to be withdrawn from general calculation, and locked up for at least three months' time. In other words, the derangement and depression caused in the general business of the State by calling in this amount of money for the sale of tickets and keeping it until again distributed, is equivalent to that which would be produced by locking up an equal amount for the term of three months. Is it any wonder that while such things are allowed and encouraged by those who make and execute our laws, we should feel the effects of hard times—that enterprise should be discouraged, the development of the industries retarded, and labor go unemployed?

Let us present the loss to the State by these gambling operations in another light. Money commands, in large sums, one per cent. per month. The interest at this rate on $3,500,000 for three months is $105,000. This, then is the material loss to the State that has been and will be sustained by executing schemes already projected; for no one will claim that gambling is a productive industry, and as that amount of money is thus withdrawn from the productive industries, and used in non-productive operations, the fair interest on the money so diverted, must be a correct measure of the loss to those industries.

### Centralization of Capital.

Another effect of these lottery schemes is the centralization of capital; taking money from the many, and giving it to the few. It is collecting money from the poor in small sums without returning an equivalent, to make a few suddenly and undeservedly rich, without requiring or receiving from them an equivalent.

We will follow this unpleasant subject no further, but call on all who feel an interest in the good name and prosperity of our State to see that this infamous law is repealed by the next Legislature, and that that body be composed of material that will not be likely to impose upon the people another of like character.

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Cotton in Butte County.—The Marysville *Appeal* says:—"Mr. Mawson, of Butte Slough, thinks of trying the experiment of raising cotton on the low sandy lands that compose his ranch. He has obtained some cotton seed, which he planted immediately. The low sandy land of his place seems eminently adapted to cotton growing. We shall look to the result of this experiment with much interest. We think that there is much land in that section which is adapted to the successful culture of the cotton plant.

# POPULAR LECTURES.

## Deadly Weapons and Fire Arms.

[Prof. WELCKER before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

LEC. II., June 10. There was the usual large attendance of students and others on Saturday evening last, to listen to Prof. Welcker's lecture, giving an historical resumé and descriptive account of deadly weapons of all sorts, ever devised, including fire-arms, down to their recent most effective improvements in the Henry and Winchester rifles. Amongst the distinguished visitors on the dais, we noticed Governor Haight.

Slings, axes and swords, ending with the bow, embraced the whole subject as gone over, down to the times of the early colonists of America, who must have used the bow largely. In the use of the sling the inhabitants of the Balearic Islands are historically accredited with great reputation for expertness: and the English were the most famous bowmen; a man who could not put a dozen arrows into a ten inch plank in two minutes was no bowman at all. The point which gave archery its grand priority was the invention of the feathered end directiug truly the weighted point. The sworded Roman soldiers under Julian found the Parthian archery terrible to encounter. The cross-bow was a great improvement; it was introduced into England by Cœur de Leon, and serving to defeat the Saxon archers, became the instrumentality of the formation into the existing character of the English language. Lead at the poiut of a bolt was the incipient bullet. One chief defect of the cross bow in warfare was the fact that it spread the men apart so as to make a body so armed less effective against cavalry; hand-arms continued, accordingly, to be most valued. The bucklers, cuirasses and mailed clothing hitherto worn by both infantry and cavalry, were dispelled by the introduction into warfare of

### Fire Arms.

Various names, such as bombard, etc., were given to the same weapon, a gun barrel mounted on a trestle, weighing 25 to 70 lbs., and operated by two men. It had a decided effect, as nothing could withstand them; in 1380 they were in general use. Even as long ago as that breech loading canuon came into common use, but they were not sufficiently secure from accidents and were rejected as too dangerous to the owner himself.

[The lecturer here gave several diagrams on the blackboard showing the early manner of mounting and serving such guns as were too heavy to be worked without supports; but the time is too short to have them engraved, iu season for our present issue.—EDS. PRESS.]

From these the step was simply to the use of a mechanical match holder, whereby the gunner could fire more accurately by simply touching a trigger.

And from that to the Nuremberg wheel and flint lock, and the very greatly improved modern flint lock that existed down to our own early days.

Short-hand guns were made in the town of Pistoir in Tuscany; hence *pistols*.

Rifled arms were known as early as the 15th century; and the sling and cross bow were themselves not abandoned until 1560; the English clung to the bow until 1427, on account of their expertness in its use. It took some time for the flint to pnsh out the match lock.

The first and second ranks were now armed with pikes, and and three or four ranks behind them were armed with muskets; afterwards three ranks in all were in vogue, bayonets displacing the pikes. In the U. S. there are now but two ranks.

Gustavus Adolphus, of Sweden, the hero of the Reformation wars increased wonderfully the rapidity of fire by inventing cartridges; and Forsythe, an English clergyman, added percussion caps. The latter rendered the bullet of the rifleman much more certain, prompt, accurate, and powder practicable in any weather, even in the heaviest rain. The fulminating material which creates the spark is made of two parts mercury and one saltpetre; a compound having the peculiar characteristic of exploding when struck with the hammer.

The problems of increased range, rapidity of fire, and increase of accuracy were vigorously worked upon by numbers of ingenious men—aiming to strike the enemy more surely further off, and more frequently, until the accurate weapon developed in America and known as the American rifle, culminated in the Minie, the Needle, the Chassepot, the Henry and the Winchester weapons; involving much scientific acumen in such problems as the burning of all powder, or the prevention of windage by means of patches, expanding balls, etc.

The conical ball was brought to the accuracy of direction of the feathered arrow by means of grooves at the back end, which were taken hold of by the atmosphere in such a manner as to push the deflecting stern always back into the true axis of flight; without this the terrible conical ball would be subject to failure.

Colt in this country, and Adams in England, adopted revolving arms; and amongst the repeating rifles, the Spencer, invented in 1860, has a magazine for seven cartridges, and the Henry, 1862, for fifteen. The latter fires 30 times a minute without haste, viz.: twice as fast as the Spencer, and six times as fast as the Prussian Needle-gun. The Winchester is an improvement, in practical points, upon the Henry, was unanimously adopted by the Swiss board of experts on arms as against all others invented; and may be used as an ordinary single-shot breech-loader, with a reserve at hand of fifteen shots whenever required.

## The Pyramids of Egypt.

Among the seven wonders of the world have usually been counted the pyramids of Egypt, but, from late investigations by Mr. Piazzi Smyth, several of the popular ideas concerning them appear to have been erroneous. He regards the Great Pyramid of Cheops as the oldest monument in Egypt, while the other pyramids were built afterwards. This is also the largest and finest, and the only perfect one in architectural design and execution. Nothing has been constructed during the 4,000 years since it was completed that can vie with this colossal pile. Even our largest and finest specimens of architecture are inferior in hight to this ancient relic of the Nile. St. Paul's church, in London, is 360 feet 2 inches high; St. Peter's, at Rome, 432 feet; Strasbourg Cathedral, 468 feet; while the Great Pyramid is between 485 and 495 feet in hight.

The pyramids in general are supposed to have been built by successive generations, each layer of the masonry answering to the reign of a king; but that of Cheops is probably an exception to this rule, for it is uniform in its architecture and building materials. Mr. Smyth says it must have been built from carefully prepared plans, and the whole structure was completed by its founder after hard labor for twenty years. Mr. Smyth does away with the old theory that the Great Pyramid was intended for a tomb.

The burial chambers of the old Egyptian kings were nothing but whole suites of apartments, gorgeously carved and inscribed with emblems of self-glorification. But the one pyramid of all, in which we should expect to find the most elaborate of these inscriptions, is entirely lacking in them, and it contains only plain geometrical surfaces of exquisite workmanship, the stones ground to true mathematical figures, with joints inconceivably fine, and thin as tissue paper.

Instead of its being founded on the alluvial mud of the Nile, as is generally supposed, the Great Pyramid is discovered to rest on a "hill of compact limestone, at a level of about 100 feet above the alluvial soil of Egypt, and to one side of it." Moreover, a curious fact is, that the stones in the British Museum, supposed to have been taken from this pyramid, have been found by careful measurement of their angles of slope and comparing them with the original structure, to have never belonged to that famous building.

CONDENSED soda water is the latest novelty. It is put up in boxes, containing material for 16 glasses of as pure soda water as can be drawn from any fountain. The powder is charged with gas, sweetened and flavored with pine apple, etc., ready for use.

# GOOD HEALTH.

## Pork and Alcohol Bad for Consumptives.

EDITORS PRESS.—It has long been known in the highest scientific circles, that two, at least, of the ingredients that go to make up the diet of two-thirds of the people are entirely inadmissible in all pulmonary difficulties—viz:—Pork in one shape or another, and alcohol. I do not propose to enter into any lengthy dissertation, but simply give some facts in my experience that bear upon the point.

In 1861, while on my way across the Plains with my family, bacon was our main stay; but loosing the larger part of our team near Green River, we were compelled to abandon the heavy wagon and the largest part of onr stock of bacon, so that by the time we reached great Salt Lake City, it was all used up. It was well; for by that time a bad humor caused festers to appear at the roots of the nails, so that they all came off, and otherwise endangered the general health, to such an extent that I was not at all sorry that the bacon was gone. From that time until the present, I have not used ten pounds of pork or lard, and no appearance of the return of the disease has been manifested, my general health has continued steadily to improve until, physically, I am an entirely different person from what I was under the pork regime.

Now about alcohol; and in speaking of that stimulant, I might include most others of an ultra nature; especially those that have an undue action upon the heart. I have always noticed an increased tendency to cough where they were used. The mechanical conditions violated by any introduction of like stimulating substances into the system, must be obvious when we consider that an increased action of the heart only increases the difficulty by throwing more blood to the lungs than they, in their weakened condition, can either oxygenate or expell, causing of course congestion and consequent irritation in that much abused organ.

By what mode of reasoning one can arrive at a conclusion that benefit can be derived by the introduction of almost pure carbon, to increase the labor of an already outasked organ, I am at a loss to perceive. Every one knows that the carbonaceous matter in pulmonary difficulties is not deposited in the shape of fat, or at least it ceases to have that tendency in the latest stages of the disease. What then becomes of it? it certainly is not eliminated by the lungs. The only conclusion we can come to is that it returns in the circulation to add obstruction and inflammation; where there should be an opposite tendency. How long will the thinking world submit to be humbuged by sophisms a child might laugh at?

To get well, if one has a tendency to a pulmonary or you might add any other disorder; it is only necessary to weave the tissue of our organisms out of proper material so that it will not tear! and abandon the use of those narcotic and stimulating substauces that tend either to lethargy or unnatural activity. F. M. SHAW.

San Diego South, Jan. 22d, 1871.

## Wearing Flannel.

In the climate of San Francisco, and wherever the cold sea breezes prevail during the summer, flannel ought always to be worn. If the ladies, especially the young ladies of this city, could be induced to regard the laws of health in this particular, many precious lives might be saved; but pasteboard soles, low-necked dresses and lilliputian hats are pretty sure to sow the seeds of a fatal harvest. The suggestion in the following paragraph from the *Scientific American*, if followed, might save much sickness and suffering, and not a few from untimely graves:—

Put it on at once. Winter and summer, nothing better can be worn next the skin than a loose red woolen shirt; 'loose,' for it has room to move on the skin, thus causing a little tiltillation which draws the blood to the surface and keeps it there; and when that is the case, no one can take cold; 'red,' for white flannel fills up, mats together, and becomes tight, stiff, heavy and impervious. Cotton-wool merely absorbs the moisture from the surface, while woolen flannel conveys it from the skin and deposits it in drops on the outside of the shirts, from which the ordinary cotton shirts absorb it, and by its nearer exposure to the air, it is soon dried without injury to the body. Having these properties, red woolen flannel is worn by sailors in the midsummer of the hottest countries. Wear a thinner material in summer.

## Necessary Rules for Sleep.

There is no fact more clearly established in the physiology of man than this, that the brain expends its energies and itself during the hours of wakefulness, and that these are recuperated during sleep. If the recuperation does not equal the expenditure, the brain withers—this is insanity. Thus it is that, in early English history, persons who were condemned to death by being prevented from sleeping, always died raving maniacs; thus it is also that those who are starved to death become insane, the brain is not nourished and they cannot sleep.

The practical inferences are three: 1st. Those who think most, who do the most brain work, require the most sleep. 2d. The time "saved" from necessary sleep is infallibly destructive to mind, body and estate. 3d. Give yourself, your children, your servants, give all that are under you, the fullest amount of sleep they will take, by compelling them to go to bed at some regular, early hour and to rise in the morning the moment they wake; and within a fortnight, Nature, with almost the regularity of the rising sun will unloose the bonds of sleep the moment enough repose has been secured for the wants of the system. This is the only safe and efficient rule; and as to the question how much sleep any one requires, each must be a rule for himself—great Nature will never fail to write it out to the observer under the regulation just given.

## Disease and Carelessness.

There can be no doubt that carelessness is the origin of most diseases. Medical men also hold that foolish people who follow their own whims have hardly a chance of recovery when visited by serious disease. Nine-tenths of the doctor's work would be done if people were only consistently prudent and cautious. Only it is so hard to be habitually cautious. On abundant occasions a man may be most elaborately prudent, and then, to his utter astonishment, he dangerously imperils his health by some startling impropriety. When he has used every imaginable pains he is always amenable to the force of accident. There is another plausible theory, antagonistic to the one we have named, to the effect that every man has the seeds of some particular disease in his constitution, and some trifling accident will come, sooner or later, which will have for him the same effect as a match falling upon gunpowder.

Medical men explain this on theories of constitutional tendencies or of some poison latent in the system. The fatal accident to one man is the merest accident for another. Two men while walking get well soaked by the rain. One man shakes off the water pretty much as a dog or a duck might do, and rather enjoys his shower-bath than not. Another man is taken ill of inflammation of the lungs, and probably dies. The doctors cannot explain the different issues, and they would also be very much puzzled to give a satisfactory account of the pneumonia itself. They will, indeed, generally explaiu theories more or less plausible, and practice has been built upon theory, and theory has, no doubt, sacrificed a number of lives. Yet medicine must have its dogmatic system, and without it medicine becomes little better than empiricism.—*London Society.*

OPPOSITION TO VACCINATION IN INDIA.—The natives of the Northwestern Provinces of India objected to vaccination for the following reason:

They believe that a native child is to be born whose destiny it will be to drive the English out of India and then to conquer the world. This child is to be distinguished from other children by having milk, instead of blood, in its veins. The natives believe that, by vaccination, the English are seeking to discover the wonderful infant, so as to imprison or kill him.

WIND IN THE STOMACH.—A physician, in a very sensible article on bathing, recommends a more general use of warm baths instead of the syrups and worse nostrums for the wind in the stomach, which is thought to be so often the cause of the worrying restlessness of very young children.

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SAN FRANCISCO:

Saturday, June 17, 1871.

## Our Weekly Crop.

We have placed a beautiful Percheron Horse at the entrance of our ranch, to-day—a very different looking animal from the one of the same breed which was seen there in March last. "Leo,"—for by that name we call him—is of pure blood, and shows in a very marked degree his Arabian descent. His long silky mane, fine eye and ear, and substantial build render him just the animal we shall need for the long trips we shall have to make to-day. We will now mount and take a trip to Sacramento to examine some Fine Sheep, which our friend Mr. Beck, Secretary of the State Agricultural Society has just imported, and while there we have an interesting conversation with him about the coming Fair, wherein we are informed that there will be an Exchange of Fruits between our California and Eastern Growers, for exhibition here and at the various Eastern Fairs.

Returning, we spend a few moments, as usual, in our Mechanical and Scientific Library, where we read about a big 35-ton gun and many other useful and interesting things. We next go down to Santa Barbara, where the Sanitary Effects of Coal Oil is Questioned by a San Luis Obispo man. We also take a ride over The Great Valley of Los Angeles, and have an interesting conversation with Mr. Wilsey about the color of the Norman (Percheron) Horse. We also witness a very interesting personification of California and Oregon. We next visit our Orchard, where we learn many interesting Facts About Apples and Trimming Fruit Trees, and see among others Eve's Apple Tree, the fruit of which is said to still bear the mark of her teeth! Leaving the Orchard we pass on to examine the Dairy, where we are told all about our Dairy Products, here in California, and learn something about all the most approved kinds of Dairy Stock.

Mounted upon our splendid charger we now dash out to take our customary review of the Agricultural progress throughout the State. We find the crops looking much better than we had anticipated, although many of the largest fields of wheat have been utterly destroyed. The farmers are busily engaged in the harvest, and the air is redolent with the sweet fragrance of new-mown hay.

While resting from our long ride we examine a pictorial representation of The Eclipse of 1870, and indulge in some reflections on Lotteries *vs.* Industries. We then listen to a very interesting lecture upon Deadly Weapons and Fire Arms, take a distant view of the Pyramids of Egypt, and examine into various interesting facts relating to Good Health.

We next institute a brief comparison of Climates, examine into the Comparative Product of Cereals, look over the Patent Record, follow our associate Eastward to a Pleasant Valley, 300 miles from this city, where we leave him to have a chat with the Ladies and give the Young Folks a lesson about the Wonderful Eyes of Insects, after which we turn to the more substantial matters of Domestic Economy, listen to an interesting talk by the Santa Cruz Farmers' Club, examine a Subterranean Stream in Los Angeles County, take a general look at the Railroad Progress on the Pacific coast, and then close our day's labor by taking a brief survey of the weather and markets.

## Comparison of Climates—Interesting Facts.

In the Report of the Secretary of the State Agricultural Society of Iowa, for 1870, we find the following statement: "The early part of the season, May, June, and July is noticeable for a remarkable drouth which literally burned up the pastures and dissipated the hopes of all, in apples and pears and the smaller fruits. Never was there a greater luxuriance of bloom to be followed by a general failure of fruits. The drouth greatly diminished the hay crop, but it is of surpassing excellence."

Notwithstanding this statement, and which, from our recollection, was confirmed by the facts, as reported by the press of that state at the time; the same report gives a table of rain fall during those same months from which we learn that in the month of May, for that year, the rain fall was 3.18 inches, for June it was 1.07 inches and for July 3.72 inches; the aggregate for the three months being 7.97, or very nearly eight inches.

From the same table we learn that the rain fall in that State, from January to September of that year, was 26.27 inches. And yet the drouth was so severe as to destroy all the fruit crop and literally to burn up the pastures.

In California, this year, the whole rain fall in all the central portion of the State up to this time, has not reached eight inches; and yet our fruit crop, including apples, pears, and in fact all other kinds of fruit bids fair to be one of the most abundant and the most excellent we have ever had, and this too in the dryest portion of our State, and upon our dryest lands.

Here is a fact we would like to have some of our scientific scholars explain. It may be said that our fruit is fed and sustained in its growth, from the atmosphere. This is undoubtedly true, to a great extent; but then it must be remembered that our atmosphere is much dryer than that of Iowa, and the question arises, why is not the fruit in Iowa fed and sustained in its growth, as well as in California? We would like some of our meteorologists to explain this climatic problem.

The same peculiarity is noticeable in the growth and maturity of all our agricultural products. Our grain of all kinds matures and comes to the greatest perfection with a much less amount of rain than is necessary to secure a much less perfect crop in the Atlantic States. Why is this?

CIVIL SERVICE REFORM.—A reform of the civil service is one of the most pressing needs of the country, although, apparently, one of the most difficult to get. A first step was taken by Congress where it passed (March 3, 1871) a clause in the Appropriation Bill, authorizing the President to prescribe such rules and regulations for the admission of persons into the Civil Service of the United States as will best promote the efficiency thereof, and ascertain the fitness of each candidate in respect of age, health, character, knowledge and ability for the service into which he seeks to enter. The President has just appointed six gentlemen to prepare such rules. It is to be hoped that this measure will do much to reform our public service, and that the system of appointment or removal on merely political grounds may be soon done away with entirely.

OUR TRAVELING AGENT, Mr. W. H. Murray, now on his way back from the Atlantic States, will spend a few weeks among our friends and patrons in Colorado and Salt Lake.

GOOD FROM EVIL.—An inventor has discovered a method of manufacturing the fiber of the Canada thistle into cordage, textile fabrics, and paper.

THANKS.—Our especial thanks are due for favors from Mr. John W. Morgan, late of Santa Cruz, who has recently taken up his residence at Soquel. Mr. M. has sent us a club of subscribers from each locality.

## Comparative Product of Cereals.

The United States produces more grain, in proportion to population, than any other country in the world. The Danubian Principality—Roumania, is second in the ratio of production, and European Russia third. According to the census of 1870 the United States, with a population of 31,145,-186, produced 1,221,428,452 bushels of grain of all kinds. This was at the rate of 38.2 bushels to each person.

Roumania, with a population of 3,864,848, produced 134,439,963 bushels, or just 25 bushels to each person.

European Russia, with a population of 61,325,923, produced 1,358,437,500 bushels or 23.1 bushels to each person, while the product of all Europe is 4,583,169,821 bushels, and her population 289,375,284, or just 16 bushels for each person.

By the census of 1850, the United States produced 36.3 bushels for each person then in the country. By the same ratio of increase in production our census of 1870 will show a product of a little over 40 bushels to the person.

American Agriculture runs too much to grain. We are exhausting our soil for the benefit of other countries. We had better export less grain and import less sugar, flax, silk, wine, brandies, etc. We as a nation ought, and can produce nearly every thing that, as a nation, we want to eat, use or wear. We have the soil, climate, skill, labor, and all the other elements of production. We only need a systematic application of the means in our hands.

## The Audience and the Lecturers at the Mechanic Arts College.

Prof. Welcker at the conclusion of the last lecture (on weapons) before the Mechanic Arts College, said: Before I leave the stand, ladies and gentlemen of the Mechanics Art College, I desire to thank you very heartily for the patience and courtesy with which you have listened to my discourses heretofore. My colleagues who have preceded me in this series of lectures have spoken unanimously of the very agreeable conduct of this audience. Some of them have stated that they have addressed audiences upon similar subjects in almost every part of the Union, and they have never anywhere met with such respectful attention; in short, that they never have had so good an audience as they had found in the students and visitors of the Mechanics Arts College in San Francisco. [Applause]. Now these gentlemen here have addressed you upon subjects which in themselves are of the highest interest, and of interest to everybody; and if they have occasion to remark this, much more have I.

I do not flatter myself that the remarks which I have made here have had sufficient interest to enchain your especial attention; but accepting it as a deliberate test of your courtesy and good breeding, I thank you very heartily. [Applause].

BLUE LAKE WATER PROJECT.—The Calaveras *Chronicle* says that work will soon be commenced on the canal of the Blue Lake Water Company, and that contracts have been let for digging a considerable portion. The canal is to be 4 feet deep, 10 feet wide at the bottom and 16 feet wide at the top.

LAND OFFICE REPORT.—Through the kindness of Senator Casserly we have received the Report of the Commissioner of General Land Office for 1870. The volume is full of most interesting matter, statistical, historical, and touching on the most varied topics concerning our natural resources.

EARTHQUAKES are mentioned at the East and elsewhere. An earthquake and volcanic eruption on an island in the China Sea destroyed 600 lives.

THE Grass Valley *Union* says: At the next election there will be a lady candidate for Superintendent of Public Schools.

## Plowing New Lands—A Query.

Scipio Craig writes us as follows, from Riverside, San Bernardino county: Please answer through the columns of your paper the following; or if you cannot, perhaps some one of your numerous correspondents may have had some experience in such a case.

I am settled on a tract of Government land that bears no evidence of having ever had a plough on it. I desire to sow a portion of it in wheat, this fall. The land is a gravelly loam, such as is known as "red land" and is said, around here, at least, to be of the very finest kind for fruit raising and wheat growing. The point is this:—I am told by parties here that it will not do to plough over four inches in depth for grain the first season, unless the land is summer-fallowed; but *after* the first year, to plow as deeply as possible. No reason is assigned for the shallow plowing; I am simply told that "it don't do well."

Will some of our correspondents, who have cultivated new land, give the results of their experience in the particular above enquired of.

TALL OATS.—Mr. J. Hunt, of "Glen Echo," Oakland, sends a sample of splendid looking oats with the following note:—EDITOR RURAL PRESS—Herewith I send you a specimen of "surprise oats," which I think pretty good for this dry season. I sowed one pint of these oats, in my garden, two years ago, and got 107 pounds of seed, weighing 48 lbs to the bushel. This crop I sowed last year; but owing to late sowing and a dry spring, my crop only averaged 45 lbs. to the bushel. The specimen I now send you was sown in December last, and promises very well, considering the short supply of rain.

The longest stalk in the bundle, received measured 7 feet 3 inches in hight. The stalks are very large and stout; one of them measuring ⅝ of an inch in diameter, three feet above the roots.

DECLINED.—A San Diego correspondent sends us some strictures on a paragraph which appeared in the Sacramento *Union*, under the head of "Hygeine at the Medical Convention." The *Union* itself would be the proper medium through which to reply. Moreover the matter is now too old and one in which very little interest is felt at this time.

OPIUM CULTURE.—Mr. Baudrie, of Novato, writes to the *Courier de San Francisco* that he has sold enough poppy seed this season to plant 200 acres, and he thinks most of it has been planted. He is confident that the production of opium will become a profitable business in California; his observations satisfying him that he can do better than last year, and then he had very good success.

MUSQUET GRASS.—There is a new species of grass, called "musquet," a native of Texas, which has recently been introduced to this State. A sample was last week exhibited at the *Alta* office, from the ranch of Mr. Old, near Olema, Marin county. The grass will spring up a number of times from its own root after having been cut. A plot of it was cut in February last, and has again grown about two feet high, with a very full and heavy top. Another plot cut in March has given a growth of about eighteen inches. Another portion cut in April is about a foot high, with a small head; while that cut in the early part of last month (it being the second cutting), has already grown about four inches. The cost of the seed at present is one dollar a pound. It is said to be more nutritious than any grass now in this country, and yields a better and larger crop.

THE COTTON PLANTATION of Col. Strong, in Merced county, is looking remarkably well, and all competent judges who have seen it, express the fullest belief of its success. About 100 acres have been planted.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[FROM OFFICIAL REPORTS TO DEWEY & CO., U. S. AND FOREIGN PATENT AGENTS, AND PUBLISHERS OF THE SCIENTIFIC PRESS.]

FOR THE WEEK ENDING MAY 30TH.

MACHINE FOR PRODUCING STEREOTYPE-MATRICES—Robert E. Draper, Sacramento, Cal.

ENDLESS WIRE-ROPE WAY.—Andrew Smith Hallidie, San Francisco, Cal.

ENDLESS WIRE-ROPE WAY.—Andrew Smith Hallidie, San Francisco, Cal.

METALLIC PACKING FOR STUFFING-BOXES.—Albert H. Hall and Theophilus Locher, Sacramento, Cal.

LAMP.—Marks Samuels, San Francisco, Cal.

DESIGNS.

CENTER-PIECE.—Samuel Kellett, San Francisco, Cal.

CENTER-PIECE.—Samuel Kellett, San Francisco, Cal,

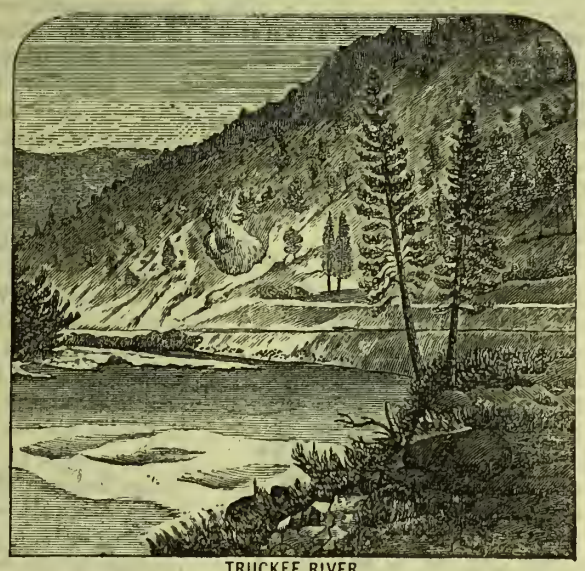
## The First Telegraphic Instrument.

An interesting relic of the early days of telegraphy has, it is said, been discovered at Morristown, N. J. It is the first instrument by which messages were received and sent by the aid of the electric current. When Professor Morse was experimenting on the power and capability of electricity as adapted to the transmission of words, he spent a large portion of his time at Morristown, where he was assisted by Alfred Vail, Esq., a practical machinist and inventor. At the Speedwell iron works of that town, then owned by the father of Mr. Vail, the experiment on the wires and on the construction of suitable instruments took place. On the completion of the experiments and the removal of Mr. Morse to Washington to bring his invention before Congress, Mr. Vail accompanied him, and, receiving the appointment of assistant-superintendent of telegraphs, was stationed at Baltimore at that end of the experimental line. The instrument now at Morristown was one of two taken from Morristown by Morse and Vail—Morse using one at Washington and Vail the other at Baltimore. The first message sent was the now well-known, "What hath God wrought," which Morse transmitted to Vail; but the first public message was the news of the nomination of Polk to the Presidency, by the Baltimore convention of 1844, sent by Vail to Morse. These instruments were in constant use for six years, when Mr. Vail, returning to Morristown, brought his with him, and where it has since remained in the possession of his family. Mr. Vail dying soon after, his instrument was specially left, by a clause in his will, to his eldest son as an heir-loom, while parts of instruments made during the experimental trials were left to Prof. Morse, with a request that he would give them at some future day to the New Jersey Historical Society. The old instrument works as well as when first made, and Saturday a message was sent to New York, and a reply received at Morristown. An excellent photograph of the instrument was also taken, and with it a visit was made to Prof. Morse, in New York. The professor was delighted to see the representation of the first instrument, having destroyed, as he said, the fellow instrument which he had used in 1844. He readily recognised it, and wrote a certificate across the picture as to its being a true photograph of the first instrument ever used to transmit public messages. He also expressed a wish that the photographs might be generally distributed, that it might be seen how little, in essential points, it differed with those now in use. With the exception of size and clumsiness, the instruments are almost exactly similar. The dimensions of the instrment are sixteen inches in length, seven inches in hight, six inches wide, with two magnets of three-inch diameter. The paper used was two and a half inches in width, three pens being proposed to be used. The weight of the instrument is twenty pounds. —*Ex.*

## Editorial Notes Eastward.—6.

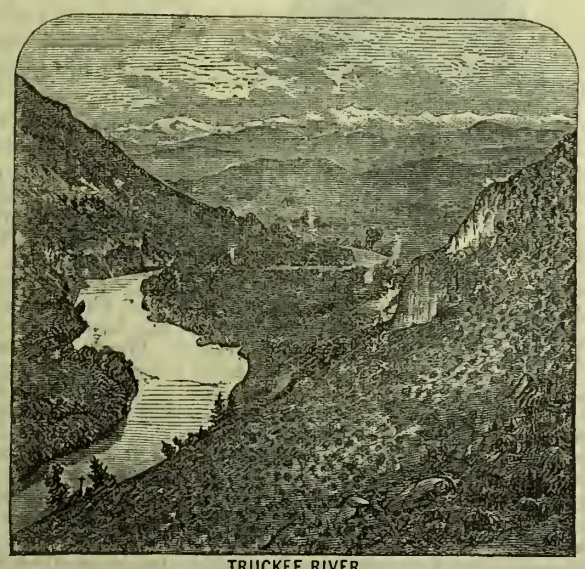
### Desert, Lake and Mountain.

I awoke in the morning in a new region. In the night we had passed from the grand Sierras, had run along the beautiful Truckee river (the pride of Nevada and justly esteemed most highly) for some sixty miles, had crossed this stream no less than five times, had left the noble trees and the bounding river behind us. Peeping out of my sleeping-berth window, my eyes met the sun appearing above the mountains east of the "Great Sink of the Humboldt." These mountains were set in deep blue, the near hills shadowed with brown. The waters of the lake at that instant appeared mirrored with silver with gleams of gold, and beautified with lively colors, with the many harmonizing hues of Nature's grand morning scenes o'er mountain, desert and lake. Probably this view is a rare occurrence, for here I expected to see only a tameless slough and a weary desert.

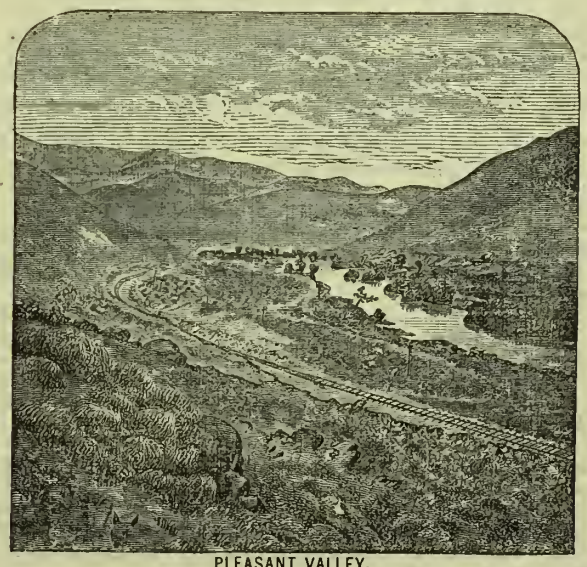


TRUCKEE RIVER.
275 miles from San Francisco—Altitude 6,100 feet.

ENTERING THE PALISADES.
570 miles from San Francisco—Altitude 4,800 feet.



TRUCKEE RIVER.
278 miles from San Francisco—Altitude 5,044 feet.



PLEASANT VALLEY.
300 miles from San Francisco—Altitude 4,500 feet.

But we find another companionable stream, the Humboldt, largest and longest of rivers in Nevada, our traveling companion for two hundred and fifty miles. We traverse with it a dry and sterile land, which it lightens up, however, here and there with shrubs and grasses. But our friend is said to degenerate as it advances, and its waters, at first pure and sweet, are said to become brackish and impure as they roll on.

Humboldt forms an oasis in our desert. At Mill City we are reminded of a proposed narrow-gauge road to the mining town of Unionville. Winnemucca, we are told, was once a stirring, bustling "stamping ground," and beyond it we meet a relic of its former times, the Humboldt Canal. Battle Mountain is an important point, if for no other reason to the traveler than as being an eating station. Beyond Beowawe, the Maiden's Grave, denoted by a cross, is pointed out to us, and the sad story is told of the young girl fading away on her westward journey. And so we travel on through the morning and noon, and find points of interest, pleasing flowers, in our desert, and come to Palisade.

D.

## New Publications.

BANCROFT'S TOURIST'S GUIDE.—The Geysers; San Francisco and around the Bay; North San Francisco. A. L. Bancroft & Co., 1871.

This is a neat little duodecimo volume of 220 pages, which provides a complete key to one of the most attractive and wonderful spots of all the wonderful localities in California, and one which, when properly known, will become one of the most popular resorts for tourists upon the Pacific Coast. Nowhere in this State can so much be seen in so short a time or in so short a distance of travel, as in and about Calistoga, the Geysers, Clear Lake, etc. The book before us furnishes a complete guide to and through all these localities, as well as full descriptions of the Napa, Santa Rosa, Petaluma, Sonoma and Russian river valleys. It also furnishes a short historical sketch of San Francisco, a topographical description of the city and its surroundings and a complete guide to all places of interest in and about it. We extract from the introductory remarks, the following description of

### A Trip into the Country.

What is it? Well, perhaps the cure of a cold, the roasting out of a rheumatism, the pasting up of tattered lungs, one more shuffle for life; perhaps an escape from odorous offices, ugly rows of figures, stagnations and lawsuits; an armistice, perhaps, in home affairs, a pause of the treadmill, a shifting of position, a momentary stillness in the storm; a brief escape, it may be, from arbitrary affection, from tinctured sweetness, from loves abrasions; perhaps it is a packing up of flitting heart-treasures, the wooing back of a gentle life; the last stake, which, when lost, leaves, in place of sweet fulness, a long, deep, noisome cavern.

But what is it? It is a towel after a bath, a thawing out of the system, oceanic distillation, extraction of neuralgia, physiologic solar lubrication; a coming out into broad sunlight and soft air, amid the ringing songs of birds, the music of brooks, and sweet flowers; out into the wild woods, over foaming streams, and out upon smooth lakes. It is taking a glance upward, a slipping of the fetters, a flash of the spirit into unwonted regions, a square look into the past and into the future. It is a renewal of the lease for another year, an extension of time on the part of our common creditor.

This book is furnished at the very low price of 75 cents. It will be found an invaluable requisite for tourists in California.

NEW MAP OF CENTRAL CALIFORNIA; Revised and Enlarged by A. L. Bancroft & Company, San Francisco.

As an accompaniment to Bancroft's Tourist's Guide to "The Yosemite and Around the Bay, South," and "The Geysers, and Around the Bay, North," we have here a revised and enlarged map of the central portions of the State, embracing all the railroads completed, or in early contemplation, and showing distinctly the great routes of travel described in the Guide Books above cited. Strangers and others in California will find this a very complete and perfect pocket map of all the central portions of the State. Price 75 cents.

PLASTICITY OF ROCKS.—The old cobble-stone pavement in Waverly Place, between Broadway and Mercer street, being now in process of removal, my attention has been drawn to the forms of the stones, especially the harder ones, quartzites, etc. The coarser granulated paving stones have generally crumbled, but the compact stones have been modified—convex surfaces in one case fitting into concave in another; none of them retaining a normal form. Now, although the crown of these stones has been worn by the attrition of constant and heavy travel, no such wear can have taken place on their perpendicular surfaces, and I am therefore convinced that they have been molded into one another by pressure only. On conversing with the workmen, they all concurred as to the fact, and the foreman stated that his attention had been called to it before. Very probably I am myself only repeating what is already well known to others.—*George Gibbs, New York.*

QUITE a number of distinguished foreign personages are at present sojourning in this city.

BY OUR LADY EDITORS.

## The Four-Leaved Clover.

There was once a poor peasant youth living on the slope of a beautiful hill, who loved a pretty shepherdess who tended her flock far below in the valley, where the grass was greener than emeralds, where the sun came latest, and from whence it departed earliest. The pretty shepherdess used to raise her bright eyes toward the hill, and wish that she might dwell on its slope, and catch the sunbeams a little sooner and keep them a little longer; while the youth would gaze down into the pleasant valley, and think how wonderfully the sun illuminated it. But he had somewhere heard, or read, or dreamed that if one found a four-leaved clover he might wish for what he would and it should be his; good fortune should follow him all his days and bear him company. Therefore, he gave his flocks into the care of a younger brother, and set off to find the four-leaved clover which was to endow him with all that was precious—riches, health, and a sweetheart; for though Corydon's heart was set upon Phyllis, the pretty shepherdess in the valley, he hadn't the smallest hope that she would take him as he was, never having asked her.

So he took his way over hill and dale, through bush and brake, across loitering brooks and swiftly flowing rivers. He walked with his eyes on the ground, and the thorns tore his clothes, and his feet grew weary, and his heart heavy with seeking and finding nothing. At night he slept amidst the dew, and ate of wild, ripe berries, and of honey that the wild bees hoard. When, despairing, he shouted, "Where is my four-leaved clover, my four-leaved clover?" the echo answered, "Over! over?" and lured him on; and the mischievous winds borrowed the odor of distant clover fields and cheated him with hope close at hand; while the rain drenched him in a frolic, and the stars winked as if they were laughing at him. But still he pursued his search; he journeyed into far countries; he saw strange peoples and places; he was arrested for trespass, for vagrancy, for lunacy and sometimes when he managed to escape from confinement by promising his jailor a share of his good fortune when he should find the clover; then the fields were hidden under drifts of snow, or had just been mown, four-leaved clovers and all. Still he bent his steps through shadow-haunted woods, and slept in caves and on the edge of precipices, and heard wild creatures roaring in the recesses of the forest; and at length, after long, long years of search without success, he turned his face toward home. The sun was withdrawing from the green valley as he neared it, lingering only in long lines of light where it pierced through an opening among the hills, while the hills themselves were like shining goals.

It seemed as if he had left it but yesterday, for such secluded places change slowly. And were not these the same flocks that he left browsing on the slope? Were not these the same shepherds and shepherdesses reclining in the shade? Was not this his Phyllis coming to meet him after her day's toil? But when he put up his hands, and would have embraced her, she took refuge in the arms of a middle-aged bronzed woman, who stood with sad, faded eyes watching for her on the cottage threshold. "What would you, stranger?" she asked of the peasant, who was no longer a youth, but wrinkled and gray. "For shame, to fright my child with your unseemly ways! If you are hungry, come in and sup; and we will even give you a mat on the floor for a night's rest, and a pillow of herbs."

"No, I am not hungry—not for food. I will even trudge up the slope to my cot." So he went on till he came to where the wild will of the mountain torrent had been tamed to do a good turn for its neighbor the mill; and the dusty miller standing in his doorway called out to him:

"Good-day, stranger. Whither are you bound, may I ask—on a pilgrimage to the stars?"

"Up the hill yonder, to my own people."

"Ay, then you're no stranger to these parts? Yet I've lived here, man and boy, fifty odd years; but bless me, I never laid eyes on you before!"

"Like as not it must have been a good spell since I left this place, though it seems but yesterday. Mayhap you have heard of one Corydon, who kept his flocks hereabouts?"

"Ay, ay, everybody's heard of him. If a fellow does a foolish thing, they cry, 'Silly Corydon! He was a hair-brained simpleton, who ran after a clover leaf. He left his flocks and sweetheart, and traveled after luck; but luck had the start of him. And then, to be sure, if luck won't come to you, say I don't coax her, but wait a while. Now there's the torrent; when it sulks and dries up, and the mill's mum, do I toil up the hill yonder, and go to meddling with nature? Not I; she knows her business, and I know mine. I just sit down and wait and watch the shadows and the clouds, and by-and-by there's a rush, and here's the torrent again hard at work, and the mill busy as ever! Ay, ay, Corydon was too much in love with luck, though he left behind him a sweetheart, Phyllis, who spoiled her eyes watching for him, and then married, for better or worse. You passed her cottage a short way back, there!"

"A bronzed woman, with gray locks and wrinkles? I should never have known her!" and then picked up his staff and went on. He had not the heart to tell the miller that he was silly Corydon himself. By-and-by he drew up at his own cottage and looked in. The family were seated for the evening meal; his brother, a hale, hearty man, in the prime of life, with his smiling wife and rosy-faced children laughing like the water-brooks, and keeping up a cheerful din. It seemed to Corydon that he was gazing at the picture of which his own life might have proved had he not fallen in love with luck. The tears trembled in his eyes at the thought—at the remembrance of Phyllis in her bloom, of all he had lost, of the little gained; the tears trembled in his dim eyes, and fell one by one, upon a four-leaved clover growing there beside his own door stone!

## A True Marriage.

I believe there are few thoughtful men who have not come to regard as one of the least explicable among the great riddles of the earthly economy, the rarity of well-assorted marriages. It might be so different, one cannot help thinking. The adaptations for harmony so wonderful! The elements of happiness so manifold and rich? Yet how often—how miserably sometimes—it all miscarries! The water of Paradise turned to fountains of bitterness—the gifts of Heaven turned to curses upon earth!

I do not mean that there are few unions yielding reasonable comfort, friendly relations, a life free from open quarrel or secret heart-burning; but I speak of marriage, without flaw or jar—a mating alike of the material with its intangible affinities and its wondrous magnetisms and of the immaterial principle within that survives the death-change. I speak of a heart-home pervaded by harmony not only unbroken—immutable as that of the spheres; felt to be so by those whom it blesses, calms, satisfies; a social state to which, when man and woman attain, there remains nothing in the way of earthly need or acquisition, save daily bread, to be converted or prayed for.

Some think that, in this trial-phase of our existence, no such state of harmony and happiness is to be found. Among the few who do find it none of these skeptics will have a place. No entrance into that temple except for those who believe! Without faith in the Good and Beautiful—the Good that is felt, not seen—the Beautiful that must be conceived before it is realized—a man is shut out from the highest enjoyment. And such a man can do little to ameliorate the world or elevate his race—*Lippincott's Magazine.*

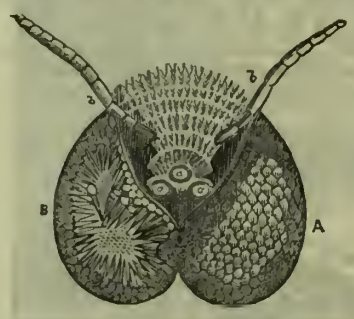
## Muscle vs. Brains.

Young men formerly went to college to cultivate their intellects and acquire useful knowledge; but judging from newspaper reports, we conclude that muscle is superseding brain in some of our venerable colleges. The sharpest and most exciting competition is found in base ball and the boat race. Would it not be much better to develop muscle in some useful way? There are a thousand ways in which muscle may be strengthened, and at the same time other valuable results may be produced. When the race is run, or the game played, there is no available product, unless it be improved muscle; but even that is doubtful as things now go.

But let the award—the champion's belt, or whatever it is—be given him who can turn the most perfect horse-shoe at a single heat, make the best pannel door in a given time, or something of the kind that will be of use to the world. The game or other sports are useful when indulged in moderately, but when carried to excess, as some of them now are by college students, they become a detriment to the actor and a nuisance to society.—*Jour. Agriculture.*

## Home Courtesies.

The happiest household in the world is that in which courtesy is new every morning and fresh every evening, like the celestial benedictions. How many of us make home the rag-bag of ill humors and caprices and wretched moods of every kind, while we carefully hide them from the stranger. When the guest arrives, we slide a chair over the rent in the carpet, and slip a tidy over the worn edge of the sofa cushion, and lay a prettily-bound book over the ink stain upon the parlor table cloth; and so at his coming the flying hair is smoothed, and the sullen look is gilded with a smile, and the sour tone is suddenly wonderfully sweet. Shriveled old Autumn blooms in a moment into rosy Spring. And how is a youth to know that this house, where everything seems to smile, is not always as warm and sunny as he finds it? Yet this young woman, so neatly dressed, so quietly mannered, so fascinating to the young man,




THE EYE OF A BEE—FIG. 1.

may be the most "inefficient" of human beings. Still he can never know it until it is too late. He cannot put it to proof. He takes the divinity upon trust. All he knows is that she is a woman, and that he loves her.

Female Influence is omnipotent for weal or woe. When the destimes of men are all unfolded in the final day, how many of the lost will reflect with anguish on female influence! We need it in the nursery, where mothers can imbue the minds of

THE EYE OF A COCKCHAFER—FIG. 2.

children with virtuous principles. We need it in childhood and youth when a mother's example and a mother's warning and kind admonitions are like a golden chain.

A good mother, then, is the greatest of all earthly blessings. The influence she exerts is the most excellent known on earth. Children brought up by a vigorous mother—who knows her duty and does it—who doubts their own virtue? She makes the earliest, the deepest, and the most lasting impressions on their hearts. They are instructed to hate and shun vice, and the seductions to it, and to admire and practice virtue.

Tan and Sunburn.—Ladies who have spent the summer in the country and at the seaside, may be glad to know of some simple remedies for tan and sunburn. When the face is burnt red by exposure, it is best to bathe it with a little cold cream; this simple and pleasant wash will remove the discoloration and swelling as if by magic, and leave the skin cool and smooth. To prevent tan and sunburn, it is a good plan to take the juice of a fresh lemon and rub it in thoroughly before going into the open air, allowing it to dry on the face; at night dust a little oat meal upon the skin, and the next morning after washing it off apply a little cold cream or buttermilk. Such a simple and harmless treatment will be found much more effectual than the use of cosmetics, which close up the pores, and dry and roughen the finest complexion in a frightful way, and in a short space of time.

# Young Folks' Column.

## The Eyes of Insects.

Have any of our young folks ever thought what a wonderful thing the human eye is, by which they are enabled to see and recognize their friends, and to look upon and enjoy the beautiful flowers, and all the thousands of objects of interest by which they are surrounded? How it rolls from side to side, up and down, in all directions, to save its owner the trouble of turning his head every time he wishes to change the object of his vision. It is really a wonderful thing!

The lower orders of creation have also eyes wonderfully made, but very different from yours. Many of them, like the fly, the ant, and the bee and many similar insects, have eyes which do not move; but this is compensated by their having a great number of them. Our artist has drawn and engraved one of these curious eyes—that of a bee—from which you will understand how these numerous eyes, in one individual, are situated, and how the little insects can make use of them.

By looking at Figure 1, in the adjoining column, you will notice that one side, marked A, looks much like the top of a pepper box, or a honey comb. Now every one of these little cells, as we call them, is a perfect eye, the whole representing that which we call by that name in the bee, but magnified many hundred times as large as it appears naturally. On the other side, marked B, the engraver has cut away the surface of the compound eye, as we call it, and taken away a great number of the little or individual eyes, so that you can see how they are constructed.

Now each of these little tubes is not only an eye, but it is also a kind of telescope. They look in every direction. You cannot catch a bee asleep, or not looking at you, even when you come up ever so slyly behind him; perhaps you don't want to catch him for fear of being stung. The insect don't have to turn his head as you do, to look different ways; and, as a general thing, his neck is so short he could'nt turn it if he tried to.

The outer surface of each little eye is rounded, just like your own, only more round like a watch crystal. There is one advantage in having so many eyes—they don't miss one when it is put out; for some of these insects have a great many—as many as 20,000 of these little tube eyes have been counted on a single insect, and each one of them looks in its own direction, and attends to its own business.

In Figure 1, *a, a, a,* near the center, are three small independent or single eyes, which are common to most insects of this kind.

Figure 2 represents the eye of a cockchafer, cut down through the center, so as to show more clearly the arrangement of the little telescopic tubes already mentioned.

Now we presume, not one of our little readers would exchange their two beautiful eyes for those of an insect, notwithstanding it may have so many of them. But still, none of us, either old or young, can fail to admire the perfect fitness of the insect eye to the habits and purposes of its possessor.

Three little girls who had carefully buried in a garden in Portsmouth, New Hampshire, the dead body of a pet bird, after consultation, sent one of their number into the house to inquire "if people didn't sing at funerals." On being told that they often did, the messenger ran back, and in a few minutes the three were seen standing hand in hand around the little mound, gravely singing "Shoo fly, don't bodder me."

A little four-year old remarked to her mamma on going to bed: "I am not afraid of the dark." "No, of course you are not," replied her mamma, "for it can't hurt you." "But, mamma, I was a little afraid once, when I went to the pantry in the dark to get a cookey." "What were you afraid of?" asked her mamma. "I was afraid I coudn't find the cookies."

# DOMESTIC ECONOMY.

## Ironing Made Easy.

Good ironing of clothes is a fine art, and is acquired by patient practice, and the habit of doing *all* work conscientiously. In families where there are young girls, there is often much nice ironing to do, aud it should never fall to the mother's charge, but should be done by those who require it, except in cases where servants are kept for that purpose; and it is always well for young ladies to know how to iron in the best manner, even when there is no necessity for their doing it. Nothing more greatly facilitates the process of ironing than to have each one who irons possess her own ironing tools, such as holders, etc. In otherwise orderly families, I have seen yonng ladies catch up almost anything that was conveniently near, to hold irons with; often scorching valuable articles not suitable for the purpose.

### Ironing Bags.

It will be found a great convenience for each ironer to have a bag, fifteen or eighteen inches square, suitably furnished, and used only by herself. It should contain an ironing-holder, of a size and thickness to suit herself. In the ironing-bags, there should always be a thin, soft-leaved pamphlet, for rubbing the irons upon, when first removed from the fire; do not use the covers. Keep in the bag also a nice, soft cloth of a light color, to finish off the iron with, also a light tin ring for resting irons upon. A muffin-ring is just the thing. Another smaller bag within the other should contain a small, white cloth for rubbing specks from starched clothes, and a soft, fine cloth for covering bosoms and collars if desired. It saves also much time and vexation to keep a wet towel near, to wipe the hauds when starching, instead of rushing across a room to wash them while doing starched clothes.

### Ironing Holders

Are very essential, and should be made and kept with care. Those stuffed with sawdust are least heating to the hand. The sawdust should be made and thinly quilted into the holder; and to be just right, there should be two thin quilted holders stitched together, and then the cover put over both. Wood being a non-conductor, in a great degree, the hand is not so injuriously affected by heat as from the old-fashioned metal-handle and a common holder. A very good way is to interlay the holder with a few thicknesses of newspaper in the middle to make it lighter, and the hand will be less heated than if it is wholly made of cloth. Each ironing-holder should have one or two covers o white cloth or light calico made to fit nicely, and should be fastened on with buttons or strings; then, when one cover becomes soiled, it can be changed, and is far preferable to having several holders.

### Ironing Boards.

One should have a small ironing-board for collars, cuffs, etc., a little larger than a handkerchief, and it should be covered with cloth and flannel. To the upper corners of the board a strong string should be nailed to hang it up by, and a calico cloth should be attached to the top, like the cover of a pamphlet, large enough to fall over both sides when hanging, to keep it from dust, and should be confined closely around the board by strings. With two such boards, two can iron at the same table without interfering with each other, or they could be carried to any part of the house, and save all the time usually lost by folding and putting away ironing things of large size, as blankets and covers, which are often put away in a hurried and disorderly way, to the vexation of the next one who goes to the ironing drawer or basket.

### An Invention Wanted.

I wish some woman would invent a movable wooden handle for flat-irons, which could be easily adjusted on taking an iron from the fire. Some woman, whose husband is a blacksmith, and would make her models, perhaps might succeed.

These items may seem small and insignificant; but attention to them would save much time and trouble, and render an otherwise tedious process pleasant and improving to the ironers of the family, by cultivatiug habits of order and regularity, and a just regard for the comfort of others. We have taken the above substantiaily from the *American Agriculturist.*

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NEW PROCESS OF PRESERVING MEAT.—A new process of preserving meat has just been perfected by Mr. Richard Jones. It has long been known that meat preserved in tins by the ordinary process of heating in a chloride of calcium bath for a prolonged period, and then closing the orifice is surrounded by jelly, which, with most of its juice, has been extracted from the meat, leaving a tasteless and exhausted fibre. To obviate this objection, Mr. Jones exhausts the steam by a tube connected with a vacuum chamber, the meat being thus cooked with its juices left in their natural place amongst the muscular substances; while the whole process can be effected at a lower temperature than has been heretofore used, and with less injury to the flavor and appearance of the meat. It is estimated that meat can be prepared in Australia or New Zealand, including freight of tin plates, etc., freight home, and 5 per cent. commission for selling, at 2d per lb. for 6-lb tins, and about 2¼ per lb for 4-lb tins.

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FARMERS' WIVES.—If I had the ability I would like to write a plea for farmer's wives. They are not slaves to fashion and etiquette, as your city ladies are (poor creatures!) and they know something abont toil and care and anxiety. But notwithstanding the grandeur, and glitter, and fascination of city life, I had rather be a farmer's wife and wear ont in honest toil and labor of love, and gaiu my bread by the sweat of my brow, than to bow down to the goddess fashion, with her ridiculous flummeries, and exhaust what few brains I have in studying etiquette, gentility and style. Better to spend our strength in useful labor while the hours pass swiftly by, than to be dying with *ennui* as many idle fashionable people are, not knowing what to do with all their time. Preserve me from walking on the "upper crust," feeling all the time that it may break and let me through! I would rather walk on the green grass with the blue sky over my head and feel that I stand on *terra firma.—Household.*

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TO REMOVE "MOTH PATCHES."—In a late *Rural New Yorker* is an inquiry from M. L. P. for means with which to remove "moth patches" from the skin; and a reply advising to drink hard cider. Now it is the misfortune of many of your readers to live in sections of the country where cider can be had only at much expense and trouble; therefore I offer another, and I believe, sure remedy. Wash the patches with a solution of common bicarbonate of soda and water several times during the day for two days, or until the patches are removed, which will usually be in forty-eight hours. After the process, wash with some nice toilet soap, and the skin will be left nice, smooth aud clear of patches.—*Rural New Yorker.*

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A HOUSEKEEPER'S TRIALS.—A lady in giving an account of her trials on washing day, says: "I have only two servants and so have to dress the children and mind the baby, while a pile of sewing lays waiting in the workbasket." Ah! my sister, what would you do if you had to dress the children, get the breakfast, do the washing and perhaps make cheese or churn and no servant at all?

Thousands of women in the country have to do it, day after day, and year after year. There are vegetables to gather, plums to pick, wool to spin and weave and knit, apples to pick and dry, and sometimes her help is needed to rake hay.

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A GOOD HELP-MATE.—The St. Paul *Press* publishes a private letter from a lady in the country, which shows that she "does her own cooking and baking on a farm that grows 2,000 bushels of grain, for a large family, including the voracious harvest hands, and who, in addition to all these severe domestic toils, raises with her own hands over three hundred varieties of choice flowers, doing all the laying out, digging, raking, hoeing and manuring herself."

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NOW AND THEN.—An old negro woman, in accounting for lack of discipline among youngsters, insists that it is because their mothers wear gaiters. "You see, when we wore low shoes and the chillun' wanted whippin', we took off a shoe mighty quick and guv 'em a good spanking', but now, how's a body to get a gaiter off in time? So the chillun gits no whippin' at all now-a-days."

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ALL SALTED PROVISIONS should be watched to see that they are kept under the brine; for if one piece of meat lies up it will spoil the whole barrel. If the brine looks bloody, it must be scalded and more salt added; when cold pour back.

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A BUSHEL of good beets, washed and crushed, will make four or five gallons of the best vinegar.

## Domestic Receipts.

COOLING DRINKS.—The presence of hot weather is creating a demand for mild and cooling drinks. We append two very good receipts for preparing such:—

A delicious and slightly aperient effervescing citrate of magnesia may be made by thoroughly mixing 3 ounces of powdered loaf sugar with 2 ounces of powdered citric acid, then add ¾ ounce of calcined magnesia, 1½ ounce of bicarbonate of soda, aud 1½ ounce of tartaric acid. Pass the whole thrice through a fine sieve, and then moisten it with very strong alcohol. Granulate it by passing it through a coarse sieve, and dry on a wooden tray at a temperature of 50° C. When dry add ten drops of esseutial oil of lemons, and then bottle at once in clean dry bottles.

A CONVENIENT AND EXCELLENT BEER FOR summer may be made as follows:—Take two ounces of ground ginger; one ounce of cream of tartar; one and one-half pounds of white sugar, and two lemons cut in thin slices and seeds taken out. Pour on these ingredients three gallons of boiling water; let it stand until quite cool; then stir well into a coffee cup of brewer's yeast. In twenty-four hours it will be ready to bottle, and in thirty-six will be fit to drink, but is better in a week.

FRENCH TOAST.—(A good method of disposing of stale bread.) Beat an egg on a plate and have a liitle dish of milk standing by. Dip the slices of bread first in the milk, then turn them ou each side in the egg, and then lay them at once in the hot pan, with a little melted butter. Fry to a nice brown and send to table hot. Eat with butter, syrup or sugar.

ORANGE CREAM.—One pint cream, yolks of three eggs, six ounces powdered sugar, one orange; mix thoroughly, heat, and stir till cold.

LEMON RICE PUDDING.—Boil one-half piut of rice in one quart of milk until very soft. Add to it, while hot, the yolks of three eggs, the grated rind of two lemons, three tablespoonsful of sugar, and a pinch of salt. If too thick, add a little cold milk—it should be a little thicker than boiled custard. Turn into a pudding dish. Beat the whites of the eggs very stiff, together with eight tablespoonsful of sugar and the juice of the lemons, and brown on top. Set on the ice and eat very cold.

## Mechanical Hints.

WHITEWASH OF DIFFERENT COLORS.—Take of good unslacked lime half a bushel; slack with warm water (rain water if convenient) in a forty-five gallon barrel. Keep covered while slacking. Use just enough water to slack dry. Let the lime stand four or five hours to insure its being well slacked. If it is desirable to have a good, smooth wash, the slacked lime shonld be sifted through a moderately fine sieve; if to be used on barns, out-buildings, and fences, it is not material about sifting.

To the lime thus prepared, add enough water to half fill the barrel, then add two gallons of flour starch, hot; one quart of grease (to make it run smoothly); four pounds of melted rosin, hot, to make it stick. The floured starch will also have the same effect.

Some use salt in making whitewash. We would not, as salt in damp weather causes the wash to crack and scale off.

After preparing the whitewash as above, fill your barrel with water, cold or hot, and you will have a wash that will stand quite well for five years. To color dark, or slate, use lampblack; for yellow, use yellow ochre; for blue, use indigo; for different shades of color, vary to suit. If the wash gets too thick make it thin with water. The older the above whitewash becomes, the better it will be, if it is kept covered with water, and not allowed to become hard.

SHALL WE PAINT SHINGLES?—Martin E. Thompson, who is endorsed by the Farmer's Club of the American Institute as good authority says that it destroys shingle roofs to paint them, and urges people not to paint them. He says the water backs up under painted shingles, so that they rot off much sooner than if left without paint. A cheap way to preserve shingles is to soak them, before laying, in whitewash made with the lye of hard wood ashes, with a little common salt dissolved in it. Heat the solution hot, and soak thoroughly.

POLISH.—Aqua ammonia, 1 oz.; prepared chalk, ⅛ of an oz., mixed, makes an excellent polish for plated ware, rings, etc. It should be used with a soft brush or buckskin.

# LIFE THOUGHTS.

NOTHING renders the mind so narrow and so little as the want of social intercourse.

VIRTUE and happiness are mother and daughter.

WISE MEN *make* more opportunities than they *find.*

FALSE PRIDE is the spiked fence that shuts us out from the garden of Paradise.

HUMILITY and generous truth are the angels that open the gates for our entrance into Paradise.

A SINCERE confession of our ignorance is one of the fairest and surest testimonies of our judgment.

THE FEARFUL DOOM.—It is comparatively easy to refrain from forming habits of intemperance; but it is almost impossible to break away from them when formed.

ANY one can drift. But it takes prayer, religious principle, earnestness of purpose, and constaut watching to resist the evil of this world—to struggle against the tide.

COULD we see things as God sees them, we shouid not have a solitary wish for a single alteration in our circumstances; we should say "It is well."

CHRISTIANS pray with outspread, but clean hands; with uncovered head, because they are not ashamed; and without the aid of a prompter, because we pray from the heart.—*Tertullian.*

EVERY parent is like a looking glass for his children to dress themselves by. Therefore, parents should take care to keep the glass bright aud clear, not dull and spotted, as their good example is a rich inheritance for the rising generation.

## Good Sense.

The great trouble among American youth is the lack of application and thoroughness in what they undertake. Anything that cannot be learned by superficial study is given the go-by for something less tedious and irksome. Study and hard labor are looked at from a wrong standpoint; and as a consequence the clerkship ranks are full of unemployed young men, and the professions are overflowing with mediocrity, while good mechanics find plenty of work at living prices. The evil spoken of is seriously felt. And those who work at a trade do it in so loose and careless a manner that they often are not competent to do the work they promise to do.

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WE are needy in every condition. We are soldiers, and we need that grace should find us both shield and sword. We are pilgrims, and we need that love should give us both a staff and a guide. We are sailing over the sea of life, and we need that the wind of the Spirit shall fill our sails and that Christ shall be our pilot. There is figure under which the Christian life can be represented in which our need is not a very conspicuous part of the image. In all aspects we are poor and needy.—*Spurgeon.*

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FREBEL says:—"He who will recognize the Creator must early exercise his own creative powers; exercise them with a feelng of consciousness for the representation of the good; for works are the bond that next to faith unite the creature with the Creator; and the consciousness of doing the same is the real living union between man and God; alike in the individual or in the race. With all this education must begin, and to this end it must always tend.

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CONFESS YOUR WRONGS.—If you have wronged your brother, do not persist in the wrong; let not unworthy shame restrain you; but go to him with tears of love and say: "I acted in blindness and passion. I did wrong—now I mean to do right," and if that brother is worthy, he will but love and cherish you the more tenderly for this generous emotion.

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SAVE.—What is there a man cannot save and improve? By curbing appetite and restraining passion, by observing prudence and maintaiuing regularity, he may save his health, husband his strength, and preserve the springs of life, as constant fountains of energy and happiness, to sustain and cherish him under every labor and hardship. Time—the indolent might make wealth of it—one of the hours wasted each day on trifles, saved and devoted to improvement, is enough to make an ignorant man wise iu ten years—to brighten up and strengthen faculties perishing with rust—to make life a fruitful field, and death a harvester of glorious deeds.

## Santa Cruz Farmers' Club.

[Reported for the PRESS by ROGER CONANT.]

The Club met on Saturday afternoon, June 3d. S. S. Roberts and C. P. Batchelder were elected members.

Mr. Locke, from the committee on books, made a partial report, and was allowed till the next meeting to complete it. The report of the

### Committee on Grasses

being called for, Mr. Morgan said:—From what I can learn, little effort has been made here to cultivate new varieties of grasses. So far as they have been made, forage grasses have failed. Where alfalfa grass has been raised in the hills, the gophers have destroyed it. In some parts of the foot-hills it has been raised successfully, but that depends upon the character of the soil. Very little has been raised in our foot-hills. From all the information I can obtain, it has proved a failure. The alfalfa would not thrive here.

Mr. Wood—I was asking Mr. Pilkington, who lives near me, about these grasses. He said that in Mexico they used to raise two crops every season, but it could only be done by thorough irrigation.

Mr. Morgan—I have seen it where two or three crops could be raised during the season, but there is no spot here adapted to its growth, unless it is round Mr. Cahoon's place. Mr. Parish showed me some that had been growing in his yard for ten years, but it did not seem to grow well.

Mr. Mattison—That is because he allows goats and fowls to run over it.

Mr. Locke—The grass that grew on Mr. Cahoon's ditch, proved a failure, and it would always fail unless sown in places where the roots can reach the water. You could't raise it about a ditch.

Mr. Mattison — Mr. Nichols told me, when he lived at Mr. Cahoon's that it grew from eighteen inches to two feet high. I have also seen the yellow alfalfa growing in Arana and Blackburn gulches, but it is not so sweet as the blue blossom.

Mr. Morgan—Mr. Cahoon promised to make a written report upon this subject. He was allowed further time to pursue his investigations.

### The Crops, and When to Cut Hay.

Mr. Locke—I think that it would be well for the Club to discuss the character of the crops that are now coming on. In regard to the proper time for cutting grain for hay, many farmers think that oats must begin to turn before cutting for hay. It is my opinion they ought to be cut earlier, early as in blossom. They will have as much weight as when cut later. The substance that has gone into the oats, was in the blossom. [In the stalk, not the blossom.—ED. PRESS.] Farmers don't cut early; they think that by waiting till the stalks get older and longer, they will gain in weight. The best thing to give milch cows is green grass and the next best thing is green grass cured. My experience in haying is that it should be cut early. When cut late, what we gain in weight we lose ninutriment.

Mr. Sawin—From my observations in cutting green grain and dry grain, our farmers cut both too early and too late. Oats ought to be cut when out of blossom, and the nutriment is in the grain. The better to judge as to nutriment, is to cut the grain at different seasons of the year. In my opinion grain should be cut when in the milk.

Mr. Mattison—Herbists, when in want of herbs, cut when in blossom.

Mr. Freely—Grain when cut green is apt to physic and scour stock badly. Barley should, however, be cut early.

Mr. Mattison—Wheat and oats pass a cow, and she derives no benefit from them.

Mr. Freely—Sowed wheat hay is better than any other. Grain, when cut green, is hurtful to horses, and should be cut later, when the substance is considerably in the stalk.

Mr. Locke—My impression is that dry grain scours as much as green. Many think that they are scouring when they are doing nothing of the kind. It is all a notion. They will not scour any more in summer than in winter.

Mr. Mattison—That is my impression.

Mr. Freeley—Barley and wild oat hay would not produce the same effect as the wheat hay.

Mr. Kinsley—Wheat hay will not do for horses hard worked. Grain should be cut ten days earlier for horses than cows. It should be cut when in milk, and not when in blossom.

Mr. Morgan—I would like to ask for information, whether hay cut and fed green, is as beneficial to stock as when cut and fed dry? Stock when turned out to grass in the spring, eat the seeds of grain, and become hard fat.

Mr. Locke—In regard to scouring we had a little experience on our ranch last spring. The man who had assisted me left at that time, and the young man who took his place, commenced feeding the horses barley, giving them the same as they did the cows. They fed in that way some time before I knew it. I told them to be careful how they feed in that way, as it might hurt the horses. The horses were not hard worked, and I never saw them look so well in my life. They were very loose all the time, but not scouring.

Mr. Humphrey—Weight of hay is the principal object with most of our farmers. Some lots of hay produce only two-thirds as much when cut in blossom, as when in milk.

Mr. Kinsley—Hay should be cocked as green as can be kept without molding.

Mr. Locke—I saw some cocks of hay in Soquel, whose tops looked more like dung heaps than anything else. On turning them over they were found to be green. Some say mow in the morning, cock it up at night, and double cock again to keep the hay from molding.

Mr. Kinsley—There is hardly any day here that farmers will lose in haying. In cocking hay, it depends entirely upon the weather. In my opinion, the sooner the better.

Mr. Humphrey—That depends on how the hay is cut.

Adjourned to third Saturday in June.

[As the question of cutting and curing hay is one of much importance, and appropriate to the season, we will endeavor to give an article upon the subject in our next issue.—EDS. PRESS.]

## A Subterranean Stream in Los Angeles County.

The following article from the Los Angeles *News* will be read with interest in connection with the letter of our Los Angeles correspondent on page 371 of the present issue:—

The success of the experiment of Messrs. Downey & Beaudry in sinking artesian wells on their tract on the rancho of San Pedro or Dominquez demonstrates the existence of conditions of great importance and bids fair to open a new field to enterprise and to render fertile a large area of land now unproductive on account of want of water. The wells are situated on the elevated portion of the plain and midway between this city and Wilmington. The subterraneous stream is tapped at the depth of about 120 feet, and the water rushes through a seven-inch pipe with a force which renders manifest the existence of a large supply beneath the plains—a mighty river flowing underground from the mountains to the sea.

### The Course of the Hidden Stream.

The ridge of land which seems to lie immediately over the hidden channel, cuts the valley of Los Angeles diagonally, and ranges from La Ballona to the Dominquez hill, where it appears to be intersected by the Los Angeles and San Gabriel rivers. It is again perceived on the Cerritos rancho and terminates on the Alamitos. The proprietors of the lands now furnished with flowing wells, were led, some three years ago, to experiment for artesian water, by observing on Mr. Burnett's rancho what might almost be called

### A Natural Artesian Well,

the famous "Aguage de Sentinela." This is a natural jet of pure water, issuing from the cone of the ridge before mentioned. The analogy it suggested was followed out, and the result is apparent to-day, in the wells, which attest the energy and enterprise of the proprietors, and promise to afford a means of developing the resources of our valley. A great advantage claimed for them is their elevated situation, and the inclination of the valley, which slopes gently on either side toward both the bay and the city, while the rocky foundation reached in boring assures their permanence. Though these were the first sunk in the country, the flow is still full, clear and powerful.

### Projected Enterprise.

Upon lands adjoining those already watered and running down to the railroad, Messrs. Downey, Hellman & Ducommon intend to bore a series of wells and put the lands in market for homesteads. The soil is said to be fertile and the situation commanding, taking in at a sweep the view of the entire valley, and easily accessible. In a country like ours, where wealth and prosperity depend so ultimately on the supply of water, the importance of such an enterprise as that in contemplation can scarcely be overrated. Every effort to augment the supply, every step towards utilizing the vast reservoirs which underlie us, increases the wealth and resources of the county, and to an imaginative mind suggests visions of groves and gardens where all is now bare and sterile.

## Railroad Progress.

### Washington Territory and Oregon.

The Northern Pacific is being pushed with energy. The road is rapidly advancing at the eastern end. The first spike of the Pacific division was driven on May 16th, at Kalama, W. T., and grading, track-laying, etc., are progressing actively. The contract for grading 25 miles from Kalama towards Puget Sound calls for the completion of this in October. The route of the road is still a secret. The citizens of Walla Walla have been active in their endeavor to have it run through their place. At least, it was stated that, per agreement with the N. P., they paid to have a survey made with this view, from their city to Wallula, on the Columbia River, 31¾ miles. This showed the whole fall between the two points to be 600 feet; heaviest grade, 69 feet; estimated cost, $21,271 per mile. The W. W. *Union*, of May 27th, publishes the report of the survey, which is to be laid before the N. P. Co., although the line would appear to be only a feeder.

On the Oregon and California Railroad work has also been progressing, the track being completed to the Calipoya river, 10 miles south of Albany, on April 14th. On April 28th, construction trains were running to the one-hundred mile stake. The citizens of Eugene City and of Harrisburg have been troubled lest their places should be left one side of the line, and are raising money to have it run to them, Holladay agreeing to accommodate them if they would subscribe $60,000; Eugene City had raised $10,000 by April 18th. The reported junction with the new California Pacific Extension Eastward has given rise to fresh conjectures, but as two connections are given, it would appear that the interests of Southern Oregon will still be subserved.

The Portland City Council has appropriated $5,000 towards the survey of the Portland, Dalles and Salt Lake R. R. The narrow gauge road from Yaquina Bay to Corvallis, on the Willamette, is still talked of. Surveys are to be made immediately by the Columbia River and Willamette R. R. Co., for a line from Salem to the Columbia, as a feeder, it is said, of the Northern Pacific.

### California.

Work has not yet re-commenced on the California and Oregon R. R. We have already spoken fully of the new route through the northern counties, Oregon and Idaho, connecting the California Pacific and the U. P. R. R.

THE CALIFORNIA PACIFIC has been very active. It has purchased the Sacramento line of boats. It consummated on April 13th the purchase of the S. F. and Northern Pacific R. R., from Donahue's Landing to Santa Rosa, Sonoma county, 31 miles; and on May 7th commenced grading on this end of the connecting line from Adelante (junction of the Sacramento and Napa Valley branches), passing within a mile of Sonoma to Petaluma; and the northern end was finished on May 6th to within six miles of Healdsburg. Early in May the gauge of the Oroville road was changed to conform to that of the California Pacific.

SAN JOAQUIN VALLEY.—Several months ago, Stockton and San Joaquin county voted $500,000 in bonds, payable on completion of 25 miles of road, to the Stockton and Visalia R. R. The legality of the action was questioned, but was lately reaffirmed by the Supreme Court. But since the vote the C. P. R. R. has built the San Joaquin Valley R. R. south (from Stockton) to Modesto, and the Stockton and Copperopolis road has been completed by the California Pacific R. R. to Peters.

These facts have led the Stockton and Visalia company to make an arrangement with the Stockton and Copperopolis road, whereby they build from Peters to Visalia, and work on this line will be commenced soon. Material for it has already been forwarded. On the San Joaquin Valley road work is reported as recommenced about the first of the month. Thus, it would appear, there will be two competing lines up the valley from Stockton to Visalia.

About the first of April, a survey was commenced (since finished) of a branch road from Holden, on the Copperopolis R. R., to Ione, Amador county, *via* Linden. 29 miles.

CENTRAL PACIFIC.—This company has been running lines for a short route from Sacramento to San Francisco. The Vallejo *Recorder* says that four routes have been surveyed:—1st, Sacramento to Collinsville, across the Sacramento river, to Oakland; 2d, Sacramento to Benicia, across the Carquinez Straits, to Oakland; 3d and 4th, two lines *via* the "Middle Ground" below the junction of the Sacramento and San Joaquin rivers. Another line has been reported from Sacramento to the head of San Pablo Bay, *via* San Rafael, to Saucelito.

It has been said that the Central and the Southern Pacific would soon commence improving the 60 acres of submerged land in Mission Bay, San Francisco, granted by the Legislature for their terminus.

SOUTHERN PACIFIC.—Work was commenced, on April 13th, from Gilroy to the Pajaro River, 5 miles, and also at Hollister, 16 miles further south, with 500 men. Construction trains were running across the Pajaro on May 4th. The section of 20 miles must be completed, according to legal requirements, by July 1st. The work will then go on more slowly, it is said, the law requiring only 20 miles per year.

The amended incorporation of the company, filed May 15th, mentions three lines of road: 1st. (main line.) S. F., through counties of San Mateo, Santa Clara, Monterey, Fresno, Tulare, Kern, San Bernardino and San Diego, to the Colorado River, 720 miles. 2d. (Branch.) Tehachepa Pass (Kern county) *via* Los Angeles, to Texas Pacific Road, at or near the Colorado River, 324 miles. 3d. (Branch.) Gilroy (Santa Clara county) through Santa Cruz county to Salinas, Monterey county, 45 miles.

The Kern County *Courier*, of May 27th, says that land has been withdrawn for the railroad which has filed a map showing its route, which is, after crossing the Tulare Valley, *via* Tehachepa Pass, Soledad Pass (Los Angeles Co.), San Gorgonio Pass (San Bernardino Co.), Chahuilla Valley (San Diego Co.), to Fort Yuma.

### Nevada—Utah—Colorado.

Of the Nevada narrow gauge projects, only two have been heard of lately. The Reno & Virginia City has been surveyed and located, as has the Elko & Hamilton. Of the Unionville & Mill City, and the Palisade, Eureka & Hamilton, we have no account.

Work on the extension of the Utah Central from Salt Lake south was commenced May 9th. The first spike was driven by Brigham Young on June 6th.

At the beginning of May, the charges for freight were raised on the U. P. and the C. P. roads. This seriously affected the interior for the worse, and it is to be hoped that the old rates (at least) may be re-adopted.

In Colorado work is being pushed on the Denver & Boulder Valley road and the Denver & Rio Grande. The citizens of Central City and of Georgetown have been taking active measures to get roads built to their respective places.

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF | | | | | THER* | | | WIND. | | R'N† |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Barometer Corrected. | Temp. Air. | Rel. Humidity. Satura'n 100. | Force of Vapor. | Amount of Cloudiness. | Maximum. | Minimum. | Range. | General direction f'm which it moves, and the Forces. | | Gauge 30 ft. ab've surf'ce |
| JUNE. | INHS. | DEG. | % C. | INHS. | 0—10 | DEG. | DEG. | DEG. | DIR-TION. | F'CE. 0—10 | INHS |
| Sunday.. 4 | 29.976 | 70 | 40 | .294 | 0 | 81 | 51 | 30 | N. W. | 2 | ..... |
| Monday. 5 | 29.963 | 73 | 48 | .396 | 0 | 89 | 51 | 38 | N. W. | 2 | ..... |
| Tuesday 6 | 29.964 | 76 | 41 | .382 | 1 | 94 | 54 | 30 | N. W. | 2 | ..... |
| Wedns.. 7 | 29.911 | 76 | 46 | 414 | 1 | 96 | 57 | 39 | N. & S. | 2 | ..... |
| Thurs... 8 | 29.787 | 72 | 35 | .310 | 1 | 92 | 50 | 42 | S. | 1 | ..... |
| Friday.. 9 | 29 689 | 76 | 38 | .305 | 0 | 98 | 54 | 44 | N. & S.. | 2 | ..... |
| Sat'day..10 | 29 826 | 69 | 50 | 350 | 2 | 81 | 52 | 29 | S. E. | 3 | ..... |

* Thermometograph. † Rain.

REMARKS.—The above table contains the record of the first "heated term" of the season. Coming suddenly upon us, immediately after the late rains and the attendant cool weather, its effects were more sensibly felt and complained of than if our systems had been gradually prepared for the change. It will be seen that the maximum, 98°, was reached on Friday, 9th. This, however, was the reading of the Thermometograph in a comparatively cool location; for in many localities the mercury run up to 100°, and even 104°, in the shade. Such intensely hot weather so early in June is unprecedented. Fortunately it never lasts long, and at the present writing (10th), as shown by our table, we have passed from a tropical to a temperate region, and are now bathing in the cool, invigorating, oceanic wind, which, pouring through the Golden Gate from the west, is deflected by the Contra Costa mountains, and reaches us in this portion of the valley as a southeast wind.

# City Market Report.

## DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., June 15th.

FLOUR—The market still continues quiet with a further small decline, and little demand, for export. The stock in the city is unusually large.

Transactious embrace 2,000 bbls. California extra, 3,000 bbls. Oregon extra, at current rates.

We quote superfine, $6.62@6.75; extra, $7.50 @7.62.

WHEAT—Is still without demand for export. Holders are firm. Millers refuse to pay over $2.50 for the best. An article of good milling can be had for from $2.40@2.45, and fair grades at $2.30@2.35. We quote good to choice at $2.30@2.50. Sales of 6,000 sacks have been reported, during the week, at current rates.

The Liverpool market has fallen to 11s. 11d.—a decline of 4d. since our last quotation. New York rates are given at $1.65.

BARLEY—The offerings have been free and demand moderate. 500 sks. new crop arrived on the 12th instant from Moss Landing and sold at $1.57½—a full price for the quality, which was quite green and soft. The range for old crop may be set down at $1.65@1.80.

OATS—The market has slightly declined, with small sales. Quotable at close at $1.80@ 2.00.

CORN—Is still lower with a weak market; quotable at $1.85@2.00 per cental. A lot from Iowa, by rail sold at $1.85.

CORNMEAL—Is quotable at $2.50@3.25. according to quality.

BUCKWHEAT—Still quotable at $3.

RYE—Nominal at $2.50 for choice.

FEED—We quote: STRAW, $8@9; BRAN, $27.50; MIDDLINGS, $37.50; OIL CAKE MEAL $40. A lot of 600 sacks of Oregon bran has been sold during the week for $25; but our local millers are asking $27.50.

HAY—We quote ordinary to choice at $15.00 @$20.00 ₱ ton.

HONEY—Is coming in freely. We quote 12@16c. Potters in 2-lb cans. $9@12 per doz.

POTATOES—Owing to free receipts have met with large decline within the week. We quote current rates to-day at $1.00@1.50.

HOPS—Demand light—prices nominal at 10 @12½c. for California crop of 1870. Hops of choice quality are scarce at present. The New York market has an upward tendency, with an increased demand.

HIDES—We quote Dry, slaughterer's stock, 17@18½c; Salted, 8@9c. Sales during the week 1,870 Cal. dry, and 840 salted.

WOOL—The market still continues active. The spring clip is nearly all in. That from Nevada, being generally of a superior quality, meets with quick demand at full figures—especially where the sheep have been kept away from the Alkali districts. We quote the range, to-day, from burry to choice at 22@33c while fancy lots, as heretofore are still taken at an advance of regular quotations. Sales of 1,000,000 pounds are reported for the week, leaving the market nearly bare. The best grades are firm at 31@33c.

The New York market still remains quiet, transactions being confined mostly to small parcels. At Boston there has been quite an active demand for California wools. There have been some speculative purchases; but the bulk has pssssed into manufacture's hands.

TALLOW—The extremes may be quoted from 7¾@8½c.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 15½@16c; Oregon, 14@15½; Chicago 16c; California Hams 14@15; Oregon do, 15@16c; California Sugar-cured Hams, 17c; Oregon do, 17@ 20c; Eastern do, 18@16c; California Smoked Beef, 13@14c.

BEANS.—Extremes of quotations—Bayo, $2.62@$3.25; Butter, small White and Pea, $2.50@$2.75; Pink, $2½@2½

NUTS—California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 7@ 8c; Hickory and Walnuts, 12½c; Pecan, 23@ 25c ₱ lb, Cocoanuts $15@18 per hundred.

FRESH MEAT—There is a good supply of all descriptions. We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@ 9c ₱ lb.
Do 2d do 6@ c7 ₱ lb.
Do 3d do 4@ 5c ₱ lb.

VEAL—Extremes, 6@9c.

MUTTON—5@5½c ₱ lb.

LAMB—May be quoted at from 6@6½c ₱ lb.

PORK—Undressed is quotable at 5@7½c. dressed, 9½@10¾.

POULTRY, ETC.—The Market unchanged, Hens $6½@7¼; Roosters $6½@7¼; Ducks, tame, $6@7 ₱ doz; geese, tame, $1.85@2.00 ₱ pair; live turkeys, 18@19c ₱ lb.

WILD GAME—Hare, $1.50@$2.00; Rabbits, $1.25@1.50;

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 27½@32½c; California firkin butter, 25@31c.

CHEESE—In fair supply, California new, 10 @14c., Eastern, 16@17c. for new.

EGGS—California fresh, 28@29c.

LARD—California Lard. 11-lb tins, 15@16c; Oregon, 15@17c, according to package.

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Dealers report a good enquiry. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand has improved. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12c ₱ lb; Raisins, layer, $3.50@4.25 per box; Currants, Zante, 10½@11½c.; 50c.

### TABLE OF MISCELLANEOUS.

| | | | |
|---|---|---|---|
| Sugar, crsh'd, lb. | $ 14¾@$ 15 | Hemp Seed, lb., $ | 7 @ 9 |
| Hawaiian, do. | 9 @ 12 | Castor Beans, lb. | 4 @ 4½ |
| Coffee, Cos. R, lb | 15½ @ 16 | Castor Oil, gal.. | 1 75 @ 2 00 |
| Rio, do | 16 @ | Linseed Oil, gal | 1 05 @ 1 10 |
| Tea, Japan, ₱ lb. | 50 @ 90 | Broom Corn, ₱ lb | 3 @ 5 |
| Green, do | 50 @1 00 | Beeswax, ₱ lb | 27 @ 30 |
| Rice, Haw'n, ₱ lb | 8½@ 9 | Peanuts, ₱ lb | 5 @ 7 |
| China, do | 6 @ 7½ | Corn Meal, cwt. | 2 50 @4 00 |
| Coal Oil, ₱ gal.. | 50 @ 60 | Onions, cwt. | 1 50 @3 50 |
| Candles, ₱ lb | 15 @ 18 | | |

## San Francisco Retail Market Rates.

FRIDAY, June 16, 1871.

### MISCELLANEOUS.

| | | | |
|---|---|---|---|
| Butter, Cal fr. lb | 35 @ 45 | Wool Sacks, new | 40 @ 90 |
| Pickled, Cal. lb | 35 @ | Second-hnd do | 67½@ 70 |
| do Oregon, lb.. | @ | Wheat-sks, 22x36 | 15 @ 16 |
| Honey, ₱ lb | 25 @ 30 | Potato G'y Bags. | 23 @ 24 |
| Cheese, ₱ lb | 20 @ 25 | Second-hnd do | 15 @ 16 |
| Eggs, per doz | 30 @ 35 | Deer Skins, ₱ lb. | 15 @ 22 |
| Lard, ₱ lb | 18 @ 20 | Sheep sks, wl on | 50 @ 75 |
| Sugar, cr., 6½ lb. | 1 00 @ | Sheep sks, plain. | 12½@ 25 |
| Brown, do, ₱ lb | 10 @ 13 | Goat skins, each. | 25 @ |
| Beet, do, 7 lb. | 1 00 @ | Dry Cal. Hides | Weak 18 |
| Sugar, Map. lb. | 25 @ 30 | Salted do | Dull |
| Plums, dried, lb. | 15 @ 25 | Dry Mex. Hides. | 15 @ |
| Peaches, dried, * | 15 @ | Salted do | 9 @ |

### PRODUCE, ETC.

| | | | |
|---|---|---|---|
| Codfish, dry, lb. | 6 00 @ 12½ | Barley, cwt. | 1 75 @1 85 |
| Flour, ex, ₱ bbl. | 7 50 @7 75 | Beans, cwt | 2 50 @3 00 |
| Superfine, do | 5 50 @6 00 | Potatoes, cwt | 1 25 @1 50 |
| Corn Meal, 100 lb. | 3 00 @3 25 | Potatoes, new | 1 00 @1 50 |
| Wheat, ₱ 100 lbs. | 2 35 @2 50 | Hay, ₱ ton | 18 00 @24 00 |
| Oats, ₱ 100 lbs. | 1 90 @2 10 | Live Oak Wood. | 10 00 @12 00 |

### FRUITS, VEGETABLES, ETC.

| | | | |
|---|---|---|---|
| Pine Apples, † | 5 00 @9 00 | Celery, ₱ doz | 75 @1 00 |
| Bananas, ₱ lb | 3 00@5 00 | Cress, ₱ doz bun | 20 @ 25 |
| Cal. Walnuts, lb. | @ 20 | Dried Herbs, b'h | 25 @ 50 |
| Cranberries, ₱ g | 75 @1 00 | Egg Plant | @ 50 |
| Cranberries, O, ¶ | @1 00 | Garlics | 5 @ 8 |
| Cherries, lb | 6 @ 10 | Green Peas, ₱ lb | @ 6 |
| Currants, lb | 6 @ 8 | Green Corn, doz. | 25 @ 35 |
| Gooseberries, lb. | 4 @ 3 | Sugar Peas, ₱ lb | @ 6 |
| Apples, No. 1, lb. | 4 @ 5 | Lettuce, ₱ doz | 12 @ 25 |
| Pears, table, ₱ lb | @ 12½ | Mushrooms, ₱ lb | 25 @ 50 |
| Raspberries, lb.. | @ | Horseradish, ₱ lb | @ 20 |
| Strawberries, lb. | @ | Okra, dried, ₱ lb | @ 50 |
| Plums | @ | Okra, green, ₱ lb | 50 @ 75 |
| Oranges, ₱ doz. | 50 @ 75 | Pumpkins, ₱ lb. | 3 @ 4 |
| Lemons, ₱ doz. | 75 @1 00 | Parsnips, † bnchs | @ 25 |
| Limes, cwt. | 20 00 @25 00 | Parsley | @ 25 |
| Figs, dried, ₱ lb. | @ | Pickles, ₱ gal. | 50 @ 75 |
| Asparagus, wh.* | 6 @ 10 | Rhubarb, ₱ lb | 6 @ |
| Apricots, lb | 6 @ 10 | Radishes, † buns | @ 25 |
| Artichokes, doz. | 50 @ 75 | Green Peppers, * | 50 @ |
| Brussel's sprts, * | @ 15 | Red, do | @ 25 |
| Beets, ₱ doz | 20 @ 25 | Summer Squash | 8 |
| Potatoes, ₱ lb | 2 @ 3 | Marrowfat, do. | @ 6 |
| Potatoes, sweet, * | @ | Hubbard, do | @ 5 |
| Potatoes, new | 4 @ | String Beans, lb. | 8 @ |
| Tomatoes, ₱ lb | 20 @ 25 | Dry Lima, shl | @ 8 |
| Broccoli, ₱ doz. | 1 50 @2 00 | Spinage, ₱ bskt. | 25 @ 50 |
| Cauliflower, † | 2 50 @1 25 | Salsify, ₱ bunch | 12 @ 25 |
| Cabbage, ₱ doz. | 3 00 @1 50 | Turnips, ₱ doz. | @ 25 |
| Carots, ₱ doz | 10 @ 25 | New Tomatoes, * | @ 50 |

### POULTRY, GAME, MEATS, ETC.

| | | | |
|---|---|---|---|
| Chickens, apiece | 75 @1 00 | Tongues, pig, ea | @ 15 |
| Turkeys, ₱ lb | 20 @ 25 | Bacon, Cal., ₱ lb | 18 @ 20 |
| Ducks, wild, ₱ p | | Oregon, do | 18 @ 20 |
| Tame, do | 1 50 @ | Hams, Cal, ₱ lb. | 18 @ 20 |
| Teal, ₱ doz | | Hams, Cross' s c | @ 25 |
| Geese, wild, each | 37½@ 50 | Choice D'field | @ 25 |
| Tame, ₱ pair | 2 50 @3 00 | Whittaker's | @ 25 |
| From Chicago | @ | Johnson's Or. | @ 25 |
| Hens, each | 75 @1 00 | Salmon, ₱ lb | 12 @ 15 |
| Snipe, ₱ doz | 1 25 @1 50 | Smoked, new,* | 10 @ 12 |
| English, do | 2 50 @3 00 | Pickled, ₱ lb | 6 @ 8 |
| Venison, ₱ lb | @ | Rock Cod, ₱ lb | 10 @ 12 |
| Quails, ₱ doz | | Kingfish, ₱ lb | 25 @ |
| Pigeons, dom. do | 3 00 @3 50 | Perch, s water, lb | 10 @ 12½ |
| Wild, do | 1 50 @2 00 | Fresh water, lb | 12½@ 15 |
| Hares, each | 40 @ 50 | Lake Big. Trout* | 20 @ 25 |
| Rabbits, tame | 50 @1 00 | Smelts, ₱ lb | 6 @ 8 |
| Wild, do, ₱ dz. | 1 75 @2 00 | Herring, fresh | |
| Squirrel, ₱ pair. | 25 @ 38 | Sm'kd, per 100 | @1 00 |
| Beef, tend, ₱ lb. | 20 @ 25 | Tomcod, ₱ lb | 15 @ 20 |
| Sirloin and rib | 18 @ 20 | Terrapin, ₱ doz. | 3 00 @4 00 |
| Corned, ₱ lb | 10 @ 12 | Mackerel, p'k, ea | |
| Smoked, ₱ lb | 15 @ 18 | Fresh, do | |
| Pork, rib, etc., lb | 12½@ 15 | Sea Bass, ₱ lb | @ |
| Chops, do, ₱ lb | 12 @ 15 | Halibut | 62 @ 75 |
| Veal, ₱ lb | 15 @ 20 | Sturgeon, ₱ lb | 4 @ 5 |
| Cutlet, do | @ 20 | Oysters, ₱ 100 | 1 00 @1 25 |
| Mutton chops,* | 12½@ 15 | Chesp. ₱ doz | @1 00 |
| Leg, ₱ lb | 12½@ | Turbo t | @ 40 |
| Lamb, ₱ lb | @ 12½ | Crabs ₱ doz | @1 00 |
| Tongues, beef, ea | @ 75 | Soft Shell | 37 @ 50 |
| | | Shrimps | 10 @ 12 |

* Per lb. † Per dozen. ¶ Per gallon.

## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, June 15.

SOLE LEATHER.—Price still continues the same, there being a scarcity of light weights.

| | |
|---|---|
| City Tanned Leather, ₱ lb | 26@30 |
| Santa Cruz Leather, ₱ lb | 26@30 |
| Country Leather, ₱ lb | 25@28 |

All French goods still have an upward tendency, with a growing ecarcity of leading stocks. No change in domestic skins.

| | |
|---|---|
| Jodot, 8 Kil., per doz | $62 00@ |
| Jodot, 11 to 19 Kil., per doz | 82 00@ 96 00 |
| Jodot, second choice, 11 to 15 Kil. ₱ doz | 68 00@ 88 00 |
| Levin, 12 and 13 Kil., per doz | 68 00@ 70 00 |
| Cornellian, 16 Kil., per doz | 72 00@ |
| Cornellian, 12 to 14 Kil., per doz | 68 00@ 70 |
| Ogerau Calf, ₱ doz | 54 00@ |
| Mercier Calf, 16 Kil., per doz | 65 00@ |
| Common French Calf Skins, ₱ doz | 35 00@ 75 00 |
| French Kips, ₱ lb | 1 10@ 1 30 |
| California Kip, ₱ doz | 60 00@ 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ 1 25 |
| Eastern Calf for Backs, ₱ lb | 1 15@ 1 25 |
| Sheep Roans for Topping, all colors, ₱ doz | 8 50@ 13 00 |
| Sheep Roans for Linings, ₱ doz | 5 50@ 10 50 |
| California Russett Sheep Linings | 1 75@ 5 50 |
| Best Jodot Ca f Boot Legs, ₱ pair | 5 25 |
| Good French Calf Boot Legs, ₱ pair | 4 50@ 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 |
| Harness Leather, ₱ lb | 30@ 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ 72 00 |
| Skirting Leather, ₱ lb | 34@ 37½ |
| Welt Leather, ₱ doz | 30 00@ 50 00 |
| Buff Leather, ₱ foot | 20@ 24 |
| Wax Side Leather, ₱ foot | 18@ 20 |

READERS will favor ourselves and advertisers by mentioning the fact when they obtain information from our columns.

## Wool Prices in New York.

BROWN'S CIRCULAR, June, 1871.

### DOMESTIC FLEECES.

NEW YORK, MICHIGAN, INDIANA AND WISCONSIN.

| | |
|---|---|
| Choice Sct'd Saxony Fl. @ | Quarter-bld Fleece 46@50 |
| Saxony Fleece 50@53 | Common Fleece 44@47 |
| ¾ and Full-bld Merino. 47@50 | Combing Fleece 55@58 |
| Half-bld Fleece 48@52 | |

OHIO, PENNSYLVANIA AND VIRGINIA.

| | |
|---|---|
| Choice Sct'd Saxony Fl. 62@70 | Quarter-bld Fleece 50@53 |
| Saxony Fleece 55@60 | Common Fleece 47@50 |
| ¾ and Full-bld Merino. 52@55 | Combing Fleece 55@58 |
| Half-bld Fleece 52@55 | |

IOWA, VERMONT AND ILLINOIS

| | |
|---|---|
| ¾ and Full-bld Merino. 47@50 | Quarter-bld Fleece 45@48 |
| Half-bld Fleece 47@50 | Combing Fleece 52@55 |

MISSOURI, KENTUCKY AND TENNESSEE.

| | |
|---|---|
| Washed Fleece 46@50 | Unwashed Combing 43@46 |
| Unwashed Fleece 36@40 | Canada Fleece 48@60 |

TUB-WASHED WOOL.

| | |
|---|---|
| Choice 58@60 | Inferior and Burry 45@50 |
| Fair 55@58 | |

PULLED WOOL.

| | |
|---|---|
| N. Y. City extra Pulled 46@49 | Country extra Pulled 50@55 |
| N. Y. City super Pulled 47@51 | Country super Pulled 50@55 |
| N. Y. City No. 1 Pulled 30@33 | Country No. 1 Pulled 33@37 |
| Lambs' Wool @ | Canada Pulled 45@50 |
| Western super and ext 45@48 | |

CALIFORNIA.

| | |
|---|---|
| Spring Clip, fine 35@40 | Fall Clip, lw gds & b'ry. 20@26 |
| Spring Clip, medium 35@40 | Extra Pulled 40@45 |
| Spring Clip, lw.gds & br. 30@35 | Super Pulled 40@45 |
| Fall Clip, A 1 26@30 | Low Pulled 33@38 |

TEXAS.

| | |
|---|---|
| Fine 35@39 | Inferior 23@28 |
| Medium 34@38 | Very Burry 17@23 |
| Low 29@34 | |

FOREIGN WOOLS.

| | |
|---|---|
| Cape of Good Hope 35@38 | Buenos Ayres Merino 33@37 |
| Mestiza Pulled, X & XX. 60@70 | Buenos Ayres Mestiza .31@35 |
| Mestiza Pulled, low gds. 48@57 | |

## San Francisco Metal Market.

PRICES FOR INVOICES

*Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.*

FRIDAY, June 16, 1871

IRON.—Duty: Pig, $7 ₱ ton: Railroad, 60c ₱ 100 lbs; Bar, 1@1½c ₱ lb; Sheet, polished, 3c ₱ lb; common, 1½@1¾c ₱ lb; Plate, 1½c ₱ lb; Pipe, 1½c ₱ lb; Galvanized, 2½c ₱ lb

| | |
|---|---|
| Scotch and English Pig Iron, ₱ ton | $32 50 @$33 00 |
| White Pig, ₱ ton | 40 00 @ — — |
| Refined Bar, bad assortment, ₱ lb | — 03 @ — — |
| Refined Bar, good assortment, ₱ lb | — 04 @ — — |
| Boiler, No. 1 to 4 | — 04¾@ — — |
| Plate, No. 5 to 9 | — — @ — 04½ |
| Sheet, No. 10 to 13 | — 04½@ — 05 |
| Sheet, No. 14 to 20 | — 05 @ — 05½ |
| Sheet, No. 24 to 27 | — 05 @ — 06½ |

COPPER.—Duty: Sheathing, 3½c ₱ lb; Pig and Bar, 2½c ₱ lb.

| | |
|---|---|
| Sheathing, ₱ lb | — — @ — 26 |
| Sheathing, Yellow | — 20 @ — 21 |
| Sheathing, Old Yellow | — 10 @ — 11 |
| Composition Nails | — 21 — 22 |
| Composition Bolts | — 21 — 22 |

TIN PLATES.—Duty: 25 ₱ cent. ad valorem.

| | |
|---|---|
| Plates, Charcoal, IX ₱ box | 12 00 — — |
| Plates, I C Charcoal | 10 00 10 50 |
| Roofing Plates | 10 00 10 50 |
| Banca Tin, Slabs, ₱ lb | — — — 42 |
| STEEL.—English Cast Steel, ₱ lb | — 15 — 15½ |
| QUICKSILVER.—₱ lb | — — — 80 |
| LEAD.—Pig, ₱ lb | — 06 — 07 |
| Sheet | — 09 — |
| Pipe | — 10 — 11 |
| Bar | — 08 — 09 |
| ZINC.—Sheets, ₱ lb | — 9½ — 10 |
| BORAX.—Refined | — 25 — 30 |
| Borax, crude | — 5 — — |

## California Industrial Fairs for 1871.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September. and continue six days, at Petaluma.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

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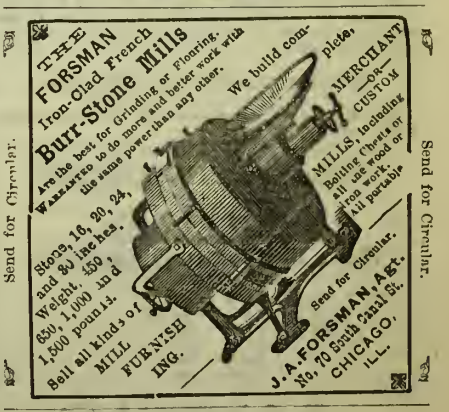


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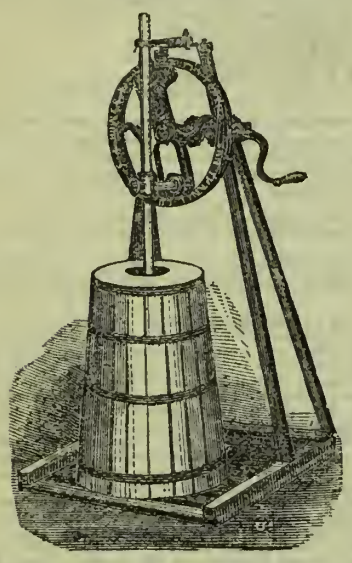

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AND THE

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ENDORSEMENT OF THE GRAND LODGE.

The following resolution was unanimously adopted by the M.·. W.·. Grand Lodge, F.·. A.·. M.·. of the State of California, at its Annual Communication, October, 1870.

Whereas, In the opinion of this Grand Lodge, a well conducted Masonic Journal is of great benefit to the craft, in disseminating Masonic information among the fraternity, as well as furnishing a medium for general Masonic intelligence. Therefore,

Resolved, That this Grand Lodge, recognizing in the MASONIC MIRROR, edited by Brothers Amasa W. Bishop and Edwin A. Sherman, and published by the Masonic Publishing Company of San Francisco, a Masonic Journal of the character above set forth, do hereby recommend the said MASONIC MIRROR to the craft generally, as worthy of their most favorable consideration and support.

ENDORSEMENT OF THE GRAND LODGE OF NEVADA.

At the Annual Communication of the Grand Lodge of the State of Nevada, held October, 1870, the following endorsement was unanimously adopted:

*Resolved*, That we recommend the MASONIC MIRROR, published in San Francisco, to the support of the Craft at large.

ENDORSEMENT OF THE GRAND CONSISTORY.

At the communication of the M.·. P.·. Grand Consistory, Ancient and Accepted Scottish Rite of Freemasonry in and for the State of California, held October, 1870 at San Francisco, the following resolution was unanimously adopted: Resolved, That the MASONIC MIRROR, published in this city be the official organ of this Grand Consistory.

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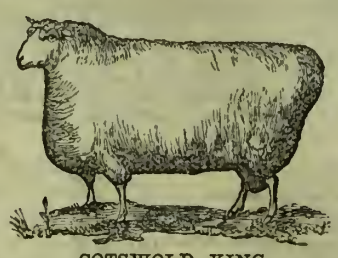

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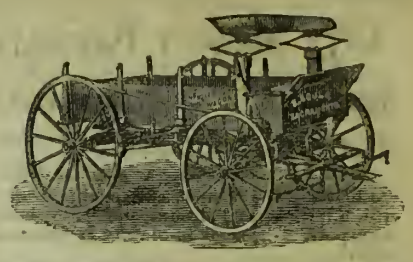

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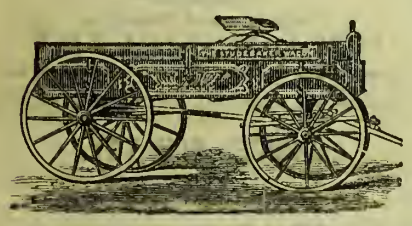

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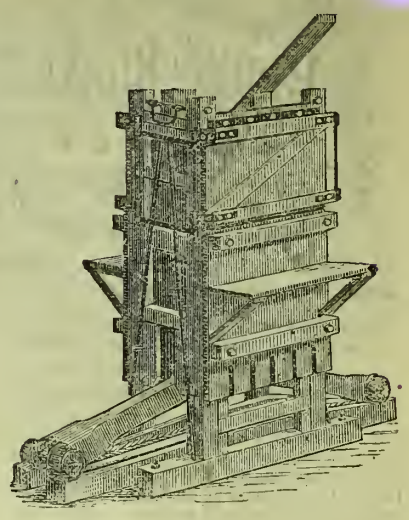

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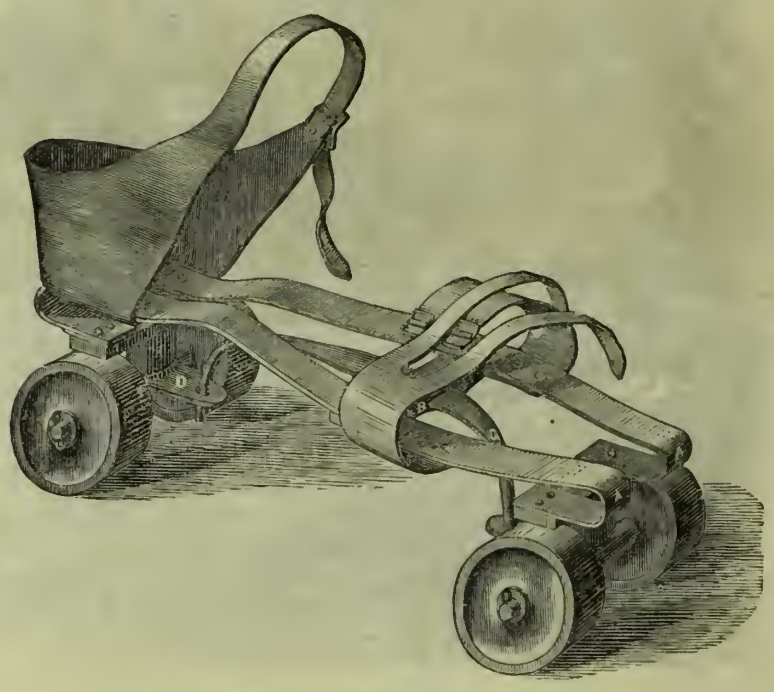

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PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, JUNE 24, 1871. [Number 25.

## Swivel Plows.

### Their Advantages on Level Land and Side Hills.

The advantages resulting from the use of swivel plows, in these days, when smooth and even surfaces are so desirable for the proper and most effective working of the modern improved harvesting machines, are most striking and obvious to every intelligent farmer. To meet this want various devices have been brought out, both on this coast and at the East. The one we herewith present is coming largely into use at the East, and won the highest prize for sod and stubble plowing at the trial of swivel plows by the New York State Agricultural Society, September, 1870, and previously at numerous other public trials. The advantage of such plows is very fully and clearly set forth in the following article, which we clip from the *Country Gentlemen:*

1. Swivel plows years ago were called side-hill plows. They were used chiefly on hill-sides, to turn the furrows down hill, and they worked pretty well for that purpose, but were not of much use on level land, as they could not turn sod without the advantage of a downward sloping surface.

2. With the introduction of the mowing machine, reaper, hay tedder and more improved varieties of the horse rake, came the frequent inquiry for an improved form of the plow, embracing the swivel or reversible principle that would turn level lands all one way, avoiding the dead furrows and ridges necessarily resulting from the use of the common landside or level-land plow, and lay the fields down even and smooth. In the use of the mowing machine, particularly, a dead furrow is a serious inconvenience. And here it may be said, incidentally, that one of the great benefits resulting to our agriculture, from the introduction of the mower, is that it compels us to smooth the surface of our fields and remove obstructions which were an offence to the eye as well as a hindrance to cultivation, and a cause of loss both of labor and crop.

3. A great deal of first-class inventive genius is now directed to the production of new and various agricultural machines for the harvesting of crops and saving of hand labor; and the rapidly increasing use of such machines renders it more and more desirable to get rid of dead furrows and ridges in our tillage fields, and all these machines work much better and gather and save more hay or other crop, where the surface of the land is even, than where it is marred by these unsightly inequalities.

4. Take two fields which have sufficient natural or artificial drainage, and which are exactly equal in all conditions, excepting that one has a smooth, even surface and the other is broken and marred by dead furrows, ridges, little hillocks and hollows, etc., and, as a rule, the field that has the even surface will cost less in tillage, and produce more and a better quality of crop than the field of broken and rough surface. In the latter case the ridges will be the first to suffer in a dry time, while in a wet season the low places may be too wet to produce a good crop.

5. In many rather level districts of country, with a moist soil requiring some sort of drainage, it has been customary to plow the fields in narrow lands, with high crowning ridges and deep dead furrows of course frequently occurring, to carry off the surface moisture. At best this is a poor substitute for under-drainage. Certainly in all districts not remote from good markets, it would be better to underdrain such land with tile or other covered drains, and dispense with ridges and dead furrows by using the swivel plow, and have a level surface for the more effective use of harvesting and other improved machines.

6. In any season there will be a loss of crop in dead furrows, the surface being turned away in making them. Where crops of large market value per acre, like the best grades of tobacco, are raised, the loss of crop from this cause is no inconsiderable item. In other words, the increase in product of tobacco on say five acres of good land, without dead furrows, over what would have been realized had the field been plowed in the usual way, in narrow lands with frequent dead furrows, would be sufficient, in one year, to pay for a good new swivel plow.

7. For side-hill plowing the swivel plow is indispensable. The furrows are better turned and the labor of team and plowman much lessened. Above all, by thus plowing across or at right angles with the slope, the soil is better preserved from washings which would occur if the hillside were plowed up and down the slope, as would be the case in using the common landside plow.

8. The swivel plow, when specially rigged for the work, is particularly well adapted for reclaiming bog-meadows. Its wide, steel-edged swivel share, say cutting from 15 to 20 inches wide, with one wing cutting horizontally under the furrow slice, severing all the roots that hold it to the firm earth below, while the other wing cuts vertically, in a line with the landside, in place of the usual cutter attached to the beam, and separates the slice from the unplowed land; and thus liberated on the side and bottom, the slice is beautifully lifted and twisted over into the previous furrow by the mold-board. The steel-edged wings of the share are kept perfectly sharp by filing them as often as may be necessary for that purpose. The offsetts on either side of the clevis, supported by the side-draft rods on either side of the beam, carry the line of draft to one side or the other, according as the plow is going or returning with its furrow, so that the team, both near and off animals, can travel beside the furrow, on the grass or unplowed land, both going and returning. In plowing soft bog-meadow, the team could not travel a rod in the furrow before becoming hopelessly mired. With the swivel plow thus rigged, one can begin on one side of the meadow and plow out and back continuously, turning the furrows all one way working the team always on the sward or unplowed land, and making no dead furrow for water to stand and stagnate in. He can also accomplish at least twice as much in a day as he could do with the landside plow. It is not safe to plow around the field with the landside plow, because as the team approaches the center it is obliged to travel more or less on plowed land, and would get fatally mired; hence the landside plow can only safely be used to plow out one way, and returning must be dragged back, or, as we say in plow phrase, in returning we must "carry the furrow."

9. The swivel plow, with wide, steel-edged share wings, is doubtless well adapted for breaking prairie. With a swivel plow of medium size, a good pair of horses would easily break raw prairie the required depth of two or three inches and say 15 inches wide, since in New England the same team can easily break unreclaimed bog-meadow six or seven inches deep and 15 to 18 inches wide.

10. With the swivel plow the work of the team is equalized, as in going, the off ox or horse travels in the furrow, and in returning, the near one. The exercise of the muscles of the arms and shoulders of the plowman is in like manner equalized, as he alternates from right to left and left to right hand furrows. Thus it is that after a little practice both team and plowman can do a day's work easier with the swivel than with the landside plow.

11. The team always turns on the unplowed land, and in turning reverses the mould-board, requiring no lifting and but little effort by the plowman.

12. Considerable time saved in coming about, no passing across the ends of the land being required.

13. The head lands being plowed last, there is no treading down and compacting of the furrow slices.

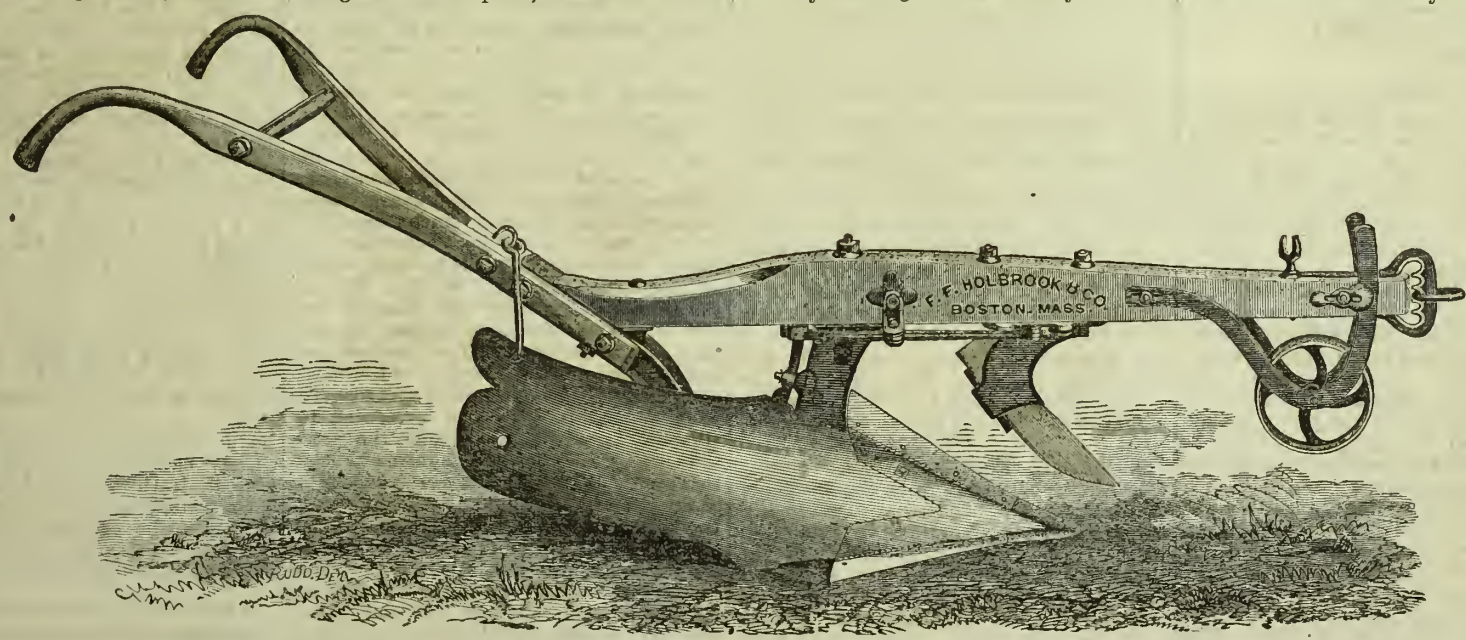
14. Beginning on one side of the field, we plow back and forth, say for half a day, or less, and can then haul on manure and plant or sow, if we choose, without carting over plowed lands and can then plow, manure and plant another strip, and so on and stop plowing at any time, leaving our work complete. In short, the plowed land lying together, the work of manuring, harrowing and seeding can go on up to the plow.

15. Swivel plows are very convenient in gardens, nurseries, vineyards, etc., as they turn a furrow either way.

16. Where irrigation is practised they are often extremely convenient, as they leave an even surface for the proper flow of water.

We close by remarking that a good length of yoke (24 to 28 inches between bows), or evener, (4 feet), is best for sod plowing generally, as the team works easier, and is desirable in using the swivel plow, as the clevis, except in bog-meadow plowing, must be in the center of the beam. A long yoke or evener gives the plow proper land, and it is less affected by any variations of the team to or from land than with a short yoke or evener. A good length of hitch, or chain, also gives the plow land and steadiness, while too short or close a hitch takes away land and causes the plow quickly to feel any variations of the team.

The plow above illustrated is manufactured and sold by F. F. Holbrook & Co., No. 10 South Market street, Boston, Mass. For further particulars see advertising columns.




HOLBROOK'S PATENT SWIVEL PLOW.

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Mr. William H. Murray, special correspondent and agent for the San Francisco Scientific Press and Pacific Rural Press, both issued from the one office, in that city, was among the arrivals yesterday. The Scientific Press has acquired the reputation of being the best practical mining journal in the United States, and the only illustrated mechanical and industrial newspaper west of the Rocky mountains. The Pacific Rural Press is a wide-awake publication, devoted to farming, and all industrial interests. Mr. Murray, who comes to us favorably endorsed, will canvass different sections of our territory for subscriptions to these publications, furnishing the publishers with occasional letters descriptive of our agricultural, pastoral, and mining resources.—*Rocky Mountain News, Denver, Col., June* 11, 1871.

## MECHANICAL PROGRESS.

ATMOSPHERIC GAS ENGINE.—The *Mechanics' Magazine* for May 26th, describes a new engine patented by Messrs. Langen and Otto, of Cologne. We quote part of the description:—"Gas and air, mixed in such proportions as to give an explosive compound, are admitted under a piston which slides air-tight in a vertical cylinder open at the top. The compound is ignited, explodes, and the explosion drives the piston upwards. The ignited gases having increased in volume, lose their heat, their pressure becomes less as the piston rises, and when it has got at the top of the cylinder a partial vacuum is formed and the pressure of the atmosphere makes the piston descend. * * * The piston, instead of having a piston rod connected to the fly-wheel shaft by a crank and connecting rod, has a rod fixed to it upon which is formed a rack in gear with a spur wheel upon the fly-wheel shaft; this spur wheel is not fixed to the shaft, but is so connected to it by means of a ratchet wheel or friction clutch mechanism that when made to revolve by the rising of the piston and its rack, it turns freely upon the shaft, but when made to turn in the reverse direction by the downward motion of the piston and rack it causes the shaft to revolve with it. Thus when the ignition of the mixture of gas and air takes place beneath the piston the expansive force of the heated gaseous products of combustion causes the piston to be thrown rapidly up to the top of the cylinder, no other work being at the time performed by such motion than the turning of the spur wheel loose upon the fly-wheel shaft. By the time that the piston has arrived at the end of its stroke the expansion of the gases has cooled them to such an extent that by their consequent condensation a partial vacuum has been formed beneath the piston, the latter portion of the stroke of which has been made by the momentum which it has acquired, and the pressure of the atmosphere now consequently forces down the piston and rack, thereby causing the fly-wheel shaft to revolve as described."

IRON WORKS IN MISSOURI.—The Vulcan Iron Works will this season erect a furnace larger than any now in use in the United States. "The new furnace will stand on twelve columns, each thirteen feet high—will be twenty-five feet interior diameter, or bosh, and one hundred feet high. It will have five times the cubical area of any furnace now in Carondelet. Her hot-blast will be entirely of fire-brick, encased in wrought iron, and therefore almost indestructible. The temperature of heat thus gained will range *from fourteen hundred to sixteen hundred degrees*, and higher, if desired; whereas the heat of furnaces at present, in cast iron pipes, cannot in safety exceed 850 degrees. This furnace is expected to produce from 180 to 200 tons of iron per day."

The *Iron Age* says of the Vulcan Works: "The length of the puddling mill is 468 ft., by a width of 83 ft.—being the largest rolling mill west of the Alleghanies, and having twenty double puddling furnaces, equal to forty single ones. The rail rolling mill is in the western building. The pig metal from the blast furnaces goes immediately to "a mill," where it is decarbonized and converted to wrought iron. After thus going through different manipulations, the bar is transferred to the western division, or rail mill, where the piled mass is put into heating furnaces, raised to a white heat, and then put in the train of rollers, three in hight, and is at once rolled into the finished rail before cooling. This mill, when in full operation night and day, has a capacity of making 40,000 tons per annum of finished rails."

PNEUMATIC HOTEL TELEGRAPH.—The *Manufacturer and Builder* for June thus describes it: "The compression of an ordinary India rubber bulb at one end of a pipe transmits an impulse or wave through the column of air therein contained. At the other end of the tube is a box with an elastic membrane covering it, on which lies the end of a lever which works the bell-hammer with the same movement as that in which the key of a piano-forte transmits motion to the hammer which strikes the string. The impulse passing through the tube expands the membrane, which raises the lever and so strikes the bell. For many reasons, lead tube has been found preferable to any other material, to use as a means of transmitting the impulse. The tube itself being drawn, the interior surface is very smooth and presents no inequalities to retard the velocity of the wave. The metal is ductile and entirely inelastic, so that none of the force of the impulse is lost by its expansion. This apparatus has many advantages over the ordinary electric telegraph now in use for hotel annunciators and other purposes in large buildings. The principal ones are its cheapness and the facility with which it can be kept in order; the expense of substituting small lead tubing for copper wire being amply balanced by the amount gained by doing away with the troublesome and expensive electro-magnetic apparatus and batteries, which, if not in perfect order or in the least neglected, render the whole system to which they are attached useless."

BITUMINOUS COAL THE MOST ECONOMICAL.—The Philadelphia *Ledger* says that the Superintendent of the United States Armory at Springfield, Massachusetts, has been conducting a series of experiments to test the value of certain kinds of coal as a steam generator. Each variety of three different classes of coal was used for six consecutive days in raising the steam for the engine of the establishment, with the following reported results: Of the Lackawanna, or hard anthracite, 4.01 pounds per horse power were used per hour; of the Pittson, a softer anthracite, 4.02 pounds were used; and of the Cumberland, or bituminous coal, of Maryland, 3.03 pounds were used. At the Springfield Armory, the Lackawanna coal cost $8.50 per gross ton, the Pittston $7.85, and the Cumberland $9.10. From these data it is calculated that the cost, per horse power, is 15 mills for Lackawanna, 14 mills for Pittston, and 12 mills for Cumberland—and it is therefore alleged that bituminous coal is the more economical fuel as a steam generator, making more heat and creating more power per pound and per cent. of cost than the harder coals.

SCREW VS. PADDLE.—The London *Times* says that the steamer Syria, built in 1863, and fitted with paddle-wheel engines of 450-horse power, attained a speed of 13.038 knots per hour, and the consumption of coal was at the rate of 45 tons per day. She has recently been converted into a screw-propeller, without any change in the model beyond that made by the removal of the wheels and wheel houses. The crank engines were taken out, and in their place were substituted compound inverted engines of 300 nominal horse-power. These engines have two cylinders, of 72 and 36 inches respective diameter, with a stroke of 4 ft. 2 in. On her trial trip as a propeller the Syria attained a speed of 12.637 knots an hour, with a consumption of coal not exceeding 18 tons per day; thus showing that while the speed is decreased only 0.421 knots an hour, with 150-horse power less than before, there is a saving in coal of 27 tons per day. Moreover, she has now storage room for 1,200 tons of cargo, against 500 tons—her former limit.

TWO-KEYED TELEGRAPH INSTRUMENT.—We take the following from the *Mechanics' Magazine* for May 26th: "A new instrument has been brought out by Mr. Herring. It is furnished with two keys, one to work a lever carrying a pin, to make a dot, and the other to work a lever carrying a small linear stile to make a dash. Greater accuracy seems likely to be secured; for it now takes a very long time to acquire the art of releasing or holding down the key with accuracy. It will be much easier to learn to use two keys, one for the dot and the other for the dash, and to use them with the same rapidity. Mr. Herring suggests that it would be practicable to emboss two slips at the same operation, and to give one to the sender, who would thus know with certainty what message had been despatched."

CARTRIDGE MANUFACTURE.—A single firm in Springfield, Mass., turn out 150,000 patent metallic cartridges per day. "These are in seventeen sizes, and are of the most perfect finish. The firm consume over 100 tons of lead per year, beside a large quantity of copper. Their machinery, much of which was invented by themselves, is all new, and of the highest efficiency. They are about to put in a 40-horse power engine, and add to their working force."

WIRE ROPE.—The largest rope in the world has been recently manufactured at Birmingham, England. It is 11,000 yards in length, 5¼ inches in circumference, and weighs over 60 tons. The rope consists of six strands of patent charcoal wire laid round a hemp center. Each strand contains 10 wires; each wire measures 12,160 yards, so that the entire length of the wire reaches the total of more than 412 miles.—*Iron Age.*

## SCIENTIFIC PROGRESS.

PHYSICAL CONSTITUTION OF THE SUN.—In *Silliman's Journal* for June, Prof. W. A. Norton has an article upon this subject, in which he takes the ground that the heat repulsion emanating from the sun causes the various substances which it is composed,—probably the same which are present in all cosmical bodies,—to arrange themselves in successive envelops according to the gravity of the atoms constituting each; beginning with the heavier metallic vapors, and terminating with the lighter (potassium, sodium, etc.), and the permanent gases, with hydrogen outermost. The waves of radiant heat, which pass from atom to atom, directly urge the atoms away from each other by repulsive impulses. Certain phenomena relating to comets suggest this theory, and thereby explain some of the solar phenomena which have been obscure. We quote:—"If, as is now conceded by astronomers, the tail of a comet is made up of matter detached from the general mass of the comet, by reason of a repulsive action exerted by the sun, it must also be admitted that the matter expelled is not all urged away by the same intensity of force, and with the same velocity; for we find that it is much more widely dispersed in the plane of the cometary orbit than is consistent with this supposition. * * * There would seem then to be no alternative but to admit that the tail of Donati's comet was composed of different substances, (or else of one substance in different physical states) subject to a repulsive action from the sun of various degrees of intensity; and either prevailing over the sun's attraction of gravitation, or partially counteracting it, and so giving rise to an effective repulsion for certain of these substances, and to a diminished gravitation for others. The simplest theoretical explanation that can be given of this state of things is to suppose that the *solar repulsion consists of a series of impulses propagated in waves through the ether of space, and taking effect upon atoms of different sizes with varying intensity.* It is obvious that if this be true, the smaller the atom the more effective should be the repulsion as compared with the gravitating force soliciting the atom; since the ratio of the two forces should be proportional to the surface divided by the volume, or that all atoms have the same density. We are thus incidentally led to infer that the larger comets consist of a variety of sub stances, like the earth. The question now arises what can be the origin of the force of solar repulsion. There is another side of the diversified picture presented by cometary transformations under the sun's influence, which gives some intimations on this point. Not only is a certain portion of the cometary matter repelled by the sun, but is also repelled by the nucleus of the comet. We see in large comets, a series of envelopes rise at intervals from the nucleus, on the side turned toward the sun, and recede at a nearly uniform rate until they become dissipated by the sun's repulsion. Luminous jets also stream out at times from the same side of the nucleus. These phenomena, it can hardly be doubted, are in some way the effect of the sun's heat. The simplest and most probable conclusion is that the ejecting force which is brought into play by the sun's heat is the direct repulsive energy of the heat received by the comet. We are thus led to infer that the repulsive action exerted by the sun upon matter in the state of the cometary vapors, probably consists, either wholly or partially, in repulsive impulses propagated in the heat waves proceeding from the sun."

QUANTITY DETERMINED BY THE SPECTROSCOPE.—We find the following in the *Journal of the Franklin Institute* for June: "The use of the spectroscope to detect minute traces of substances has been the most glorious achievement of the chemistry of the last decade; perhaps its employment to determine minute quantities may be the great exploit of the next. As an essay in this direction, may be noticed the interesting contrivance of K. Vierordt, who divides the movable plate of the slit of the spectroscope into an upper and lower half. Each half is provided with a micrometer screw, by which the width of the corresponding slit can be accurately measured. If the upper and lower slit are of the same width, the two spectra are of equal strength. If, however, a transparent colored medium be brought before the upper slit, for example, a tinted glass, a thin plate of any colored body, or a solution of a colored substance in a tank with parallel sides, we have two spectra of different intensities. The other slit is now diminished by the motion of the micrometer screw until the spectra are made equal in strength, and by comparison the amount of this motion is made to give the amount of coloring matter present."

PROF. WYVILLE THOMSON ON "LIFE."—*Nature* for May 25th, gives the first part of Prof. Thomson's late introductory lecture at Edinburgh University. Following is an extract:—"Life has been called the vital force, and it has been suggested that it may be found to belong to the same category as the convertible forces heat and light. Life, seems, however, to be more a property of matter in a certain state of combination than a force. It does no work in the ordinary sense. If a man lift a weight off the ground, many of the so-called vital actions are called into play, but yet every part of the work done can be accounted for by the action of the ordinary physical forces. The act of the will, which induced the lifting of the weight, can be referred, we can scarcely doubt, to the mechanical action of some part of a large and complicated apparatus, the cerebral hemispheres, and was accompanied by a waste of its substance. * * Chemical forces act in living beings under very special circumstances. For a series of years a mass of substances are held undergoing constant change and throughout in the most unstable state of chemical combination. The instant the condition of life is removed, decomposition commences, and the complex constituents of the body are resolved into more simple and stable combinations. But yet it may be fairly questioned whether the chemical relations of the component elements of an organized body are in any way directly affected. or controlled by life. It has become quite conceivable, especially through the researches of the late Master of the Mint, that a constant adjustment and re-adjustment of membranous and colloid diaphragms in the presence of powerful catalytic agents may possibly explain the maintenance of almost any chemical conditions however complicated. The one function of living beings whose explanation it seems at present impossible to imagine except by regarding it as the manifestation of a special property, is what has been called the 'moulding of specific form;' the building up of a heterogeneous and complicated organism, which shall repeat, not rigidly but with a certain flexibility, the characters which have been transmitted to it through a germ from a parent, every molecule of every part having thus a direct relation in form. in position, and in composition, to every other molecule of the body. At present, regarding it from a purely material point of view, we are scarcely justified in regarding life as more than that condition of an organized being in which the products of chemical and physical changes taking place within it are stamped with a specific organic form."

THE OPAL UNDER THE MICROSCOPE.—At a late sitting of the Imperial Academy of Sciences in Vienna, Prof. von Hochstetter communicated some microscopic investigations on opals, by Dr. H. Behrens, in which the author states that most opals are mixtures of various minerals, including a colourless fundamental mass, containing (microscopically discoverable) hydrophane cacholong, quartz, hydrated and anhydrous oxide of iron, ferriferous silicates, metallic sulphurets and carbonates, and organic substances:—fire-opal, glass-opal, noble-opal, and hyalite are free from admixture, and the first two are structureless. The colours of the noble-opal are interference-colours, caused by their lamellæ, which, however, are not tabular crystals. The double refraction discovered by Schultze in hyalite is caused by differences of elasticity such as occur in dextrin, amber, and compressed glass. The author also noticed the spheroidal structure which frequently occurs in opals.

SPONGY IRON A DEODORIZER.—It is found,—says the *Mechanics' Magazine*,—that iron prepared in a spongy state, by calcining finely divided iron with charcoal, is a superior deodorizer to animal charcoal. Sewage water passed through a filter of spongy iron is completely purified, and the water retains its sweetness for a considerable time. A spongy iron filter renders water beautifully transparent and apparently free from organic matter.

# CORRESPONDENCE.

## Lower California.

EDS. PRESS:—Having just returned from Lower California where I have been for some weeks past, looking at the country and having gone about

### 200 Miles Down the Coast

From San Diego, I availed myself of the kind invitation of the Rev. Father Ubach, (the Catholic priest of old San Diego), to ride with him in his buggy behind his two large fine horses; as it was at the time his parish duties required him to visit "San Rafael" and Santo Tomas," to give the isolated inhabitants of that desolate country the benefit of religious services and teachings; it being made obligatory for him to make the trip and hold services there twice a year. This is done without any appropriation of funds for the extraordinary expenses of the trip which is very destructive to clothing, buggy, harness, horse shoes and horse flesh; besides the great deprivations to be suffered on the roads, travelers are obliged to take along horse feed, blankets, and provisions, to provide for camping out and living, (as there are only two places where a meal can be had, and one place where a bed can be had on the road), besides, persons not accustomed to the country are liable to illness from drinking bad water and from exposure to a burning sun. Moreover, Father Ubach is obliged to depend upon the meagre donations of an impoverished people for his expenses and trouble, which, on this trip, barely paid traveling expenses.

My opinion is, that if the Bishop of this diocese was to come here and make the trip once with Father Ubach, he would certainly endeavor to have him better paid, or relieve him of at least half the work;—and he would find but few who would undertake the arduous duties on those terms. Father Ubach submits to the requirements with Christian fortitude without a murmur, exhibiting a living example of religious devotion and piety through all the dangers and trials of the tour, never omitting his daily devotions and duties, but impressing all with whom he comes in contact with the firmness of his religious faith; at the same time I found him to be a most jovial and companionable traveling partner. Although born in Spain, and a thorough Spanish scholar, he speaks English fluently—is liberal in his ideas and well informed. In less than two days after leaving San Diego we arrived at

### The Town of San Rafael,

A place now containing over 400 inhabitants. The placer mines were discovered here in August last, and were found to be remarkably rich; a great deal of gold having been found on the surface in nuggets, varying from 50 cents up to $7 or $8 in value; and one was found worth $104. All the gulches heading in a "Mesa," one mile and a half from town are rich, and would afford good return for mining, if a good sluice head of water could be had to work with. As it is, they are packing the dirt on the backs of animals and men, and occasionally carts are used to carry it to water, from a mile to a mile and a half distant. Many are making from one and a half and two dollars to ten dollars per day. Some miners are working on quartz ledges, and occasionally strike pockets of ore extraordinarily rich.

### San Tomas.

We remained there nearly one week, then left for Santo Tomas, the Capitol, so called, of the district and residence of Lieutenant Governor Rojo. From there I rode on horseback thirty or forty miles south, to examine some copper, silver, and quicksilver mines that have been worked and abandoned long ago. Without particularizing, I found what seemed to be a rich mineral country, with granite formation generally, interspersed with belts of slate. The country is mostly barren, and there is a scarcity of wood and water for mining and milling purposes; although I found a few very fine valleys with plenty of water near by, if the ocean might be considered plenty, as it was within two miles, with good level country for road, and wood within a few miles.

L. B. HOPKINS.

Julian City, May 29th, 1871.

## Notes on Half Moon Bay.—No. 2.

EDITORS PRESS:—In the valleys, water is obtained from the streams for stock and household purposes, it being in some cases raised by hydraulic rams. On the hills springs abound in such profusion that a farm of almost any size can be had with plenty of water. Artesian well-boring has been tried in several localities, but without success. A heavy growth of timber, principally redwood, covers the coast range, and extends well down some of the ridges and valleys, furnishing an abundance of lumber, fencing and wood. Lumber sells at the mills from $14 to $20 per M., according to the proximity of the mill to the settlement. Split redwood pickets, six feet long, of which most of the fencing is made, sell at from $10 to $15 per M., according to locality. We have four sawmills and one grist-mill. A large double circular sawmill has just been put in operation on the Purrissima, by Messrs. Borden & Hatch, to take the place of their old water mill that has been in use since 1853, but which is too slow for these times. A great many changes have taken place here since that old mill first started, which can only be realized by those residing here at that time. With the exception of the Denniston and the Johnston ranches, and a very few small tracts, the entire country has changed hands, most of it twice and three times. Some who lusted for the flesh-pots of other lands departed, but were well satisfied to find themselves back into the fog again.

### Cultivation of Oats.

The natural production of this coast is oats, which will stand more exposure, more wet or dry, and more miserable, slipshod farming than anything else that grows, except weeds. They seem bound to make a crop, no matter how mean it looks, as late as June. They have been sown on the tops of the hills, past the middle of April, and without a drop of rain have turned out over four tons of hay to the acre; the ordinary yield is about 60 bushels; although a yield of 75 or 80 bushels is not unusual. I had a field of over 100 acres that averaged 100 bushels per acre some years ago.

Four-fifths of the grain raised is oats. The large white English oats were tried to a considerable extent, but were not found to answer, on account of the straw falling so badly, making it too expensive in harvesting. The Norway oats are being tried by a number this year, and in such different localities and soils as will prove their profit and adaptibility to this climate. They are making big, rank straw, very deep green and healthy-looking, and they look as though they would fall down upon small provocation; but as we are told that they do not lodge, we hope such is not the case. After harvest I will send you the results. [We shall look with interest for the fulfillment of the promise.—EDS. PRESS.]

### Cultivation of Barley.

Barley is a grain that demands better culture than oats to insure a crop. As a crop it has not been very successful here, nor much of a favorite. Barley fields began to be scarce; but as its cultivation is being better understood, it will be raised more extensively. The yield has usually been light, although a crop now and then yielded so enormously as to stagger belief; but went to show that our climate was not in fault; that the trouble was in the cultivation. A field near Spanishtown, some years ago, yielded 150 bushels per acre of common barley! Last year a field of 50 acres of Chevelier barley yielded 65 tons of hay, besides 2,340 bushels of grain. On the John Pitcher farm, last year, 76 sacks of Chevelier barley, weighing 109 pounds each, were taken from one acre. Mr. P. admits having made a pet of it; *but it shows how well land likes to be petted.*

### Benefit of Rotation of Crops.

These yields were by many attributed to chance; but the condition of the soil had the most to do with it. The fields were miles apart, and the land not above the average. The first-named was preceded by a crop of beans, the next by a crop of English mustard, and the last by potatoes; in each case the soil was left in fine condition. The showing of the barley fields this year promise two sacks of grain on every acre sowed, following the above named crops, to one on land sowed last year to grain! There are a few exceptions to this, but very few indeed. A close observation of the fields this season will satisfy any farmer that if he wants a heavy crop of barley he must sow upon land not in grain the previous year; and if not able to do this to plow twice or three times. If he cannot do this he had better let it alone and sow oats.

### The Cultivation of Wheat

Has also been on the decrease for some years, for the reason that it did not do well generally, and that a heavy crop of oats could be taken off where only a light yield of wheat could be had. I have heard farmers say they could raise oats enough on one acre to buy the product of two in wheat. This was true enough so far as they were concerned; but the trouble is the same as with the barley, the plant not taking kindly to the climate. It requires better culture than oats, and does not get it. The finest piece of wheat in this valley, and the only real heavy piece that such soil as ours should produce, is in a field now under cultivation for fifteen years, till the crops began to look shabby for the want of rotation. Last year this field was sowed late for English mustard, but failing to come well, the field was plowed up, put in order and left to produce the handsomest field of grain in the valley this year.

G. W. T. C.

## Circular Instructions.

TO GIVE EFFECT TO THE ACT OF CONGRESS APPROVED MARCH 3, 1871, DIRECTING DEPOSITS TO BE MADE FOR THE SURVEY OF PUBLIC LANDS, TO GO IN PART PAYMENT OF THE LANDS THUS SURVEYED.

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE, May 6, 1871.

*Gentlemen:*—By an Act of Congress approved March 3d, 1871, entitled "An act to amend an act entitled 'An act to reduce the expenses of the survey and sale of the public lands in the United States,'" approved May 30, 1862, the following became a provision of law:

"SEC. 11. *And be it further enacted*, That all such cases where settlers shall make deposits in accordance with the act, to the credit of the United States, for public surveys, such amounts so deposited shall go in part payment for their lands situated in the townships, the surveying of which is paid for out of said deposits, and effect shall be given to this act by regulations to be prescribed by the Commissioner of the General Land Office."

In order to gather the foregoing into effect, the following regulations are prescribed for your observance, viz:

When one or more settlers on public lands shall apply to the Surveyor General of the district within which such lands are situated, for the survey of a particular township, at his or their expense, that officer shall furnish to said applicant or applicants two separate estimates, one being the cost of the subdivisional survey of the surveyable portion of the entire township, and the other to cover the expense of platting the survey as required by the 10th section, act of May 30, 1862, and the resolution explanatory of the same of July 1, 1864. (U. S. Laws, vol. 10, p. 410, and vol. 11, p. 414, respectively.)

Settlers availing themselves of the provisions of the above quoted section shall deposit with a United States designated depository to the credit of the U. S. Treasurer, on account of surveying the public lands and clerk hire in the Surveyor General's office, in the district in which their claims are situated, the sums estimated as aforesaid, at the cost of the field and office work.

The Surveyor General will take precaution to estimate adequate sums, thereby preventing any deficiency in the payment of deputy surveyor, as well as for clerk hire involved in the service.

Where several settlers desire the survey of the same township, the necessary deposits to cover all expenses of the survey and platting may be so subdivided as to be proportionate to the amount of lands within the township claimed by each settler; this, however, is a matter to be regulated by parties applying for such surveys, but all applicants should be informed that the law makes no provision for the refunding of any excess of the deposit *over the value of the lands taken;* the excess, however, if any, over and above the actual cost of the *survey in the field and office work* will be refunded as heretofore under the resolution of Congress of July 1, 1864. (U. S. Laws, vol. 11, p. 414.)

No certificate of deposit can be received in payment by the Receiver for more than the cost of the land at Government price, and when the certificate is for more than that amount, the Receiver will indorse the amount for which it is received, and will charge the United States with that sum only, and *not* with the sum named on the face of the certificate.

Where the amount of deposit is, however, *less* than the cost of the land, the certificate will of course be received at its face value, and the remainder of cost of land paid for in cash.

Assuming that the estimated cost of survey (both office and field work) is $850, which amount the party deposits, and the actual cost is $800; the party will be entitled. under the act of July 1, 1864, to the $50 thus deposited in excess of the actual cost of the field and office work; but he will not be entitled to the return of the $600 deposited in excess of the Government cost of one hundred and sixty acres at $1.25 per acre (amounting to $200.)

If, however, there are several applicants, the amounts deposited by each can be equitably arranged among themselves, provided, of course, the aggregate deposits cover the estimated expenses of the survey and incidental clerk hire.

The Surveyor General shall distinctly state to the applicant that the application for survey and depositing of the money will give no preference right to the land where adverse claims exist, and that all contests relative to lands applied for, whenever they arise, must be investigated and passed upon by a proper local land office before pre-emption entry can be allowed or the deposit credited to the depositing settler, as the benefits conferred by the act of Congress, approved March 3, 1871, hereinbefore cited, inure exclusively to pre-emptors under existing laws.

In making his monthly and quarterly returns, the Receiver shall designate the lands in payment for which certificates of deposit were used by settlers under the law, describing separately in his receipts the amounts of such payments and the balances paid in cash, if any occur, crediting the United States in said returns with the acres and purchase money of the lands embraced by the class of entries alluded to, and debiting the same with the amounts of the respective deposits applied in payment therefore, as shown by the certificates of deposit which are to be sent up as vouchers with appropriate quarterly accounts.

Very respectfully,
WILLIS DRUMMOND,
Commissioner.

To the Surveyors General, Registers and Receivers.

## Redwood Sawdust in Running Streams.

Much complaint is made, through the redwood country, of the practice of casting sawdust into running streams. If carried to any considerable extent, it becomes a most intolerable nuisance, rendering the water impure, and entirely unfit for domestic use, or for the use of stock. Wherever it lodges and remains for some time in any considerable body, especially if exposed to the hot sun, as it must be, more or less, during the season of low water, it generates the most disgusting mephitic gases, equal to or worse than decaying animal matter.

We have had some experience in the way of placing hot water, for only a few days, in a redwood tank, in a manufacturing establishment in this city. It produced a stench, which, if it had been continued, would have driven all the workmen out of the building. Of course no fish can live in a stream where such sawdust is thrown. Neither any person, nor any manufacturing establishment has a right to poison any running stream. If the nuisance cannot otherwise be abated, Legislative enactment should make it imperative and binding on mill men to cease a continuance of this nuisance.

DON'T SHOOT PAPER WADS.—The dry season is now fast approaching, and with it comes increased danger from fires, both in town and country. One of the most common causes of fires in the fields and woods, is the reprehensive habit of sportsmen in using for wadding, paper or other material easily ignited. The annual losses in this State from fires causod by the carelessness of sportsmen amounts to a very large aggregate. Gentlemen, buy patent wads or use leather, and you will, in a great measure, avert the danger complained of. The papers throughout the State will do a good service by calling attention to this matter.

# THE HAY FIELD.

## The Philosophy of Hay-Making.

The following article, which was prepared for the SCIENTIFIC PRESS, some two years ago, will be new to nearly, if not quite all the readers of the RURAL. It is also timely, and will fulfil our promise to the Santa Cruz Farmer's Club to furnish an article, this week, on the curing of hay:

Among many farmers there is considerable inquiry as to the proper time to cut grass for hay; while others appear to think that the convenience of the proprietor in the supply of help is of more importance, than the difference in the nutritive condition of the crop, within a range of a few days or even weeks. Acting upon the old proverb that "the proof of the pudding is in the eating," quite a number of intelligent farmers have, from time to time, made careful comparative experiments as to the result of feeding early and late cut hay; and it has thereby been proven that the value of a ton of hay, cut while green and succulent, and cured in the right manner, contains from 15 to 20 per cent. more nutritive value than that which has been cut after the seed has become fully developed.

Farmers have not, however, been altogether satisfied with mere *experiments* in this direction; but many of the more inquiring and progressive among them have called in the aid of the chemist and scientist to learn why these things are so. A very slight examination into the philosophy of the growth of grasses, shows that all annual plants reach their largest growth when in full bloom. No additional fibre or nutritive quality is added to their bulk after that time; the putting forth of the bloom is the last stage of growth. The strength and vitality of the plant is at this time equally distributed through all its parts, and its entire after effort is expended in ripening the seed.

In accomplishing this, it simply exhausts itself, and nothing is extracted from either soil or atmosphere. The strength and vitality of the plant gradually leaves its other members, until it has nearly all centered in the seed. In corn, wheat, barley, etc., which are raised exclusively for their seed, this is the end desired; but grasses, or even grains, when the design is to feed in the straw, should be to cut at the precise time when the nutritions matters of the plant are most universally diffused throughout its entire bulk; which, as we have shown, is just at the point of full bloom, and before the seed begins to form.

The common practice in cutting grass is to wait for the formation, but not fully ripening of the seed; partly for the reason that at that time the grass is more readily cured, and partly under the supposition that while nutriment is added to the seed, none is lost from the other portions of the plant. The error of such a course is apparent from what has already been written.

The chemist farther tells us that all grasses contain a notable quantity of sugar in their stalks and leaves when in bloom. If the plant is cut before it comes into bloom the sugar has not been formed; if it is cut after the seed has set, the sugar is not there at all—it has been converted into woody matter which contains no nutriment—but merely aids digestion by means of its bulk.

### Curing Hay.

In *curing* hay there are also many things to be considered, and the farmer owes much again to the chemist for the interesting and valuable information he has obtained through him, with regard to the chemical changes incident to the plant during that process. Most farmers make the same mistake with hay-making that they do in the handling of manure—they turn it over and over too much to the weather, thereby unnecessarily losing much of the most valuable properties of both.

Don't dry your hay too much; good grass may be dried until it becomes as worthless as straw. Hay should be simply *wilted* in the sun and dried in the winrow. When we gather an herb and desire to retain its full strength we dry it as quickly as possible, and in the shade. Such is the philosophy of hay-making—dry as quickly as possible, with as much stirring as you can give it; and for the shade, substitute as soon as thoroughly wilted, the winrow and the cock. Any unnecessary delay of "raking up," even for a single hour, in a very hot day, may make a difference of fully fifteen per cent. in the value of your hay. The water only should be evaporated. When that is gone, the aroma and nutritious properties of the grass will speedily follow if further exposure is suffered. The olfactory nerves will promptly give notice when that process commences, and no time should be lost in "raking up," after the aroma is observed to be passing away. If the weather is hot, and the ground dry, the grass will be ready for the rake in two hours after it is down—even when the weather is cold and the ground wet, not more than half a day should be allowed for wilting and drying broad-cast. Hay should be placed in the stack or barn as soon as possible after it is made—not an hour's unnecessary delay should be permitted.

The chemist, to whom we must always look for the philosophy of such things, tells us that with the evaporation of the water, the organic cells of the plant are broken up and active fermentation sets in, unless it is immediately placed under cover from the sun. When such fermentation takes place, the hay depreciates in quality, and is in a condition to heat when afterwards placed in the stack or barn. An undue fermentive change may be known by the rapid loss of color. As long as the green color is retained, the work is going on all right. Its loss, whether in the field or in the stack, shows that injurious fermentation has set in.

Heat, light and dry wind will take the chief part of the sugar and starch (its most important nutritious qualities) out of hay, in a very short time after it has lost sufficient water to become wilted. The subsequent exposure to even a very slight rain will render it almost worthless. When all the conditions of cutting and curing are properly complied with, the cured hay retains all the characteristics of green grass, without its injurious drawback of excess of water. The dried and condensed juices remain in the tender fibre, in just the condition to be most easily softened and digested.

The true philosophy of hay making, then, consists in cutting the grass at the precise time when the sugar and starch is most fully developed, and before those elements are converted into seed or woody fibre; and in curing the same to just the point previous to which excessive fermentation takes place, and when it is in just the condition to be put into the barn without danger of subsequent heating.

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CLOVER.—Clover differs entirely from the cereal plants in this respect, that it sends its main roots perpendicularly downward, when no obstacles stand in the way, to a depth which the fine fibrous roots of wheat and barley fail to reach; the principal roots of clover branch off into the creeping shoots, which again send forth fresh roots downward. The clover, like the pea plant, derives its principal food from layers below the arable surface soil; and the difference between the two consists mainly in this—that the clover, from its larger and more extensive root-surface, can still find a sufficiency of food in fields where peas will no longer thrive; the natural consequence is, that the subsoil is left proportionally much poorer by clover than by the pea. Clover seed, on account of its small size, can furnish from its own mass but few formative elements for the young plant, and requires rich arable surface for its development; but the plant takes comparatively but little food from the surface soil. When the roots pierce through this, the upper parts are soon covered with a corky coating, and only fine root-fibres ramifying through the subsoil convey food to the plant.—*Liebig.*

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A NOVEL MODE OF GATHERING HAY.—During the comparatively dry season of 1856, a gentleman at State Creek, near Shasta had sown a piece of ground with oats, intending to cut it for hay, but the ground was so dry that it did not grow more than ten or fifteen inches high, and would not pay for cutting. It occurred to him that he could get the Indians to pull it; so he went to see "Capitan" Ned, who took the contract for a quarter of beef and a half dozen sacks of flour. The Indians—about 70—went to work the next morning—old grey heads, squaws, little ones and all—taking a swath some sixty yards wide across the field. In two days they finished the job, and by this means our friend put some eight tons of good hay in his barn. The ground was very dry when the hay was pulled, and the dirt was therefore all easily knocked off the roots. A horse will eat the roots in preference to the top. Perhaps some of our farmers, suffering from the present drouth may profit from the above.

## Irrigation.

The dry seasons of 1863 and 1864 elicited a considerable discussion on the subject of irrigation among the farmers and the press of the State; but beyond discussion very little was done to practically put in operation the theories advanced. As the rain fall since those years has been sufficient, even with the slack system of cultivation practiced, to secure average crops, the subject has attracted but little further attention until now.

The severe drouth of the present year has had such a damaging effect upon the crops of the great central agricultural portions of the State, that the discussion of the subject has not only been renewed with increased earnestness, but large associations of capitalists have been formed for building ditches, aqueducts, and other facilities for irrigating large sections of the country; and from the energy with which surveys are being prosecuted, and in some instances, the work actually pushed forward, we are warranted in the expectation of large and important results.

It looks now, as though we should, in a few years, have a plenty of water flowing through the great San Joaquin and Sacramento valleys, in artificial channels, and completely under the control of man, so that it may be diverted out to flood the broad plains at pleasure. The accomplishment of such a system of irrigation, properly and liberally managed, and the water judiciously applied to the soil would render a failure of crops in our State almost an impossibility. It would place us beyond the contingencies of drouth, and add millions of dollars to the value of our annual agricultural products.

The Sacramento and San Joaquin rivers, and their tributaries, convey to the Pacific Ocean, annually, a sufficient quantity of fertilizing materials to keep up every acre of arable land, embraced within their valleys, to the highest standard of production, even under a system of constant cultivation and annual cropping. By diverting a part of these waters out upon our farms, annually, and at the proper season of the year, we may thus secure the ensuing crop beyond a peradventure, and at the same time add strength and vigor to the soil.

### The Time to Irrigate.

In this country Nature does most all of her irrigation in the winter or cool season of the year. For many reasons we believe this to be the best time for artificial irrigation.

Nature, as a general rule, is the best teacher, when well understood and judiciously followed, in all agricultural matters. For instance, in California Nature sows her seed in the dry season. Whenever that seed is matured it falls upon the ground, into the cracks and crevices of the soil, and when the first rain falls—the weather generally being warm—sprouts and grows through the full season, and through the winter; and when the spring comes the roots have penetrated the earth, the top has started and spread, and all is ready for an early and rapid growth and maturity before the severity of the dry season checks it.

If all our grain farmers had followed the teachings of Nature more closely, as to the *time* of sowing grain, failure of crops would have been much less frequent. If they will now plow the soil deep, and thoroughly pulverize it, and sow grain early, before or soon after the first rains, California, notwithstanding the occasional drouths, will be one of the most reliable grain-producing countries in the world.

We venture the assertion that if all the land sown to grain in this State, last season, had been *well* and *deeply* summer-fallowed, and had been dry plowed well the second time, and sown before the rain commenced, the average yield would have been thirty bushels to the acre for every one thus sown, notwithstanding the small amount of rain that has fallen for the past two years.

Facts are sufficiently abundant to satisfy every intelligent mind of the correctness of this proposition, if people will only look them up and consider them. Go where you will in the dryest portions of the State, and you will find now and then a good field of grain in the immediate neighborhood of hundreds of fields that are not worth cutting. Upon making inquiry as to the cause, you are almost invariably told that this particular field was *summer-fallowed* and sown early, while the others were plowed but once and sowed late.

With such facts before us, taken in connection with the record of the rain fall for the last twenty-one years, by which we learn that within that time there has been but one so dry season as the present, it may, with a great deal of force, be argued that the expense and trouble of irrigation might be dispensed with. We are free to admit that for the purpose of grain raising alone, and laying aside the advantages of fertilization which we may get from the water, and which in this county it is hard to obtain by the usual modes of plowing in growing crops of clover or other products, we should not be strong advocates of any general systems of irrigation. For the purposes of securing the fertilizing properties of the water, however, and for the purpose of rendering it easier to introduce and cultivate with profit a greater diversity of agricultural products, we are decidedly in favor of general systems of irrigation in all available portions of the State.

### The Land and not the Crops Should be Irrigated.

But now as to the time of using water, as we said above, we would irrigate in the winter season; we would irrigate the *land* and not the *crops*, as a general thing. With twenty inches of water applied in the winter season on almost any land in the State a good crop of any of the small grains may be saved by proper cultivation. For corn, rice, potatoes and many garden vegetables a greater quantity of water, especially when planted late, may be necessary; and for such products, and not for the grains, we would consent to the use of the water late in the spring or in the summer.

One great objection to the use of water on the soil late in the season is that the evaporation takes place so rapidly that nearly all the fertilizing materials of the water are thus carried away in the form of gases, and so one of the otherwise most important advantages of irrigation is lost. Another objection to summer irrigation is that it induces the soil to bake or form a hard and disagreeable crust on the surface, preventing the circulation of the air through it—a very essential thing—and thus, in the end, positively injuring the soil more than it benefits the crops.

### The Sanitary View.

But the greatest and perhaps most serious objection to summer or late spring irrigation is the sanitary view of the subject. There is no doubt but the irrigation of lands late in the season in this State is almost sure to be followed by a general prevalence of chills and fever and other bilious diseases in the vicinity of such lands. The prevalence of diseases of this character in portions of the foothills of the Sierras is now generally attributed, and no doubt truly, to the presence of the water in the mining ditches, reservoirs, hydraulic tailings, etc. Wherever land has been irrigated later in the season, even from wells by windmills to any extent, disease has followed. We could name particular instances and localities in substantiation of this view of the subject, but deem it unnecessary. Our only object now being to call attention to this matter and to impress upon those engaged in irrigating schemes the importance of using the water in the winter season, and not in the summer. Health is worth more than money, and by the proper course, the former may be retained and the latter secured. By the other course both will be lost.

# AGRICULTURAL NOTES.

## CALIFORNIA.

THE harvest, as far as it has progressed, has turned out better than was anticipated a month ago. The yield of hay, though lighter than usual, will nevertheless be sufficient to meet all demands. Farmers will of course, this year, save their straw, to meet any possible contingency. The prospect for an abundant yield of fruit, hitherto noted, will be fully realized. Fruit, generally, is maturing rather earlier than usual. Apricots, apples and pears are already beginning to make their appearance in the market, and will soon become plentiful.

In those parts of the State devoted exclusively to wheat, and where that crop has entirely failed, there will be much individual destitution, and many farmers will be entirely broken up. But the large demand for labor in the construction of irrigation ditches, in such neighborhoods, will undoubtedly afford much relief, and the construction of such improvements will give the fullest assurance of future success.

THE crops in the hills, back of Oakland are generally doing well, the farmers are becoming more than ever convinced that the mountain land is of considerable value for agricultural purposes. Until quite lately, this land was deemed suitable only for grazing cattle.

THE farmers around Healdsburg find their hay fields yielding better than ever before, and the grain crop will also be above the average.

THE cherry crop is very plentiful and the fruit luscious.

GETTING READY FOR THE SHOW.—Mr. McWain, the energetic committeeman to whom has been entrusted the management and improvements of the stock grounds belonging to the Upper Sacramento Agricultural Society, is "taking time by the forelock" and rapidly pushing forward the work. A fine exhibition of blooded stock is expected. A large amount of fine stock has recently been imported into that part of the State.

THE SISKIYOU STOCK ASSOCIATION held their regular meeting on Saturday, June 3d. It was ordered that a committee of three be appointed, to examine and pass upon all pedigrees before being recorded. The chair appointed James Vance, L. Swan and Wm. McConaughy as such committee. The Secretary was ordered to subscribe for and put on file the RURAL PRESS, the *Stock Journal* and the California *Spirit of the Times*.

CROPS IN BUTTE.—A. J. Loomis, of Sutter county, who has just returned from a visit to Chico and surrounding country, gives the Marysville *Standard* the most encouraging account of the crops in Butte county. The fact is beginning to be apparent that Northern California will produce a fair crop of wheat this season, the opinion of the grumblers to the contrary notwithstanding.

BETTER THAN EXPECTED.—The Chico *Enterprise* of the 10th inst. says: "We were shown by Mr. Clark Kennedy, clerk of the Colby Landing store, a fine sample of club wheat, grown upon the "grasshopper field" of the Colby lands, containing 400 acres. Less than a month ago it was thought to be scarcely worth cutting for hay, now it will yield from eighteen to twenty bushels to the acre."

LARGE HAY CROP.—The hay crop of the Bidwell Ranch yields two tons and a half to the acre this season. One thousand tons will be put on the place this year.

OLIVES IN PLACER.—C. E. Carpenter has a dozen or more olive trees, growing among the granite rocks on his ranch, at Rattlesnake Bar. They are doing finely. L. E. Miller, of the same place has 75 cherry trees that will average 225 pounds to the tree, which at 15cts. amounts to $2,531—a pretty good yield for 75 trees. Thousands of additional acres in the foothills ought to be planted with fruit trees this season.

CALAVERAS.—The farmers of this county will harvest abundant crops, thus affording a further demonstration of the value of mountain lands for farming. Why is not every miner a farmer and gardener, as well; at least on a small scale?

SHERMAN ISLAND.—Mr. Ayer has cut four tons of good hay per acre, and is now planting potatoes on the same land. About two-thirds of the island is already under cultivation.

TWITCHELL ISLAND.—There are 15,000 acres of wheat on Twitchell Island, near the mouth of the San Joaquin river, which it is estimated will yield at the rate of fifty bushels per acre. The unusually dry season has proved beneficial to the owners of reclaimed swamp lands, enabling them to raise larger crops than they would otherwise have done.

IN LIVERMORE VALLEY the farmers expect to realize about one-third of an average crop of hay and grain. The gravelly soil has proven better during the drouth, than the adobe soil.

THE TULARE CROPS are being harvested and will nearly if not quite equal those of last year.

THE HILLS OF FRESNO are literally alive with cattle and sheep which have been driven thither from the parched plains below. The feed is devoured almost as fast as it makes its appearance—they follow close up to the line of the melting snow.

SANTA BARBARA.—The grape crop was never more promising. The fruit trees of every kind are fully laden with their precious burdens. The second crop of strawberries were beginning to come into market on the 10th inst. The century plant in Judge Ferneld's garden is in full bloom.

The crops in San Buenaventura, in the lower part of the county, according to the *Signal*, are turning out remarkably well.

OLIVE TREES—THEIR PROFIT.—There are more than 3,000 olive trees in the Belmont olive plantation near the town of Santa Barbara, where but six years ago there was only barren hillsides. Every limb appears to be loaded with fruit. Two thousand of these trees are five years old, each of which will average twelve gallons of fruit, which will yield two gallons of oil, worth $5 per gallon. If we reduce this estimate one-half, says the *Press*, these 2,000 trees will give $10,000 worth of oil, to express which and put it in market will not cost over $2,000—leaving a profit of $8,000. Or the fruit may be pickled and sold, wholesale, for 75 cts. per gallon, a cheaper process, which will give a much larger profit still. California ought to supply half the world with olives and table oil.

IMPROVEMENTS.—The new turnpike road across the Gabelan range, connecting San José and Santa Cruz, *via* Saratoga has just been opened.

The first car load of pipes for the Gilroy gas works has arrived there, from which light will soon burst forth.

A subscription paper is in circulation at Watsonville to raise the sum of $50,000, an offer having been made by Leland Stanford, that if that sum were paid to the Southern Pacific Railroad Company and the survey made, the Company would build a branch road to that place. The distance is about 15 miles.

CROPS IN PAJARO VALLEY and vicinity, present a very flattering appearance at present with the exception of a few fields which have been injured more or less by frost. No such trouble has ever before been encountered in that valley. Besides wheat, barley, oats, potatoes etc., there is considerable rye growing near Watsonville, which is in splendid condition. Mr. Hy Jackson has on the Amesti ranch a fine field of English mustard, which is filling nicely, and the extensive tracts of flax mostly owned by German citizens, never looked more thrifty. In fact the crops not only here but all through the county, seem to have escaped bad effects from rust, drouth and other evils, and we look confidently for large yields.

THE WELLS in the hills about Santa Cruz are nearly all dry, while those around the beach are fast getting low. This is unusual this early in the season. Some wells have given out that were never known to fail before this year.

SAN DIEGO.—The editor of the San Diego *Union* speaks thus of some late observations in Sweetwater Valley, ten miles from his town: We saw fig trees ten feet high, with from twelve to sixteen branches, which had grown from cutting in twenty months; we measured a beet of five feet seven inches in circumference, and another of four feet circumference; we saw over twenty sweet potatoes, of from three to five pounds weight taken from a single hill

GRAIN LAND IN SUTTER.—The Marysville *Appeal* says there is an active inquiry for grain lands in Sutter county. Notwithstanding the partial failure of crops there this season, the call for good grain land is in advance of prices as ruling the corresponding period of last year. Buyers are offering from $20 to $25 per acre, but owners are not willing to sell at those figures. It requires more than one or two poor seasons to destroy the farmers' confidence in their lands. They are learning to farm better. They will improve more still. They will learn to trust more to deep plowing than the season; more to cultivation than the soil. When they have learned these things they won't fear drouths.

DRY PLOWING.—Mr. Sewell informs the *Appeal* that his grain on land, dry-plowed, will hardly be worth harvesting. He tried the experiment of plowing 120 acres before the rains fell, and the result is an almost total failure, while that plowed and planted after the rain will yield about half a crop. This is different from the general experience, and was probably due to imperfect pulverization.

DIFFERENCE IN CROPS.—The Visalia *Delta* of June 10th, speaking of the difference in crops, says: We were shown two fields, side by side, on the ranch of Mr. Harper, on Tule river, a few days since, both sown to grain at about the same time, one of which would probably produce 30 or 40 bushels to the acre, and the other completely dried up. Both were plowed deep. The difference, we are informed, was due to the fact that the dry field had never been plowed before. The other had been cultivated several seasons. This is a hint worth taking.

WHAT CULTIVATION WILL DO.—A gentleman residing on the plains southwest of Colusa, informs the Colusa *Sun* that he will get in the neighborhood of 30 bushels to the acre. The ground was summer-fallowed and again plowed before it was sowed. The balance of his land, sowed at the same time, will make next to nothing. Experience proves that it will pay, even in a good season, to plow the land twice, and even three times. The *Sun* thinks that land plowed and rolled in the spring, and again plowed when it is sowed, immediately after the first rains, will produce 30 bushels the dryest season the Americans have ever seen in this State. People here want to get rich with too little work.

THE WHEAT CROP about Woodland is turning out better than was expected. The same is reported of the hay in the neighborhood of Vallejo.

THE Calistoga *Tribune*, the first number of which has just reached us, exhibits a most commendable degree of industry in gathering up the local items of its neighborhood. We collate therefrom the following: Van Reed & Perkin's Japanese tea garden promises well. They come forward from the seed much *more rapidly than in Japan*.

The grapes in the vicinity are doing remarkably well. A large number of new vineyards have been planted.

BADLAM & CONWAY'S FISH POND is alive with young trout, 3,000 of which have recently been placed therein, hatched out from spawn brought from New York. They have also in a separate enclosure, a large number of native trout, taken from neighboring brooks, from 12 to 15 inches long. Fishing will soon be added to the pleasures of Calistoga.

RAMIE PLANTS, to the number of 1,000, were recently planted here from the Howard Nursery in Alameda. They were set out in rich loam, and only 25 of the whole number are now growing—but three inches high. The *Tribune* says more information is required for the successful cultivation of this valuable staple before the desired results can be obtained.

OUR WHEAT FIELDS.—Upwards of 2,000 acres of wheat, planted in this township, is just beginning to ripen, which will harvest from 25 to 40 bushels per acre. The grain looks unusually well, as do also our vineyards, shade trees, and all other foliage.

## OREGON.

THE grain crops in Oregon are still reported very fine, with a promise of an unusually large yield. From all parts of Linn county, says the Albany *Democrat*, we hear the most glowing reports of the coming wheat crop. The breadth of grain sown in the county is much larger than ever before, and it everywhere looks splendid.

The water in the Columbia and Willamette rivers is still high, and the bottom lands along both rivers overflow and of course much damage has been done to the farmers along the river banks. The damage in Clarke county is estimated at $100,000; many have lost their entire crops.

WOOL.—The quantity of wool arriving at Portland, from Eastern Oregon, says the *Oregonian*, is greatly in excess of that of any former year. This product is rapidly becoming a very important feature in the trade of that part of the State and will soon constitute one of the principal sources of the wealth of Eastern Oregon and Washington.

EMIGRANTS are coming into Oregon very rapidly, from California and from the Atlantic States and Europe.

SHIPMENT OF BONES.—Ten tons of bones were received in this city from Portland on the last trip of the Ajax, to be used in the Sugar Refinery there.

A LARGE COLT.—A colt three years old, belonging to Thomas Townsend, of Marion county, Oregon, is now 16½ hands high and weighs 1,446 pounds.

## FROM THE MOUNTAINS.

NEVADA AS A CATTLE RANGE.—In 1864, large bands of cattle were driven to the tules, which, in dry seasons especially, afford splendid pasturage, but these ranges are not of sufficient extent to accommodate all. The next best thing to be done, then, is to go to the sage-brush plains of Nevada. There the range is unlimited, and the subsistence never-failing.

CARSON VALLEY.—The crops in Carson Valley are somewhat backward this season; but, notwithstanding the past few days of cold weather, will yield a little above the average should no further draw-back be encountered. "Grass is short," up the valley, but farmers say the hay will be of better quality in consequence. The orchards have sustained but little injury in consequence of late frosts, and fruit trees, particularly gooseberry and currant bushes, are loaded.

MONTANA.—Mr. Thomas W. Harris, the pioneer farmer of Montana, sent to Mr. Geo. W. Irvin this week, an apple sprout of one year's growth, nearly six feet high, a sample of the kind he is cultivating in an orchard near Fort Owen. He will make a success of it in that splendid region. Mr. H. writes that a great deal of rain has fallen; grass is growing finely, and stock looking excellent. Many farmers are plowing and the indications are that double the amount of grain will be raised this year as ever in one year before.—*New Northwest.*

LACK OF HOGS IN MONTANA.—The Montana *Independent* is expressing astonishment at the fact there that are but 250 head of hogs in that county. The demand for bacon and hams is far greater here than in any other county, and lard always brings a good price. It hopes that the farmers will give the subject of hog-raising a little more attention. It is among the most profitable occupations that the farmer can engage in and there is no danger that the demand will be less or the prices lower for years, than at the present time. By diversifying their products they will be more certain to make money fast.

GOING TO MONTANA.—Large numbers of farmers and stockraisers says *Corrinne Journal*, are passing through this valley en route to different sections of Montana Territory. All the mountain valleys are filling up, and soon we will be numbered, in population, as of the old settled country. For the past two or three weeks numberless teams and droves of stock passed through the northern side of the city, some settling on Promontory Point, others going into the valleys of Eastern Idaho and Southern Montana. All derive their supplies from Corrinne.

GRAIN IN IDAHO.—The Idaho *Democrat*, in speaking of the Boise Valley, says: "The breadth of grain sown in this valley last fall, and that yet to be put in this spring, will far exceed all previous seasons. If no untoward event transpires, Idaho will have a surplus of flour next fall."

COLORADO.—Most of the valuable agricultural lands in Colorado are in the hands of the National Land Company of Denver, as selling agents, and in less than a year they have sold 100,000 acres for about $400,000.

SALT LAKE.—A correspondent of the Sacramento *Record* says that agricultural matters about Salt Lake look well. Wheat and other cereals in places are heading out, the potatoes are in blossom, fruits promising, grasshoppers scarce, and generally the goose hangs high. True it is that in places the wicked grasshoppers are helping themselves to the serious damage of the good Saints' crops, but this is only in places where there are no Gentiles, and where the "New Move" has not taken root. The crickets are numerous on the mountains. I never saw before such crickets—an inch long, fat and healthy. I came down the mountain path; the day was sultry and hot, yet my boot soles and even portions of the uppers were damp with *juice* of damaged crickets that I could not help treading upon.

## The Late Mr. George Peabody.

The accompanying illustration, which we take from our cotemporary, the *Literary Journal*, is an excellent likeness of the late Mr. George Peabody, whose name is familiar in the mouths of all nations as a great philanthropist.

George Peabody was born Feb. 18th, 1795, in Danvers, Mass., where his boyhood was passed. In May, 1812, when the British invaders came sailing up the Potomac, he enlisted in the patriot army, and served a few months as a soldier. After the war he formed a partnership with a Mr. Riggs, and spent a large part of his time traveling as "drummer" for the firm, in which way he made a large business acquaintance.

In 1830 when Mr. Riggs retired from business, Mr. Peabody found himself at the head of one of the largest commercial houses in the country. Throughout his life he maintained a character of great integrity, discretion and public spirit, though he never courted political honors, and kept aloof from party disputes.

He retired from the American house in 1837, and established the banking house of George Peabody & Co., in Warnford Court, London, where he acquired an enviable reputation for fair dealing and liberality, devoting himself largely to philanthropy. His private charities were very numerous, and the poor of London were his warm friends; but his public benefices are much better known to the world, which amounted in all to $2,725,000, besides 2,000,000 to various members of his family.

Mr. Peabody refused a baronetcy and the Grand Cross of the Bath, offered to him by Queen Victoria, but received from her a grateful letter and a minature portrait of herself, which he deposited in the Peabody Institute at Danvers.

On the 4th of Nov. 1869, this good man breathed his last, and on the 12th of the same month, funeral ceremonies over his remains were held in Westminster Abbey.

How his remains were subsequently removed to Danvers, and what impressive ceremonies were held there are familiar to all our readers, and the name of George Peabody can never be forgotten until the world ceases to regard philanthropy as a virtue.

## Chances of Success in Business.

On the subject of speculation, an old and new York business man makes the following hypothetical table, estimating the chances on ten year's active use of brains and capital in the chief sources of speculation extant, omitting speculative mining:

Start fifty educated business men, twenty-five years, and supply each of them with $20,000 to use for ten years, and at that period to report their actual position. The probable returns would be:

In stocks—One man at the end, would be worth $200,000; two men, about $40,000 to $50,000; two men, about $20,000 to $25,000; forty-five men bankrupt.

In grains and western produce—One man, $100,000, one, $75,000 to $80,000; three, $50,000 to $75,000; five, $40,000 to $50,000; ten, $25,000 to $30,000; ten, $10,000 to $20,000; twenty men bankrupt.

In cotton—One man $150,000; one, $100,000; one, $75,000; five, $40,000 to $50,000; three, $30,000 to $40,000; ten men, $5,000 to $10,000; twenty-nine bankrupt.

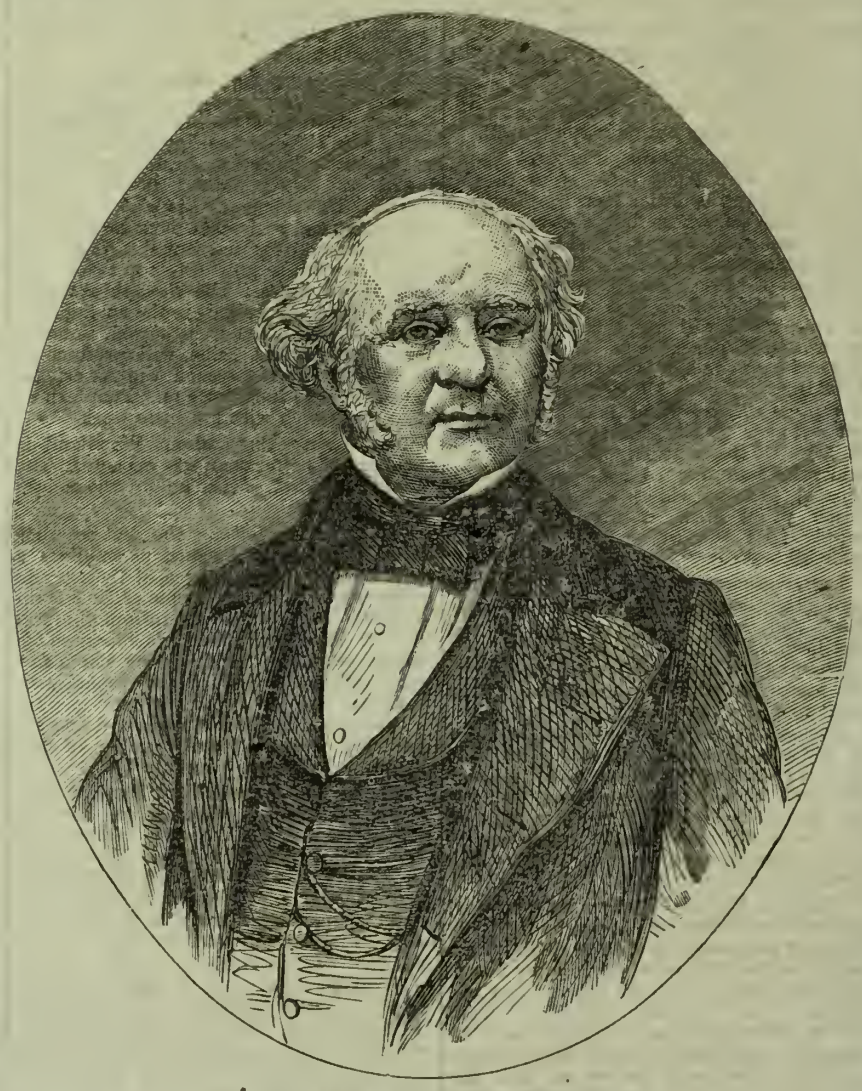
In sugars, teas, and foreign produce; one man, $150,000; one, $125,000; one, $100,000; three, $60,000 to $75,000; five men, $40,000 to $50,000; four men, $30,000 to $40,000; ten, $20,000 to $25,000; ten, $10,000 to $15,000; fifteen men bankrupt.

In real estate (the writers own choice after failure in everything else), one man would, at that period, be worth about $200,000; two men, $150,000; five, $100,000; ten, $50,000 to $75,000; ten, $40,000 to $50,000; ten, $30,000 to $35,000; ten men, $10,000 to $15,000; two men bankrupt.

A similar table in regard to more legitimate productive industries, not excepting legitimate mining, may be made by anybody for himself.

## Industries, Employment and Business.

A look through the Mission Woolen Mills, and a call at one or two of the foundries, suggest points expressive of "the situation" of life and business in the West. Labor on the Pacific is now at a par with that of the East, no higher in the average, and no lower; by which remark we do not mean skilled white man's labor alone, but skilled and unskilled white man's and Chinese alike. The fact is proven by the history of the woolen mills. The two in this city have been running uninterruptedly for eight years and are running at their full capacity to-day. The Mission Mills employ 400 hands altogether, and the money paid on labor account is as near that for equal products in the East as can be, low enough in comparison to warrant the dictum that there is "no difference," which means in this connection that with the Chinese here the sum total may be even a little lower. Boys and girls, wages are the same, but expert white bosses and masters in the trade get about $1 a day more here than they do in the East.



THE LATE MR. GEORGE PEABODY.

### Land Reclamation.

In such enterprises as the reclamation of swamp lands by ditching, an example of the influence of the presence of the Chinese is seen in the offering of the contract by Dr. Toland on Friday last for 4¾ miles or 163,000 yards of leveeing at Collinsville; the contract being taken by a Chinese company at $20,000 which was $6,000 less than any bid for white labor; or say 11¼ cents per yard after allowing $1,255 as a margin for incidental expenses and profits.

### Woolen Manufactures.

After all the talk about woolen mills, there are only five in the State—the Mission, North Beach, Merced, Marysville and Sacramento—of which all but the last have been running successfully and constantly from their completion; and the failure of the Sacramento mill is attributed to loose calculation and management. The fact that the same wool—the staple having risen 50 per cent. this year, from eastern or general causes, cost the Mission mill $180,000 for last year's consumption, and $300,000 for this, without disastrous effect, proves the soundness of industries of this sort on the Pacific coast.

It should be understood that traders—the Jews principally—always prefer to sell eastern goods of every sort at less profit, arising from their trade connections, in which they share with the eastern or European producer the profits of the cheapest labor, and of speculations in the market.

### Boots and Shoes.

In boot and shoe manufacturing, co-operation has been applied, since the disagreements between employers and employés about two years ago. The importation of men's eastern-made boots—chiefly Benkert's, of Philadelphia—has been reduced one-third or more within two years, on account of goods manufactured in this city. The importation of eastern-made woman's gaiters has declined fully 50 per cent. within the same time, the home article being preferred, both as to price and quality, to the gaiters of Atlantic manufacture. The workmen make better wages here than are paid by the leather lords of the boot trace in Lowell and other Atlantic cities, while flour, vegetables, meat and other mainstays of physical life, are both cheaper and better here than the workmen of the East are accustomed to.

### In the Iron Works

The freezing aspect of the past two years is nearly gone. Always the best key to healthy or unhealthiness of business life and individual prosperity, we see that with a greater plentitude of general orders everywhere, at the Empire Foundry there is a beginning in the manufacture of portable ranges and stoves, a business heretofore deemed entirely impracticable here in consequence of the dearer labor; the freight on a stove via Cape Horn being but a trifle. At the Miners' Foundry, which suffered in our late "dullness" with so many other of the most meritorious establishments, co-operation has solved all difficulties as it even will in lieu of a reluctancy capital.

### Farming.

The fields for labor are the fields where the capitalist's dividends are paid; and while it is well understood that our capitalists are generally capitalists from their talent for "holding on" to what they have gotten by good fortune, rather than by reason of their shrewdness, the limits of the present article do not permit of any comment upon the unoccupied fields.

Farming is usually considered the most easy, ready, sure and profitable in the end to those without capital. Farming must have its market, and without cheap transportation for small articles in the local markets, or without local markets, farming becomes either planting, or hybernating, and has serious drawbacks. Farming in the far west is not so easy to begin and carry on successfully without considerable capital, as it is in the Mississippi west.

## Strawberries on High Bushes.

A writer in the St. Paul *Press* affirms that he has seen scores of miles of country some sixty miles north of Fort Totton which was an almost continuous plantation of wild strawberries, growing in many of the rich spaces, not on horizontal vines, *but on bushes*, many of them three and four feet high, on which the clusters of this delicious fruit attained a size rarely reached by the most assiduous cultivation. So profuse was this native production of strawberries, on what is called the Pembina Mountain, that the cart-wheels, crushing the berries as they revolved, were fairly red with this wild vintage of the plains, and left long crimson trails, as of blood, behind them.

Wild strawberries, he adds, are abundant in every part of the Red River valley; but on the fertile plateau known as the Pembina Mountain, remote from every human settlement, they grow with a luxuriance which is simply astonishing, and so far as we know, unrivalled. It is the only region where we ever met with the bush strawberry, but the plant there seems to take the upright in the very pride of its exuberant fruitfulness, as if it disdained to creep along the earth with its scarlet crown of glory.

Salt in Manure.—At a late meeting of the Farmers' Club, of New York, a letter was received from Oliver Read, of Newport, R. I., in which he wrote:—"In the spring of 1846 I carted the manure from the barn-yard, put it in a heap, then carted three boxes containing about twelve barrels each of salt water from the ocean and put into it; had it forked over and spread on two acres and plowed in. My hog-yard had say thirty loads of manure. I put two boxes—same as above—of salt water in it, had it forked over, told my man to put it in the hill when he planted the corn. He said it would burn it up. I told him I would risk it. My land was dry. I thought the salt would keep the roots moist. I sold the farm the same season. The corn was estimated in the field by two farmers at sixty bushels per acre. I think there was about 1,400 pumpkins on the same lot. I used salt water two years before I was satisfied that it was beneficial to the land. Should have continued to use it if I had not sold the farm.

Musical Sand.—It is said that some six miles from San Buenaventura, Santa Barbara county there is "a marvelous deposit of musical sand." A mere step of the foot upon it gives off a slight musical sound; though to make it very distinct it is necessary to strike it a glancing blow with the foot or a staff. When that is done a clear, loud, musical sound, on the pitch of G, is given out, prolonged in a uniform sound as long as the staff or foot is in the act of passing through or over the *dry* deposit. We have traveled, for days, in the northern part of the State, where the loose stones upon the ground would give of a very strong musical sound at even a slight touch of the foot or a stick.

Vermi-phosphorescence.—The Marysville *Standard* notes that the worms "which fell in the last shower," [may we not say which appeared during or soon after that shower] were so heavily charged with phosphorus as to emit a strong phosphorescent light from their bodies, after dark, whenever they were trod upon or bruised.

Farm Machinery.—The farmers of the United States annually expend $20,000,000 in reaping and mowing machines. The annual production is now estimated at about 125,000 in number.

# POPULAR LECTURES.

## War Correspondents.

[Prof. SWINTON before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Reported expressly for the PRESS.]

LEC. I., June 17.—As a relaxation from the heavier topics of Mathematics and Greek, Prof. Swinton, formerly editor and war correspondent of the N. Y. *Times*, also author of "Decisive Battles," and "Campaigns of the Army of the Potomac," treated the students of the Mechanic Arts College to a series of interesting pictures from which the following have been selected:

He said, I believe our war is the first that can be said to have been *reported*. True, when the Crimean struggle was going on—that contest that used to look so large to us, but which in contrast with our own assumes rather the character of a tempest in a teapot—the London *Times* did send Mr. Russell, afterwards of Bull Run notoriety, to chronicle the resounding exploits of our British friends on the shores of the Black Sea; and the London *Times* was so astounded at its own enterprise, that it has not got over cackling about it yet. [Laughter.]

The war correspondents, of course, were just like the rest of mankind—some good, and some bad, and some indifferent. As a rule, they were

### All Rather Green at First,

And used to swallow the stories of the "reliable contraband" and the intelligent deserter with an avidity which much experience afterwards dashes with a very considerable spice of skepticism.

But let us do justice to our friends, the correspondents, for they deserve it—a quick-eyed, nimble-fingered, indefatigable sort of fellows, who would dash off a battle-scene on the pommels of their saddles, ride twenty miles to put it *en route* to their paper, and be back before morning to gather the list of killed and wounded.

### As to Their Reliability.

To be sure, they had their little weaknesses. It sometimes happened that the particular Brigadier General who had the honor of supplying them with their rations and their whisky, assumed in their reports martial proportions compared with which the great god of war would appear at somewhat of a disadvantage. But I need not say that there were wanting men among the corps of war correspondents impervious to the seduction even of rations and rye; men really worthy their high function; men who brought intelligent appreciation and literary skill and love of truth to their work; and there were, necessarily under the circumstances, in the best and truest they could write, many errors and misconceptions, half-judgments and false judgments, yet their was also that which, without these contemporary photographs the world and literature could never have possessed—I mean the life and spirit and movement of actions and events; nor is it to be doubted that when those records and reports shall have passed through the crucible of criticism, there will remain a large residuum which the historic muse will gladly garner in her golden urn.

The conventional style and white plumed generals of popular war historians like Headley and Abbott were alluded to, and the speaker continued.

### The Stage Effect Removed.

Now that sort of a thing is amazingly fine reading, and you have no idea what amazingly easy writing it is; I believe it is quite captivating to young ladies, and to youths at the age when they are contemplating running off and becoming pirates in the Spanish main. But wouldn't it be uncommon good fun to have one of those imaginative historical fellows present at a real battle and to witness his chop-fallen wonderment at the plain prose and dreadful realism of the thing? Now, if in place of the heroic, redoubtable and Godlike Pumpernickel, it were Meade or Grant or Sherman or Thomas, who were present, and if instead of some battle in cloud-land, it were Shiloh or Chancellorsville, Gettysbury or the Wilderness, it is quite certain

First—That my historic gentleman would not see the commander with the "white plume"—most likely with the stump of a cigar (and if the historian wishes a really characteristic, though I admit not quite so picturesque, bit of color in his descriptions, I advise him to substitute this for the other): for while I have seen many a great captain doing fine things in the storm and stress of battle, with a stump of a cigar in his mouth, it was never once my good fortune to behold one with a white plume. [Merriment.]

### The Commander in the Rear.

Secondly—That he would not behold the commander in the van—more likely from three to five miles in the rear—sitting on some stump, or in a house, if such were handy, unable in all probability to see a single man in line of battle and dependent for his knowledge of the mixed and broken fight on occasional messages from the subordinate officers, or perhaps on the field telegraph run to his headquarters. I prick this illusion with extreme regret—a plain gentleman at the end of a telegraph wire is a spectacle so disgustingly unimposing, compared with the image of Saladin or a Henry of Navarre!

Thirdly—That he would hear no grand speeches about "God defending the right," etc.; but only plain, blunt phrases, or, if things become hot and feeling mounted into the upper registers, some sharp, curt oath or exclamation. "Our army swore terribly in Flanders."

Fourthly—That he would not see the chieftain raising his sword to heaven; but, if he had a sword (which would be exceedingly dubious), he would in all probability be using it to whack the shoulders of some patriot who had straggled from the ranks, to chew a succulent and seductive turnip in a neighboring field. [Great laughter.]

Fifthly—That he would not see any "serried columns"—whatever they may be; but one or two skirmish lines or open lines of battle, and as they would probably be moving to attack a force which would most likely be ensconced behind rude earthen parapets, thrown up an hour before, by aid of tin plates or other convenient implements, the chances are, that instead of showing off their gleaming bayonets, they would be using their rifles with busiest endeavor to clear their front.

### Bayonet Charges a Rarity.

Sixthly—Apropos of bayonets. I don't say that there were not in the war some real bayonet charges; but they were exceedingly rare, and my historical gentleman would be in great luck if he chanced to see one; he should, therefore, be careful not to bring in a bayonet charge, as a *piece de resistance*, in all his battle scenes. I believe I am not wrong in saying that by far the greater number of bayonet hurts during the war were made by careless fellows who, on the march, would chance to bring the peaked thing in contact with some comrade in front, whom they would thus wound in that place which is popularly supposed to be honor's peculiar seat.

### No Spectacles.

Seventhly—There was very little "spectacle" in the battles; for the ground where they were generally fought was so broken and masked by woods that but little of war's array was visible.

### No Grape Shot.

Eighthly—He would not be able to see a grape shot, and that for the simple but conclusive enough reason that on neither side, in no battle, from Bull Run to Appomattox, was there even a single ounce of grape shot used. This is unfortunate, for "give 'em a little more grape, Captain Buzfuz" does not come in so neatly in a bit of description.

### No Theatricals.

Ninthly—That he would not see soldiers, whether chieftain or subaltern, strutting in theatrical attitudes or venting themselves in grandiose speeches in the "'Ercles' vein" and if they had heard my friend prating about their being "eager for the fray"—which, by the way, is a favorite phrase of your imaginative historian—they would have incontinently laughed at him.

### No Strategic Combinations.

Tenthly—He would notice a curious *inversion* of what he had supposed was the order or conduct of a battle. For he would soon begin with wonderment to perceive that instead of being an affair of profound plan and grand strategic combination, it was really a

### Fight by Piecemeal,

In which each corps and division and brigade was going in, "on its own hook," and the result of which was far more dependent on the special work of obscure subordinates than on the rot which the historians prate of under the name of "echelon formations," "oblique orders of battle," and the rest of the jargon these gentry use without knowing the meaning of.

The remainder of Prof. Swinton's discourse was devoted to anecdotes of the war, the circumstances of which had come under the personal observation of the speaker, a running review of the various campaigns of the Army of the Potomac, from the battle of Antietam to the close of the war.

His next lecture will be on Saturday evening, on "English Literature."

# GOOD HEALTH.

## Diet.

EDITORS PRESS:—"Weave the tissue of the organisms out of material that will not tear," is a sentence that occurs in my last communication, and as it may appear not to sufficiently explain the way to avoid death by hemorrhage or ulceration of the lungs, something further upon the subject may be admissable.

To be plain, the diet of the majority of Americans, and of some others, is largely composed of substances from which too much of the fibrous constituents have been extracted; or, in other words, they live too much upon fine flour and fatty or oily substances. Then, with reference to the use of pork, there must have been some good reason for the Israelitish exclusion of the swine as food. Modern science supports the position also. It requires five hours to digest such food, so that those who take three meals per day, each of which consists in part of the "unclean thing" in some shape, either as shortening or otherwise, require fifteen hours out of the twenty-four for constant exercise of the digestive organs. Now laboring communities are convulsed over even a ten hours' labor system; and why should it be expected that Nature will not at times rebel against an overtax of work? So again with the heart and lungs, when fatty, oily or carbonaceous articles are in excess of the natural requirements, the lungs and heart are compelled to do an excess of work.

It would appear that very little reflection is required to convince the most unreasonable that periods of comparative rest from labor should be allowed to all the functions; but when we live in such a manner that some of them get no rest, is it to be wondered at that the machine soon wears out? Life is sweet to most of us; and that theory which would engraft the "short life and merry" principle into every thing is obnoxious.

Many years since I adopted a belief that the principle of justice, both moral and physical, was a principle like the water of the ocean, or like that other great ocean of unseen force that is always seeking a level or an equilibrium—electricity; and however much we sin against its laws, they are none the less arbitrary. We may crowd the pendulum of justice or compensation as far to one side as we will, but it will eventually swing back, and sometimes, if not often, sweep in its swing all of man's puny piles that obstruct it. Millions of human lives have been thus sacrificed.

Another reason for the disuse of pork as an article of diet, which is not altogether fanciful, may be stated thus:—*Scrofa* is the Latin for a sow; and that the disease known under the term of "scrofula," originates in the use of the flesh and fat of swine, in a great measure, is undoubted. The weakest organ must receive the disease when the general taint tends to a fatal malady; as tight-lacing in women, and smoking in men, has for many years tended to lessen the capacity of the lungs, they are the organ which suffers most. These plain hints can do no one any harm, and, if they are heeded, may save many from that dread disorder known as consumption.

F. M. SHAW.

San Diego, Feb. 12th, 1871.

## Effect of Stimulants on the System.

The effects of alcohol on the healthy human body have recently been carefully observed by Drs. Parkes and Wollowiez, of the British army. One or two fluid ounces of the stimulant, per day, increased the appetite; while four or more ounces sensibly diminished it; the effect was more marked with brandy than with rectified spirits. Digestion was not, however, impeded or the temperature lowered; but though there were strong feelings of warmth in the stomach, face, etc., it is not clear that the temperature was increased. No direct effect upon the nervous system was shown by the elimination of phosphoric acid, caused by the action of the brain; but the physical state of the body changed with the size of the dose; narcotism being strongly developed when the first very small amounts were exceeded.

The effect upon the heart was extraordinary. The experiments extended over a period of twenty-six days; and during eight of them, when water alone was drank, the heart-beats averaged per day 106,000; with alcohol, in the six following, they were 127,000; and with brandy they subsequently reached 131,000. The daily work of the heart is about one hundred and twenty-two tons, lifted one foot (or 122 foot-tons); its extra work was in the alcoholic period 15.8 foot-tons per day, and in the brandy period 24 foot-tons.

In closing, the observers give it as their opinion that the loss of appetite, the greater rapidity in the heart-beats, and the narcotism are "all owing to nervous implications," and add, "we were hardly prepared for the ease with which the appetite may be destroyed and the heart unduly excited."

## Dyspepsia and its Remedies.

Dr. A. O'Leary lectured recently at Cooper Institute, New York, on "Dyspepsia." Indications of disturbance of the stomach are, he said, caused by the fermentation of food. No one should eat cabbage boiled with meat, or onions with steaks, as they create biliousness. Cabbage is one of the best articles of food when it is cooked properly. It should be boiled in pure water. As a cure for dyspepsia he recommended a teaspoonful of carbonate of soda, which neutralizes the acid in the stomach. The causes of dyspepsia are the use of butter, grease, gravy, and eating too hastily. Dyspepsia does not come from large eating. Those afflicted with it should take a short sleep after dinner. The liver has much to do with dyspepsia. Whenever the white of the eye shows a yellow tinge, it proceeds from the liver; tenderness in the pit of the stomach is an indication of a diseased liver. A slight pain under the right ribs and back to the shoulder blade, also proceeds from the liver. Those that are prone to this disease should not sleep too much, or enjoy too much heat—too much heat tends to enlarge the liver. Fruit and vegetable diet is the best that can be adopted; but persons of a weak constitution should add to it meat once a day, but not oftener, and bread if properly made. Persons afflicted with dyspepsia should not use calomel. The lecturer recommended Turkish baths to be taken, as they relieve the liver.

## Labor Conducive to Long Life.

In view of the short duration of life entailed by some occupations, it must be regarded as a consoling, yea, a sublime fact, that labor in general does not tend to shorten life; but, on the contrary, by strengthening health, lengthens life; while on the other hand, idleness and luxury are productive of the same results as the most unhealthy occupations. Dr. Guy, an Englishman, in calculating the average duration of life in the wealthy classes, arrived at the very surprising result with regard to adults, that the higher the position in the social scale, the more unlimited their means, the less the probability of a long life.

We have so long been accustomed to consider the possession of riches as the best guarantee for physical welfare, that many will be surprised to hear that "the probability of the duration of life lessens, with regard to adults in each class of the population, in the same degree as the beneficial impulse for occupation is lacking. If a person who for a long time has lived an active life, retires from business, it may be taken for granted, with a probability of ten to one, that he had seized the most effective means to shorten his life." We may smile at the soap maker who, after having formerly retired from business, went nevertheless, on each day of soap-boiling, to his workshop; but it must also be acknowledged that his instinct did not mislead him. Of all conditions of life, idleness is hardest for nature to combat; and this is especially true of persons who have accustomed themselves to a busy life.

NAIL IN THE FOOT.—We give the following for what it is worth: "To relieve from the terrible effect of running a nail in the foot of man or horse, take peach leaves, bruise them, apply to the wound, and confine with a bandage. They cure as if by magic. Renew the application twice a day, if necessary; but one application usually does the work. I have cured both man and horse, in a few hours, when they were apparently on the point of having lockjaw."—*Ex.*

THE LAWS OF HEALTH are simply the laws of Nature. This is the principle on which the intelligent management of the body rests. Our powers being Nature's powers, are subjected to the same conditions which pervade the rest of the world.

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SAN FRANCISCO:

Saturday, June 24, 1871.

## Our Weekly Crop.

The first step, speaking generally, in farming is to break up the land, and on our first page this week is shown an improved Plow with which this first step can be taken, it is affirmed, with the greatest ease over the hardest and most uneven ground. After viewing the manner in which this works, we take the second step in the library of Mechanical and Scientific Progress that we may learn to proceed in the safest and surest paths.

Our third step is down the coast, to Lower California, and back to Half Moon Bay. Then we walk into the General Land Office to inquire about Land Matters. We travel on merrily past the haymakers who tell us of the Philosophy of Haymaking, and paddle along the canals to study the Philosophy of Irrigation. And with a rapid stride we step hither and thither to different parts of the coast, gleaning Agricultural Notes by the wayside.

We cast a backward glance at a giant among men, and read of the deeds of George Peabody. We look again at the present, at our Industries, Employment and Business. We view some pictures drawn by Prof. Swinton as War Correspondent, and then pause a moment to consider the state of our Health.

Finding ourselves growing young, we strike a balance by Ageing Wines, an important invention for accomplishing this having been made by one of our State. We read of other recent Inventions, call in at the Sacramento Seminary, rush off eastward to view the Palisades of Nevada, and catch a few Gold Fish on our return trip to the Home Circle.

And what do we find here? Smoked Babies, A Bottle of Oil, the Sting of a Bee, and an Awful Story! The ladies have prepared us a strange repast, a remarkable salad of thought, and we hasten to the Kitchen for a change of diet and a homelier desert of Domestic Economy.

With mind and body refreshed, we resume the wonted brightness of our countenances as we see the Premiums offered by the State Agricultural Society, and part until next week as cheerful as ever.

OVERLAND TO THE POLE.—This is Capt. Hall's and the Arcticists' last plan,—the only sure one, when ice and currents intervene, as we know, always by sea. Like the Chinese heroes who volunteered to be hung for the satisfaction of the world, Hall will go to latitude 81°, and suffer Arctic terrors. There is this useful result always in view, that in connection with geographical determinations, new whaling and sealing grounds are likely to be discovered, which can be reached annually by swift summer steamers, to considerable individual and general profit. The idea is not theoretical, but has been pursued for years with great success by some shippers of Christiansvarn in Norway, whose objective point has been the Spitzbergen country.

WE believe in large crops and good tillage, which leaves the land better than they found it, making both the farm and farmer rich at once.

## Ageing Wine—An Important Invention.

One of the greatest drawbacks in the manufacture of wine is the length of time required to give "age" to the product. One and two years is the time usually considered necessary for "ageing" to an extent sufficient to determine the true character of the wine, so that it can be advantageously placed in the market. And any additional delay beyond that time is considered equivalent to adding a good rate of interest to the value of the product.

Time is money. Now if we can introduce a process which can be applied to the wine, say within two or three months from the time the juice is expressed, which will immediately give to it the "age" of two, three or four years, that process is worth the interest on the original cost of the wine for the time so saved, added to the cost of storage, insurance, etc. It moreover releases the amount of capital otherwise stored up in cellars and vaults, and allows it to be put to active use, whereby it may earn more than the mere interest of the money, to say nothing of the benefit it will be to the community in giving additional employment to labor.

Many plans have been devised to reach this end, and generally with more or less success. It has been for many years the custom of wealthy ship owners and others to place a few casks of wine on board of a ship, and allow it to take long voyages out and back. It was found that wine so treated "aged" very rapidly; but the process is quite too expensive to be adopted to any great extent.

Acting upon this hint, however, Mr. R. d'Heureuse, then of this city, took out a patent for what he called the "Air Treatment," by which air was forced up through the wine from below, and the ageing thus hastened.

The "Heating Process" was subsequently added to the air treatment, by which it is contended the minute vegetable organisms upon which fermentation depends, are killed. The wine, after being fermented either in the natural way or by the forced air treatment, is raised to a temperature of 120° or 140° F., and kept in that condition for half an hour, after which, it is claimed, there is no danger of the wine entering into the acetic fermentation, and becoming sour. This process, however, seems only to *delay* the acetous fermentation, for a greater or less length of time, the duration of which seems not to be well ascertained. Still, for a time, the process seems to accomplish the end desired. If we had space, or if this was the proper time to enter into such a discussion, we might give what we think may be some very good reasons why the heating process does not make a stable wine.

But our present purpose is to call attention to a new invention, or rather discovery, which we think accomplishes the object more fully, more promptly and more cheaply than anything yet devised—in fact one which we think performs the work of ageing *perfectly;* as much so as is done when the wine is simply allowed to rest, and acquire its "age" by the actual lapse of time.

There is an interesting fact connected with the history of this invention which we may give just here. Like many others, it chanced to have been hit upon by two parties at the same time—one in this city and the other in New York. The parties in this city were Messrs. William Neil and J. L. Constable, who applied through the MINING AND SCIENTIFIC AGENCY for their patent. When the papers were made out and sent to Washington, it was found that a party in New York had just before patented precisely the same thing. Negotiations were immediately entered upon by the parties here for securing the use of the patent, and Mr. Constable went to New York some few weeks since to consummate the arrangement. In due time he telegraphed that the business had been completed.

This process is also equally applicable to ageing whisky and brandy, and we understand a large apparatus is now about ready to go into operation in this city, from which we shall probably be able to report results in the course of a few days.

In our next we will endeavor to describe this new process, explain the philosphy of the same, and offer a few remarks upon the advantages which must accrue from its introduction here.

## Visit from the Commissioner of Agriculture.

While at the Bureau of Agriculture in Washington, recently, we were pleased to learn that the Commissioner of that Department, Hon. Horace Capron, intends visiting California, and probably Oregon and other parts of the Pacific coast, during July or August of this season. He will be accompanied by the better half of his household, and we believe will make us quite a stay, and one which will result in much benefit to our coast, and the cause of agriculture at large. We hope soon to announce more particularly the time of his coming. In the meantime, we hope our agricultural friends will prepare to give him a hearty welcome, and all the assistance and information possible in furtherance of the objects of his visit. He will be here in just the season to attend our various State and District Agricultural Fairs, and the Grand Industrial Exhibition which will come off in this city under the auspices of the Mechanics' Institute.

RETURNED.—Mr. Dewey, of this office, has just returned from his trip to the Eastern States. His visit to Washington, New York and other Eastern cities has resulted in beneficial transactions of much importance for the progress of our newspaper and other business interests.

WILLOW-SHADED CANALS and covered flumes to prevent evaporation, are considered the proper thing for the agricultural foot-hills and rolling valley plains of California, and will doubtless in time become landscape features. It may not be generally known that the State is offering a premium of a dollar a tree for trees planted along country roadsides. See the statutes of 1868.

SCRIBNER'S MONTHLY.—This periodical is deservedly successful for half a dozen reasons. Its matter is decidedly well selected and pleasingly varied, showing much thought, enterprise and correspondence by the publishers to procure good articles. Its illustrations are plentiful and the best. It is cosmopolitan; takes us familiarly round our little world and makes us feel at home everywhere. The most famed writers and artists are represented in its pages. It is sold for 30 cents a number, or 25 cents by the series. We will draw upon Scribner hereafter for the benefit of our readers.

PUT THROUGH THE ISTHMUS CANAL.—There has been so much surveying and hesitancy and talk of impossibilities in this connection, that the world is getting tired of it. Let the government send for a few California ditch men, to show the engineers how it is practicable and a simple matter to feed the canal with water from sources surely not further removed than those tapped by our enterprising miners, and it will be found no great problem to cut a canal for the paltry fifty miles, where such national ends are at stake.

HON. W. D. Kelly lectured before the bankers and merchants of Philadelphia, June 12th, on the development of the northwest by the North Pacific Railroad, and the effects of the same upon the trade and commerce of the Middle States.

LIKES THE "PRESS."—W. I. C. writing from near Gilroy, and speaking of the PRESS, says: "I consider it almost indispensable to those engaged in agriculture. * * * I wish I could see more contributions from actual experience in farming and stock raising. But most people are in too much of a hurry to even take the time to accommodate themselves, or stop to notice the small things in their line, that in the end might prove far more beneficial to them than the greater things, which they are in eager persuit of and may never obtain or accomplish. I am of the opinion that we are all driving too fast for either safety or comfort. There is too much reckless haste to accummulate wealth in which very few succeed as well as they would if they went a little slower and took better care of what they have."

LIKES THE PRESS.—J. H. Fisher writes from Binghampton, Solano county, as follows:—"I think I speak the sentiments of many when I say that the PACIFIC RURAL PRESS well supplies a want that has long been felt by all farmers who believe that to keep pace with the present age, in farming, they must read and hear the views of others, and then, by careful thought, experiment, etc., be able to judge what it will do to practice. I sincerely hope the PRESS may continue to represent the cause of the farming interest with as much earnestness and intelligence as it has done thus far; for what branch of business is there that receives less support through the public prints or stands more in need of such help?"

"W. H. M." writes from Shermantown, Nevada:—"Your SCIENTIFIC PRESS is constantly improving, both in matter and manner, and I could not dispense with it, even if obliged to deny myself in order to pay twice the subscription price.

Your RURAL PRESS, also, in all that relates to the interests of agriculturists of the Pacific coast, is invaluable to them. I think that after a course of reading in the RURAL 'what I [shall] know about farming,' will be at least equal to the attainments of farmer Greeley in the same line."

"J. D. Cook" writes from Walla Walla, Oregon: "I think your paper one of great value to farmers, stock-raisers, and others. If you had a good, industrious agent, one that would make himself active, you might get a large subscription in this region." [We intend to have an agent in Oregon and Washington Territory as soon as we can find the right man.—EDS. PRESS.]

BLACKBERRY WINE.—A Sonoma "Subscriber" asks for a receipt for making blackberry wine. We will endeavor to give a very full one next week.

COST OF BORING ARTESIAN WELLS.—Our correspondent adds to the above as follows:—"A short time since I noticed a brief article in your columns respecting the cost of sinking artesian wells; and as we are not well posted on that subject here we would like to get the facts, as far as possible, in relation to the cost, under varying circumstances, of boring, tubing, etc., and the different sizes of wells. If you, or some of your correspondents, who are acquainted with the business would give us some information on the subject, at an early date, the favor would be thankfully received by many in this vicinity—especially as we are making an effort, at this time, to raise the funds for the purpose of trying the experiment. Several parties here, who have lived near San José and Santa Clara, have strong faith that artesian water can be obtained here at a moderate depth when it is fairly tested."

OPIUM EXPERIMENT.—Mr. Frank Gubser, of San José, writes us that he has experimented with the poppy to the extent of a quarter of an acre, and thinks, if managed properly, the business will pay; but as for himself, does not care about experimenting any further. He will have a plenty of seed in a short time for any one who may want, at a reasonable price, and expects to make an exhibition of his opium product at the coming State Fair.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports to DEWEY & CO., U. S. and Foreign Patent Agents, and Publishers of the Scientific Press.]

**For the Week Ending June 6th.**

Furnace for Roasting Ores.—John P. Arey, Georgetown, Col. Ter.

Buckle.—George F. Stephens, Portland, Or., assignor to himself and John Nation, same place.

Sewing-Machine.—Hannah G. Suplee and John H. Mooney, San Francisco, Cal.

Repeating Ordnance.—Alfred H. Towusend, Georgetown, Colorado Territory.

Furnace for Roasting Ores of the Precious Metals.—Jonas Sely Akin, Rye Patch, Nev.

Manufature of Pneumatic Gas.—Homer Bloomfield, San Francisco, Cal.

Parlor-Skate. — Oliver Benjamin Oakley, San Fraucisco, Cal.

## Sacramento Seminary.

The commencement exercises of this popular school, under the charge of Prof. Perry and wife, assisted by an able corps of teachers, took place in Temple Hall, Odd Fellows Temple, last week and was a great day in the history of the seminary. The beautiful hall was filled with nearly a thousaud persons, representing the parents and guardians of the pupils, from all parts of the State, with the many friends of education and the seminary both in and out of the city.

Dr. Carr, of the State University, delivered a most massive and brilliant address on the importauce of female education, claiming for woman the right of high mental culture, asking for her no chauge of sphere, no masculine endowment, but the privilege of being *clever* as well as good, and the acquisition of that varied power and influence that education can give.

The exercises of the occasion were in the following order:—Music—Instrumental duet, by Misses Loreuz and Lindsay, Prayer; Music—Anthem, "Praise the Lord;" Essay—by Miss Julia E. Lorenz, "The Ideal Our Beacou Light;" Essay—by Miss Rosa E. Caples, "Conscious Merit the Richest Reward;" Music—solo and chorus, "Sweet Vale of Rest;" Essay—by Miss Sallie E. Lindsay, "Moral Bravery;" Essay—by Miss Lizzie M. Avery, "The Mystery and Sublimity of Human Life;" Music—Instrumental, by Miss Rosa Caples; Conferring Diplomas; Music—Chorus, "The Angel's Serenade;" Address—by Prof. E. S. Carr; Music—Duet, instrumental, by Miss Ella Follett aud Prof. G. J. Gee; Benediction. For two hours the audience, many of them standing, listened with wrapt interest to the exercises.

The essays by the graduates were all of a high order of excellence, showing correctness of thought and arrangement, united with beauty of diction. Where all were so commendable it seems hard to distinguish. If we should assign to any superiority over the others it would be to the last essay, entitled the Mystery and Sublimity of Human Life. The music of the occasion delighted the fastidious, and received the praises of many eminent professors present, a class of persons by no means easy to please.

We attended the examination of the graduating class in the higher studies of their course and have witnessed no better examination anywhere. The young ladies showed, to all who were privileged with being present, that the years of study had not been in vain; that they had been years of discipline and culture; that the pupils had attained to a *status* of mind and manners that shed lustre on their *Alma Mater*, and which was to them the richest reward of toil. This seminary occupies a place with the best institutions of female education in this or the older States, and its course of studies (while so arranged as to afford assistance to any from the city or country who wish only to pursue a partial course) aims to add to the best intellectual and moral training those accomplishments that adorn life and add so much to personal influence and happiness.

Many additions have been made to the seminary, in making its appointments complete in the departments of music, drawing, painting and the modern languages. New grounds also have been added for a riding course, thus providing for the exercise and amusement of the pupils.

The buildings, erected expressly for the seminary, are located on the most beautiful site in the city, aud few places can furnish a more delightful home for a young lady where the advantages of a liberal education may be enjoyed.

The next term of the seminary commences on the 1st of August.

Young Trout.—Last week, 3,000 young trout, from New York State, were placed in the fish-pond of Badlam & Conway, near Calistoga.

## Editorial Notes Eastward.—7.

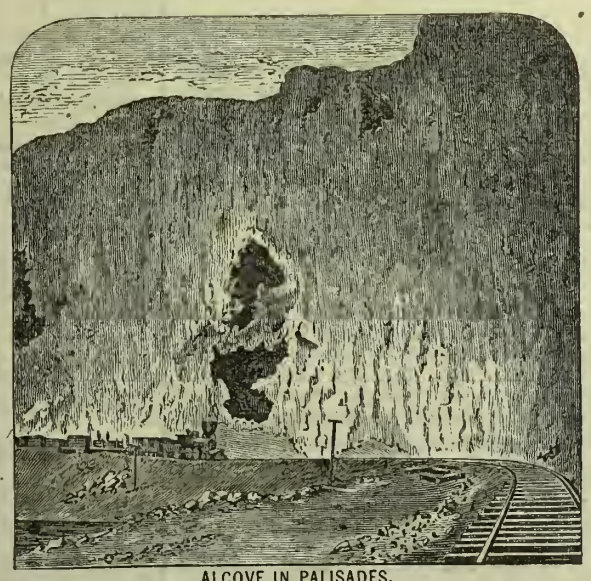
### The Palisades—On the C. P. R. R.

Our lively friend, the Humboldt, whom we have been following so long, has prepared for us a mighty path. Some six miles before coming to the town of Palisade, we saw some high cliffs and rugged crests which excited our admiration as we rushed through Twelve-Mile Cañon, where the cutting is some of the heaviest we had ever seen. But all this vanished from our sight, and we eutered the famous Palisades. Here our watery companion has been wearing away the rocks to a fearful extent, so that we shudder as we look upward from the platform of the car at the jagged and overhanging cliffs, which threaten at every momcut to fall upon and annihilate us. They reccived their name from the resemblanee they bear to the renowned upright walls of rock on the Hudson river.

FIRST CONSTRUCTION TRAIN PASSING THE PALISADES.
573 miles from San Francisco—Altitude 4,800 feet.

TOP OF PALISADES.
575 miles from San Francisco—Altitude 4,800 feet.

At several points in the side of the cliffs, we see large hollows, or caves, where the rock has crumbled and fallen away, aud we wonder what hobgoblins, or spirits of the glen, make these their trysting-place. The largest of these wierd caverns is called the Alcove.



ALCOVE IN PALISADES.
575 miles from San Francisco—Altitude 4,800 feet.

PALISADES ACROSS CANYON.
580 miles from San Francisco—Altitude 4,800 feet.

While these things have been occupying our thoughts, the sturdy locomotive has been puffing away at its arduous task of dragging our heavy train up the steep grade, and we now have attained the altitude of 4,800 feet above the sea. Now we begin to descend, and the scene changes from steep, bold precipices to low, rounded hills, around whose sloping bases our iron path is bent. Our best view of the Palisades is through a gap in the rock, and across the cañon, where they are to be seen in all their vast proportions.

Our old friend, the Humboldt, keeps along with us, on our right hand now, and increases in size as it flows onward. Carlin is passed, and before long we stop to dine at Elko; thence we travel on in a happier mood, until night overtakes us, and the sight-gazing is stopped for that day. We turn into our bunk to dream of rushing cataracts, and wild sprites trying to make us leap yawning chasms of endless depth, while the proper accompaniment of deep thunder is supplied by our snoring neighbor in the next section. D.

## Breeding Gold Fish.

A correspondent of the *Scottish Farmer* says:—A friend of mine some years ago constructed a tank about sixteen feet long, and between four and five feet broad, by three feet deep, which he stocked with fish, but they did not breed. I suggested to him that gold fish were very foud of eating their own young, and that if he wauted to breed fish he must have the means of separating the old from the youug. I also advised him to stretch across the tank a partition of wire-work, with a mesh small enough to prevent the large fish from pushing through, at the same time giving the young fry an opportunity of getting into a secure place. This answered the purpose perfectly, and they bred in numbers.

Gold fish should be kept in water of an even temperature—neither too warm nor too cold. A very small quantity of the white of an egg, broken up into minute particles, is sufficient daily food for some half-dozeu fish. To this a very small quantity of pounded vermicelli may be added.

Tea Culture at the South.—If Californians do not hurry up matters in regard to tea culture, the Atlantic States will get ahead of them. The Commissioner of Agriculture, at Washington reports that tea culture is fast becoming a feature of importance in the Southern and Southwestern States, and that in a few years enough tea will be grown in those sections to meet the home consumption. Over forty thousand tea plants have been distributed by the department, nearly all of which flourished, and now the seed from plants raised in South California are being sent out to supply the demand. Experiments have shown very conclusively that this country can make itself quite independent of China in this important article of consumption.

Our Laurel Wood.—The San José *Mercury* says that there is reason to believe that our beautiful laurel wood will soon disappear from this country. Its superiority for fine cabinet work, over almost every other known ornamental wood, is rapidly coming to be appreciated throughout the world. That paper is informed that English dealers are quickly buying up large quantities of this wood for shipment. If such is the fact, some effort should be made to prevent the skinning of the country of this valuable timber. At least, in our forest tree planting, care should be taken that the laurel tree is not forgotten; so that its waste may be made good by cultivation. A laurel wood forest, thirty or fifty years hence, would be a princely fortune to the owner.

BY OUR LADY EDITORS.

## About Smoked Babies.

Israel Smudge is a highly respected and respectable deacon of "our church." He has been a pious, man all his life. Quite scholarly, too, is he, after a fashion of his own; and like all great thinkers, he possesses a "hobby," which he rides vigorously to and fro. His hobby is, curiously enough, Infanticide. If you should hear him rave about the alarming prevalence of this crime and scan the statistics which he has accumulated concerning it, you would look upon the present generation of women as little less than murderers. Israel naturally abhors the Sixteenth Amendment, and clamors loudly for a law which shall inflict the severest penalty upon any female who shall, in any way, intentionally quench the tiniest spark of life, intrusted to her care.

Israel's wife is a gentle Quakeress. Of course their home is poetically and literally fragrant with human blossoms. A stranger on entering might suppose it to be an embryonic foundling asylum, especially as the "wee bit bairns" have every one a pinched, uncanny look, a nervous manner, such as one expects to find in half-starved, deserted infants. Not that Israel's children are uncared for; not that food is lacking in that hospital farm-house. They are fondly loved, every one of them, by both father and mother Smudge, and everything which money can do for them is promptly done; yet Deacon Smudge's children are blighted flowers.

His oldest, pretty Lillian, aged fourteen, is a fast friend of mine. She loves me devotedly, unselfishly. She is the least uncanny of the whole eight; but she has a petulent, irritable temper, a morbidly sensitive nature, and a total lack of self-control, of will-power, which makes life a constant torture to her. She rarely sees a happy or peaceful moment, and her delicate chest already rattles with incipient consumption.

Her visits to me are frequent; but Sunday night invariably brings her into my little room. I often wondered at this, knowing how strictly the Sabbath was observed by Deacon Smudge, so I ventured to question Lillian one quiet Sabbath evening. She had stolen in just at dark, and thrown herself into my lap, her curly head resting on my shoulder. It was early spring, and the delicious breath of apple blossoms came in at the open window. Birds still lingered tenderly over the last good night note, the last sunset gleams still flushed the sky, loth to depart. The tranquil evening touched some harmonious chord in her heart, for she clasped her transparent fingers over her breast, and said, "If the world could be like this always, and I could have a sweet little home like yours, I should be so happy and good."

"But," I said, "your home is far more beautiful than mine, Lillian; think of your dear little brothers and sisters, and—"

She put her hands over her ears quickly. "Oh, don't," she said, with a shudder.

Then I put my question: "Lillian, why do you always come to me Sabbath mornings?"

She jerked herself out of my lap and flung her scarf into its place. "Smell of that," she said abruptly, "and that, and that," tossing hat and gloves after them.

I obeyed laughingly. The odor was certainly disagreeable, but not new to me; for everything the Smudges wore was saturated with it, and I had sometimes found it a great trial to hold that golden-haired girl so near my olfactories. Something of the kind I said to her as gently as possible.

"That's it precisely," she answered; "that's what's killing us all. It's bad enough week-days, when father only comes in to meals, but Sundays it's positively awful. Father just sits and smokes and *smokes* and Uncle Jabez comes over and he too *smokes* and *smokes*, hour after hour; and there we sit, huddled up in the kitchen, and eat and drink and breathe the nasty stuff until I just think I'll go mad! And the children always get cross and sick, and mother coughs and strangles, and my head whirls and I get blind almost, and then I run away and come to you."

"Why don't you go into the parlor Lillian?"

"Ugh! Eight children in the parlor at once! Guess *you* never kept house, besides, the parlor's just 'bout as bad in five minutes, if the door's open! I can't go to bed, 'cause my room's right over the kitchen, and it's fairly blue up there."

The little thing cried a moment and then burst out again: "It's no wonder Bub's a fool! I should think we'd all be fools soon, shouldn't you? And there's father running after the doctor a dozen times a week to see what's the matter with some of us, and I could tell him in a minute; *it's nothing but pizon tobacco!*

Sure enough! "Out of the mouth of babes proceedeth wisdom." The secret was discovered: In fact, I was convinced of it long before. And when I looked at that delicate child, who would never blossom into womanhood in this world, and knew that she was dying of slow poison, I wondered what Deacon Smudge would say if I were to accuse *him* of the veritable crime he so much abhored! Nay, a worse crime than murder lies at his door, for a slaughtered innocent is forever beyond the reach of suffering, and if its little life germ is a *soul*, God will care for it tenderly. But to preserve a life that it may be stunted and disfigured, to entail a life time of suffering upon one's children, to give them appetites which will torture and goad them like the fires of hell—*what* crime is equal to this? Better send them into eternity at once, where the angels may find and care for them.

And right here I should like to say a few words to Deacon Smudge and to all other unintentional child-poisoners.

Nicotine, a volatile alkaloid, is the active principle of the tobacco plant. It is a colorless, inflammable, oily liquid, with a powerful and irritating odor of tobacco, and is a most energetic poison, falling scarcely below prussic acid in its destructive qualities. One drop is sufficient to kill a large dog. It is contained only in the smoke of the burning leaves, and the tobacco chewer is therefore exempt from its ravages.

Now let us look into that kitchen containing eight children of various ages and lung power, and three grown persons (with cat and dog very likely, which consume nearly as much oxygen as human beings). See the blue smoke creeping everywhere, carrying in its graceful folds the subtlest poison; remember that at every respiration the lungs of an ordinary person contains 230 cubic inches of air, and we breath fourteen times each minute, making 3,220 cubic inches of air passing in and out of the lungs during one minute.

Air made impure by any cause will produce giddiness, faintness, nausea, stupor, delirium and death. It produces scrofula, which, if localized in the lungs, ends in tubercular consumption, which is fast removing pretty Lillian from Deacon Smudge's arms.

Air poisoned by nicotine, and breathed from the hour of birth by a helpless infant, born of a mother already impregnated with the "oil of tobacco smoke," will produce constipation, pallor, convulsions, stupidity, and even idiocy, which is verified in the case of Deacon Smudge's "Bub." A child who breathes this air for one hour has done what is equivalent to smoking a cigarette. The mother has done likewise.

What the father's case must be, with the death-dealing poison oozing from his pipe to his lips, I will leave him to judge.

My plea is for the poor smoked babies, who are powerless to protect themselves gainst hysteria, idiocy and insanity, which is contained in the fascinating blue wreathes which curl from the lips of its 'doting parent."

How to Speak to Your Children.—Does your boy grow rude in manner and boisterous in speech? Then speak to him gently; reprimand him in tender tones, with loving words and caresses. She who speaks to her son harshly, does but give to his behavior the sanction of her example, and pours oil on the already flaming passion and temper.

When cares oppress and duties crowd us, we are all liable to utter hasty words; perhaps threats are expressed in loud irritating tones. Do they allay the passions of the child, already at a white heat? No, they increase them. Every fretful expression you utter, but awaken in him the same spirit which produced it. On the other hand, a pleasant voice and soft words call up agreeable feelings, soften the heart, and make the angry, passionate child ashamed of himself. Therefore, remember this, mothers and fathers: Whatever disposition you desire to encourage in your children, you must manifest it in the tone of voice in which you address them.

## The Bottle of Oil.

Once upon a time there lived an old gentleman in a large house. He had servants and everything he wanted, yet he was not happy, and when things did not go as he wished, he was cross. At last his servants left him. Quite out of temper, he went to a neighbor with the story of his distresses.

"It seems to me," said the neighbor, "it would be well for you to oil yourself a little."

"To oil myself!"

"Yes, I will explain. Some time ago, one of the doors in my house creaked. Nobody therefore liked to go in or out by it. One day I oiled its hinges, and it has been constantly used by everybody since."

"Then you think I am like your creaking door," cried the old gentleman. "How do you want me to oil myself?"

"Thats an easy matter," said the neighbor." "Go home and engage a servant, and when he does right, praise him. If, on the contrary, he does something amiss, do not be cross; oil your voice and your words with the oil of love."

The old gentleman went home and no harsh or ugly word was found in his house afterwards. Every family should have a bottle of this precious oil, for every family is liable to a creaking hinge in the shape of a fretful disposition, a cross temper, a harsh tone, or a fault-finding spirit.—*Child's Paper.*

The Ministry of Woman.—Not equal to man in rude strength of bone and muscles, not equal in steady grasp of the intellect; but in firmness and uncomplaining suffering, how superior! She has not, she can-

THE STING OF A BEE.

not write a poem like Milton, but she can live out, as Lady Franklin did, an epic of nobler elevation than any painted picture of imagination. She cannot paint such as manly genius can do, but she can, all unobserved by the great world, paint upon her soul the immortal virtues of faith and piety, and have a purer Madonna than Raphael ever painted, impressed upon her heart. Which is greater, the one who expresses what others have done, or the one who does it?

Reading and Conversation.—Our reading will be of little use without conversation. Conversation will be apt to run low without reading. Reading trims the lamp and conversation lights it; reading is the food of the mind, and conversation the exercise. And as all things are strengthened by exercise so is the mind by conversation. There we shake off the dust and stiffness of a recluse, scholastic life; our opinions are confirmed and corrected by the good opinions of others, points are urged, doubts are solved, difficulties cleared, directions given and frequently hints started, which if pursued, would lead to the most useful truths, like a vein of silver or gold which directs to a mine.

The Princesses of Europe.—Among the Princesses of Europe, the Empress of Russia and the Princess Frederick Charles, are the best painters, the Princess of Wales the best performer on the piano, the Queen of Holland the best poet and author, the Crown-Princess of Prussia the best manager of fairs and public festivities, the Empress of Germany the best conversationalist, the Empress of Austria the best-looking lady and the Queen of Denmark the best housewife. So says Madame Rattazzi in one of her recent novels.

Now and Then.—The old-time bonnets were worn so large that one had to peep under to see the face; now-a-days you see the face, and find some difficulty in discovering the bonnet.

# Young Folks' Column.

## Wonders of Insect Life.

### The Sting of a Bee.

In our last number we illustrated and described the *eye* of a bee. To-day we continue our remarks upon the wonders of insect life, by giving a representation of the sting of a bee, greatly magnified. A cambric needle, magnified to the extent of the sting herewith shown, would appear comparatively blunt. It takes a very powerful microscope, however, to give anything but a very sharp point to the sting of a bee. The point, it will be noticed, is barbed, like an arrow, which accounts for the fact that the bee generally leaves his sting in the wound. The letters *b b* and *c* indicate the poison sacks, without which the sting would be as harmless as a slight prick from a needle. The poison is ejected through a little tube, which is represented by a fine black line running along the center of the barb, and is of an acid nature, for which reason the best application for alleviating the pain is an alkali, such as soda, tobacco water or something of that kind. The poison is less virulent in proportion to the healthy nature of the system or blood of the person attacked. Some robust, healthy persons are but little more affected by such a sting than are others of a weakly system by the bite of a mosquito. It is also said that a healthy system gradually becomes so accustomed to the acid by being frequently stung that but little pain is caused thereby. Just as the system becomes gradually accustomed to other poisons, such as tobacco, arsenic, etc., until quantities can be taken without any apparent effect, which at first might have greatly endangered if not destroyed life.

## An Awful Story.

There was once an awful little girl who had an awful way of saying "awful" to everything. She lived in an awful house, in an awful street, in an awful village, which was an awful distance from any other awful place. She went to an awful school, where she had an awful teacher, who gave her awful lessons out of awful books. Every day she was so awful hungry that she eat an awful amount of food, so that she looked awful healthy. Her hat was awful small and her feet were awful large. She went to an awful church and her minister was an awful preacher. When she took an awful walk she climbed awful hills, and when she got awful tired she sat down under an awful tree to rest herself. In summer she found the weather awful hot, and in winter awful cold. When it didn't rain there was an awful drouth, and when the awful drouth was over there was an awful rain. So that this awful girl was all the time in an awful state, and if she don't get over saying "awful" about everything, I am afraid she will by-and-by come to some awful end.—*Ex.*

## Stretch It a Little.

A little girl and her little brother were on their way to the store the other morning. The grass on the common was white with frost, and the wind was very sharp. They were both poorly dressed; but the little girl had a sort of a cloak over her, which she seemed to have outworn.

As they walked briskly along, she drew the boy closer to her, and said, "Come under my cloak, Johnny."

"It isn't big enough for both, sister."

"Then I will try and stretch it a little."

And they were soon as close together and as warm as birds in the same nest.

What a lesson! How many shivering bodies, and sad hearts, and weeping eyes there are in the world, just because people do not stretch their comforts a little beyond themselves.

Reversing the Case.—"Mamma," said Ivan, showing a rent, "If a fairy were to turn me into a big lady and you into a little boy, I wouldn't whip that little boy for tearing his pants."

Always moderate, as far as you can, the unkindness which is unkind to others.

# Domestic Economy.

## Importance of Scientific Knowledge to Housekeepers.

Not many years have passed since the science of housekeeping began to be talked about. Until recently, how the idea of a housekeeper—a woman needing scientific knowledge would have been scouted! Yet the labors of her life have been a series of philosophical and chemical experiments; though for want of the requisite knowledge, frequently imperfect, sometimes unsuccessful, occasionally disastrous. The violation of laws and principles of which she knew nothing, has not only caused great vexation, loss and disappointment, but endangered house and furniture; destroyed life, even. Ignorance of chemical affinities and combinations has produced unnumbered woes in the household, and will continue to do so until women receive an education suited to their varied and numerous duties.

Wives and mothers do not often knowingly murder their husbands and children; yet how many die of slow poison administered, unsuspectingly, in their food! Sometimes whole families are killed outright, shocking the whole community, and teaching them at a fearful cost a simple lesson, which should have been taught them at school in their childhood.

A family in Pennsylvania were poisoned by eating peaches dried on boards painted white. Another family experienced fatal results from partaking of pie plant put up in tin cans. Beans baked in earthern pots, the glazing of which contains lead, have produced death. Some bake beans in brass kettles, which give them a greenish tinge—too suggestive of poison, one would suppose, to admit of their being highly relished.

A number of students in New Haven were poisoned by eating corned beef boiled in a copper kettle, the oxide of copper being found in considerable quantity among the meat. A lady was taken frightfully ill after dinner, and the physician, on investigation, found she had partaken of a dish prepared with vinegar, in which a German silver spoon had been left.

It makes one shudder to think of our grandmothers "greening" their pickles in brass or copper kettles; a method which in this enlightened age it is presumed no longer exists.

The practice of boiling cider in brass kettles is seriously objected to by many; and it is to be desired that some better way may be devised, but as the oxide is produced only at the point of contact with the metal, if not allowed to stand in the kettle, no very deleterious effects will be produced.

Very distressing results have followed the eating of chicken pies, in which no aperture was made in the upper crust. To insure safety a piece of the crust should be removed from the center of the pie.

These are some of the more serious consequences resulting from ignorance of scientific principles. I may, in another article, speak of the minor evils attending a want of this important knowledge.—*The Household.*

## How to Collect Odors of Flowers.

A fair floriculturist writes that those persons who would secure for themselves genuine odors of flowers, and at the same time pleasantly employ themselves, may do so in the following manner: Roses, and all flowers containing oils—and most highly perfumed flowers contain a quantity of oil—may be made to yield their aromatic properties by steeping the petals or flower leaves in a saucer or a flat dish of water and setting it in the sun. The petals should be entirely covered with the water, which, by the way, should be soft—rain water would be the best. A sufficient quantity should be allowed for evaporation, and the vessel should be left undisturbed a few days. At the end of this time a film will be found floating on the top. This is the essential oil of the flower, and every particle of it is impregnated with the odor peculiar to the flower. It should be taken up carefully and put in tiny vials, which should be allowed to remain open till all watery particles are evaporated. A very small portion of this will perfume glove-boxes, drawers, apparel, etc., and will last a long time. The odor of musk blossoms is one of the most lasting, as well as the most pungent of floral scents, and is more delicate than, though not so lasting, as the animal product musk.

## Boiled Wheat.

It is possibly not as well understood as it should be, among housekeepers, that a healthful and nutritive food may be prepared by boiling wheat, to be eaten with milk or molasses—the former to be preferred when attainable. It is a first-rate thing for children, while adults may use it to advantage. Some have the wheat cracked in a mill before using, which is perhaps the preferable plan, but it will answer well without this preparation. A lady correspondent of the *Ohio Farmer* says:—"The wheat should be cracked in a mill. Take one quart and put it into half a pot of warm water, and let it stand upon the stove several hours; then boil slowly, and stir it occasionally, till it becomes thick; put in a handful of salt. For children it can be used with milk. If left standing till cool, it is very nice to cut in slices and use with cream and sugar, or fry it like mush; the last mentioned I prefer for general use, but it can be prepared in various ways."

If boiled whole the wheat should be allowed to soak in tepid water before boiling, that the grain may have a chance to soften and swell. When properly boiled use with milk suitably seasoned with salt and pepper, and it will be found a nourishing, healthful and palatable dish.

## Purification of Lard.

Take twenty-eight pounds of perfectly fresh lard; place it in a well-glazed vessel that can be submitted to the heat of a boiling salt-water bath, or of steam under a slight pressure. When the lard is melted, add to it one ounce of powdered alum and two ounces of table salt. Maintain the heat for some time—in fact, till a scum rises, consisting in a great measure of coagulated proteine compounds, membrane, etc., which must be skimmed off. When the liquid grease appears of a uniform nature it is allowed to cool. The lard is then washed. This is done in small quantities at a time, and is a work of much labor; which, however, is amply repaid by the result. About one pound of grease is placed on a slate slab, a little on the incline, a supply of good water being set to trickle over it. The surface of the grease is then constantly renewed by an operative working a muller over it, precisely as a color-maker grinds paints in oil. In this way the water removes any traces of alum or soap; also the last traces of nitrogenous matter. Finally, the grease, when the whole is washed in this way, is remelted, the heat being maintained sufficiently to throw off any adhering water. When cold, the operation is finished.—*Druggists' Circular.*

## Dinner Time.

Dinner time should be at noon, as to the great masses of society. An unfortunate necessity may impel some business men in large cities to take dinners late in the afternoon, and some may follow the practice with apparent impunity, but the risk and responsibility are their own, and there it is left at least for the present. As a common thing persons cannot take into the stomach more food than will last six or seven hours; if more is taken, it cannot be acted upon to advantage by the stomach, nor can the person work well.

Ordinary labor exhausts the strength contained in a common meal in the time specified. Persons may habituate themselves to eat more and work; but taking everything into account, families, consisting of old and young, of strong and weak, of robust and the sickly, will find it most convenient, as an average, to eat at about six hours interval; and this, with an early breakfast, brings the dinner at noon.

The work since morn whets up the appetite for dinner; the work after dinner grinds up the food, manipulates it in such a manner as to enable the body not only to obtain from it the power to work in the afternoon, but to give something of a surplus, to answer the wants of the system during the night, in connection with a light supper. Hence, the world over, the noon dinner is the great meal of the day; it supplies the wastes of the forenoon's work, and as just said, gives the power to labor through the afternoon.

Washing Flannels.—A correspondent writes to the editor of the *Household* as follows: "I notice among the hints to housekeepers that flannels should always be washed in hot water and scalded to prevent shrinking. This is exactly contrary to my method, and my flannels never shrink, but grow thinner until worn out. I always wash them in lukewarm water, rubbing on as much soap as is necessary, then rinse in cold water."

## Domestic Receipts.

Farmer's Pudding.—Take one pint of bread crumbs, one quart of milk, half a cup of sugar, four eggs, taking only the yolks, butter the size of a walnut, one lemon, grated; bake until done, but not watery; then spread a layer of currant jelly or any preserved fruit over it. Take the whites of the eggs and sugar, in which has been stirred the juice of the lemon, beat to a stiff froth, pour it over the pudding and brown it. Serve cold with cream. It can be made without a lemon. Flavor with nutmeg.

Mock Venison of Corned Beef.—Cut the beef in thin slices, and freshen by soaking for three or four hours in tepid water. When sufficiently fresh, lay the slices on a gridiron, and heat through quickly. Make a gravy of drawn butter; add a little pepper, and the yolk of an egg chopped fine, and pour over the meat; or butter, pepper and salt, like beefsteak. This will be found a savory dish when only salt meat can be procured, but it is better with fresh beef.

Tomato Soup.—Take any cold meat; boil well with cabbage and other vegetables; pepper and salt; then add your tomatoes.

Crab Soup.—One dozen crabs picked, putting aside the white fat, to as much boiling water as will fill your tureen; add the meat just before dinner; throw in a little bunch of parsley, (but take it out again) pepper, salt, and a moderate-sized piece of butter, with a little flour to give consistency.

Damascus Biscuit.—Beat the whites of the eggs to a froth, chop the suet and almonds separately very fine, and beat well together; mix with the yolks of the eggs, the loaf sugar finely sifted; beat well, and pour into the almond mixture; shake in the flour, and add to flavor of peach; bake in small tins.

Abernethy Biscuit.—Mix sugar, butter, milk, eggs and caraway seed as usual for baked rolls, cut out in any shape, bake in a moderate oven.

To Remove Mildew from Clothing.—I saw an inquiry how to remove mildew from clothing. Here is my way:—Take a handful of salt, half a cupful of soft soap, rub on the cloth exposed to the sun. It will come out with one or two bleachings.—*Ex.*

## Mechanical Hints.

Moisture in Woods.—According to Dr. Larsig's experiment, woods (trees) generally contain, during the winter months, an average of 50.7 per cent. of moisture; in March and April, about 45.9 per cent; in May, June and July, about 48 per cent; while up to the end of November the quantity of moisture increases but little. Air-dried wood (lumber) contains from 20 to 25 per cent. of water, and never less than 10 per cent.—wood which, by being artificially dried, has been deprived of all moisture is thereby entirely altered as regards its cohesive length—it becomes brittle, loses its elasticity and flexibility.

How to Make a Brick Oven.—Many a house-keeper, especially a farmer's wife, longs for a good old-fashioned brick oven, especially when there are several loaves of bread and a dozen pumpkin pies to bake at once.

A brick oven built in the old style, out of doors, entirely separated from the dwelling house, is more safe, so far as danger from fire is concerned, than if built by the side of the fire-place in the house. A good brick oven for baking bread, pies and cakes is worth all the ranges and cook stoves that one could store in his kitchen. In such an oven everything will be baked just right, above and below, through and through.

After the foundation has been prepared, let two courses of hard bricks be laid for the bottom of the oven, Then build the mouth and part of the sides, until it is desirable to begin to draw the sides inward, when sand or mellow earth may be placed on the foundation and the surface smoothed off and pressed down to the desired form of the oven. Now let the brick-work be built, over this form of sand. Let two courses of hard brick be laid over the form with the best mortar. After the last brick is laid, the sand may be removed.

The bricks should be soaked for several hours in water, previous to being laid, so they will not absorb the moisture of the mortar until it has set. Such an oven will cost but a few dollars. Many people can collect a sufficient number of loose bricks and pieces around their dwellings to build an oven. Besides this, through only half a mechanic, one can build such an oven about as well as a mason.—*Manufacturer and Builder.*

# Life Thoughts.

Beautiful, very beautiful, can time, with goodness, make an old man look.

There are many things we can afford to forget, which it is well to learn.

He is not only idle who does nothing, but he is idle who might be better employed.

Conceit is to human nature what salt is to the ocean; it keeps it sweet and renders it endurable.

"The way to true riches," said Plato, "is not to increase our heaps, but to diminish the covetousness of our hearts."

There would be no evil speakers if there were no evil hearers. It is in scandal as in robbery—the receiver is as bad as the thief.

No person ever got stung by hornets who kept away from where they were. It is so with bad habits.

There is no computing how much real good is crushed out of the world by the gloomy and selfish spirit that withholds praise and open approval from those who deserve it.

In the depths of the sea the waters are still, the heaviest grief is that borne in silence; the deepest love flows through the eye and touch; the purest joy is unspeakable; the most impressive preacher at a funeral is the silent one whose lips are cold.

Never Go Back.—What you attempt, do it with all your strength. Determination is omnipotent. If the prospect be somewhat darkened, put the fire of resolution to your soul, and kindle a flame that nothing but the strong arm of death can extinguish.

Sweet Old Age.—God sometimes gives to the guiltless a holy second childhood, in which the soul becomes childlike, *not* childish, and the faculties, in full fruit and ripeness, are mellow without signs of decay. This is that thoughtful land of Beulah, where they who have traveled manfully the Christion way, abide awhile to show the world a perfect manhood. Life, with its battles and sorrows, lies far behind them; the soul has thrown off its armor, and sits in an evening undress of calm and holy leisure. Thrice blessed the family, the neighborhood, that numbers among it one of these not yet ascended saints. Gentle are they and tolerant, and apt to play with little children; easy to be pleased with little pleasure.

The will is an attribute of the soul. Kant examined "the power of the mind to master morbid feelings by mere force of resolution," and left on his readers the impression that will power was, or, at least could be made conducive to health. Goethe declares that he once warded off disease by the power of his will. If we accept the theory of Kant, how much nobler will be the choice, if, instead of choosing to look "pale and interesting" we adopt the words of Schlegal as our motto, "Consecrate thyself and proclaim that nature alone is venerable, health alone lovely."

## Courage.

Courage is an indispensable necessity to fortitude. No coward can ever possess or exhibit it. But it contains another element even more essential—that of perseverance. He who is only brave may accomplish great and noble deeds, but the man of fortitude shows a continued bravery, an undying courage. He will resist and oppose evil of every kind not only with intrepidity, but with a steadfast persistence that never wearies, and will only cease when the work is accomplished and the evil conquered. Not only in attacking outward ills and adverse circumstances is the virtue of fortitude needed, but yet more in conquering the faults of our own natures. No heroism is so great as that of self-government. If we are progressive, we shall continually find enemies within our own breasts more difficult to contend with than any outside foes;—impulses to restrain, desires to check, passions to curb. All the elements of true fortitude are needed in this conflict, and no other success can compensate for failure in this. There are those whose fortitude serves them well in external matters. They can maintain a steadfast and successful opposition to the outward evils that assail them; but when they come to battle with the evils of their own natures, their courage fails, their perseverance gives away, their fortitude forsakes them. The truly wise man first conquers himself, and then all subsequent conquests are comparatively easy.

## Meteorological Observations.

AT SACRAMENTO, CAL., BY THOS. M. LOGAN, M. D. Permanent Secretary of State Board of Health.

Lat. 38° 31′41″ N., Long. 121°29′44″ W. Hight at Levee above mean low tide, at San Francisco, 74 feet. Hight of lower surface of mercury, 94 feet. The amount of cloudiness is designated by figures, 10 being entire cloudiness; 5, half cloudiness; 0, entire clearness; and intermediate numbers in proportion. The force of the wind is also registered in the same manner; 0 being a calm, 1 a very light breeze, and 10 a hurricane. The means are derived from three daily readings at 7 A. M., 2 P. M., and 9 P. M., in uniformity with the arrangements of the Smithsonian Institute.

| 1871. MONTH AND DAY. | DAILY MEANS OF | | | | | THER* | | | WIND. | | a'n† |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Barometer Corrected. | Temp. Air. | Rel. Hmdty. Satura'n 100. | Force of Vapor. | Amount of Cloudiness. | Maximum. | Minimum. | Range. | General direction f'm which it moves, and the Forces. | | Gauge 50 ft. ab've surf'ce |
| JUNE. | INHS. | DEG. | ⅌ C. | INHS. | 0–10 | DEG. | DEG. | DEG. | DIR-TION. | F'CE. 0–10 | INHS |
| Sunday..11 | 29.970 | 61 | 57 | .314 | 2 | 76 | 48 | 28 | S. E. | 3 | ..... |
| Monday.12 | 29.975 | 68 | 59 | .421 | 3 | 83 | 52 | 31 | S. E. | 3 | ..... |
| Tuesday 13 | 29.943 | 68 | 49 | .341 | 3 | 82 | 51 | 31 | S. E. | 3 | ..... |
| Wedns..14 | 29.992 | 66 | 47 | .308 | 0 | 80 | 50 | 30 | S. E. | 3 | ..... |
| Thurs ...15 | 29.850 | 72 | 47 | .258 | 0 | 86 | 50 | 36 | N. & S. | 1 | ..... |
| Friday ..16 | 29 772 | 74 | 38 | .337 | 0 | 95 | 59 | 36 | N. 1 & S.E. | 2 | ..... |
| Sat'day..17 | 29 840 | 69 | 45 | .316 | 0 | 85 | 50 | 35 | S. E. | 3 | ..... |

* Thermometograph. † Rain.

REMARKS.—With the exception of another brief heated term on the 16th, which was soon interrupted by a sudden change of wind from N. to S. E., the weather during the week has been all that could be desired. The meteoric feature has been the display of northern lights on Saturday night between half-past 9 and 10 o'clock. Commencing in a N. E. direction, in an arch of about 15° radii above the horizon, a rosy light gradually extended toward the N.W., where it gradually died out in shifting streaks or columns of whiter light. This is the twelfth time the aurora borealis has been observed by us during a period of twenty years. The first observation was in December 16th, 1857; the second, October 27th, 1858. Four times in 1859, viz: June 9th, August 28th, September 1st and October 18th, the phenomenon presented. Also as many times in 1859 in the same month, July 4th being substituted for June 1st, and the dates of the other three months being altered to the 7th, 6th and 1st respectively. In 1865 there was another display on November 26th, and again another on the 20th of February, 1866. The most logical reference of this phenomenon to electricity, we know of, is that of Professor Henry, of the Smithsonian Institute. In the equatorial regions masses of moist air are constantly rising and producing electrical discharges to the earth. The vapor, therefore, which accompanies the reverse trade winds in the upper region, must be negatively electrified, while the earth in the torrid zone must be constantly receiving electricity from the clouds. From this the Professor infers that there is a current of electricity through the earth, from the equator toward the poles, and a neutralization by means of the air above, which may give rise to the aurora polaris.

## Right and Left.

EDS. PRESS:—In a late number of the PRESS, I noticed an interesting article with this title, and with a pretty full discussion of the subject. The lecturer was entirely right, as it seems to me, in the view of the case which he took, viz:—that the tendency of the body was toward the right; and not, as the correspondent stated, to the left. Now if the writer of that article would take the trouble to experiment a little on the matter in hand, we think he might come to see differently. We have tried it practically and find that the results go to strengthen this opinion. It is done in this manner:

When walking with a friend one day, I requested him, without telling him my object in so doing, to place himself in line with two fixed objects, a tree and a post, and, having done so, *with his eyes shut*, to endeavor to come as near the post as he could. He did so, and I watched him closely. The experiment was repeated several times, and then I did the same thing myself, requesting him to note to which side my steps diverged. Another time, when out walking with the same person, having told him the object of our experiment, it was tried once more on a piece of ground more level than used at first.

In all these trials, to the number of 15, only *four* showed a tendency in the body of the walker to the left, and one of these four was caused, I am inclined to think, by unevenness in the ground. Such are the facts, but I do not wish them to be regarded as entirely conclusive, but as strong evidences. CURIOSITY.

MORSE'S, the telegraphist's, statue, in Central Park, N. Y., was unveiled June 10th in the presence of 50,000 people. No Communist rabble will ever topple it from its pedestal.

# Eighteenth Annual Fair

OF THE

CALIFORNIA

# State Agricultural Society,

To commence on the 18th and end on the 23d of September, 1871, at SACRAMENTO CITY.

**OVER $20,000 APPROPRIATED FOR PREMIUMS!**

Liberal SPECIAL PREMIUMS for all worthy articles exhibited, not mentioned in the Schedule. Also, in addition to the Premiums named, the Society will give a GOLD MEDAL to the most Meritorious Exhibition in each of the seven departments.

**The Pavilion will be open for the reception** of Articles for Exhibition on Friday and Saturday, September 15th and 16th, 1871.

## LIST OF PREMIUMS,

**Open to all the States and Territories.**

## FIRST DEPARTMENT.

### LIVE STOCK.

#### HORSES.

In this department the same animal cannot be entered more than once, except in sweepstakes, or as a colt with its sire or dam, as a member of a family.

No animal will be allowed to compete for a premium unless free from disease or blemish which can be transmitted to posterity.

CLASS 1—THOROUGHBRED HORSES.

In this class none will be permitted to compete but such as furnish a complete pedigree—tracing the entire line of descent to the English parent on the side of both sire and dam. The standard of authority for the pedigree of thoroughbred horses will be the English and American Stud Books.

Best stallion, four years old and over..... $75
Best stallion, three years old..... 50
Best stallion, two years old..... 40
Best stallion, one year old..... 30
Best colt under one year..... 20
Best mare, four years old and over, with colt..... 60
Best mare, four years old and over..... 50
Best mare, three years old..... 40
Best mare, two years old..... 30
Best mare, one year old..... 25
Best mare colt under one year..... 20

**Families.**

Best thoroughbred sire, with not less than ten of his colts, all thoroughbred..... 100
Best thoroughbred dam, with not less than four of her colts, all thoroughbred..... 60
Best stallion, other than thoroughbred, with not less than ten of his colts, open to all..... 75
Best dam, other than thoroughbred, with not less than three of her colts..... 50

CLASS II—HORSES OF ALL WORK.

Best stallion, four years old and over..... 40
Best stallion, three years old..... 30
Best stallion, two years old..... 20
Best stallion, one year old..... 15
Best mare, four years old and over, with colt..... 40
Best mare, four years old and over..... 30
Best mare, three years old..... 20
Best mare, two years old..... 15
Best mare, one year old..... 10

CLASS III—GRADED HORSES.

In this department none will be allowed to compete but such as furnish satisfactory proof of a cross of either sire or dam with thoroughbreds.

Best stallion, four years old and over..... $50
Best stallion, three years old..... 40
Best stallion, two years old..... 30
Best stallion, one year old..... 20
Best colt under one year, without reference to sex.. 20
Best mare, four years old and over..... 40
Best mare, four years old and over, with colt..... 50
Best mare, three years old..... 30
Best mare, two years old..... 20
Best mare, one year old..... 15

CLASS IV—DRAFT HORSES.

Best stallion, four years old and over..... 40
Best stallion, three years old..... 30
Best stallion, two years old..... 20
Best stallion, one year old..... 15
Best mare, four years old and over, with colt.. ..... 40
Best mare, four years over..... 35
Best mare, three years old..... 25
Best mare, two years old..... 20
Best mare, one year old..... 15

CLASS V—ROADSTERS.

All animals competing for a premium in this department must be exhibited in harness.

Best stallion, four years old and over..... $50
Best stallion, three years old..... 40
Best stallion, two years old..... 30
Best gelding, four years old and over..... 40
Best mare, four years old and over..... 40
Best mare, three years old..... 30
Best mare, two years old..... 20

CLASS VI—CARRIAGE HORSES.

Best matched span carriage horses, owned and used as such by one person, silver goblet, worth..... 40

CLASS VII—ROADSTER TEAMS.

Best double team roadsters, owned and used as such by one person, silver goblet, worth..... 40

CLASS VIII—SADDLE HORSES.

Best Saddle Horse.....Fine Bridle

CLASS IX—COLTS.

Free to all except those entered as thoroughbred and graded.

Best yearling horse colt..... $30
Best sucking horse colt..... 20
Best yearling mare colt..... 20
Best sucking mare colt..... 15
Best exhibit of not less than six colts, owned by one person, of any age or sex, can be entered in other classes when allowed by the general rules..... 50

CLASS X—SWEEPSTAKES.

Open to all. In the awards in this department blood will have the preference only when in the examination all other qualifications shall be found equal.

Best stallion of any age, silver pitcher worth.....$150
Best mare of any age, silver pitcher worth..... 100

CLASS XI—JACKS AND MULES.

Best jack..... 50
Best jennet..... 40
Best mule two years old..... 20
Best mule one year old..... 15
Best mule under one year old..... 10

#### CATTLE.

CLASS I—DURHAM CATTLE.

Best bull, four years old and over..... 75
Best bull, three years old and over..... 40
Best bull, two years old and over..... 30
Best bull, one year old and over..... 25
Best bull calf..... 15
Best cow, four years old and over..... 50
Best cow, three years old and over..... 40
Best cow, two years old and over..... 30
Best cow, one year old and over..... 20
Best heifer calf..... 15
Devons, Herefords, Alderneys, Ayrshires and Holderness—same premiums as for Durhams.

CLASS II—GRADED CATTLE.

Best bull, four years old and over..... 40
Best bull, three years old and over..... 30
Best bull, two years old and over..... 20
Best bull, one year old and over..... 15
Best bull calf..... 10
Best cow, four years old and over..... 30
Best cow, three years old and over..... 20
Best cow, two years old and over..... 15
Best cow, one year old, full blooded..... 10
Best herd of cattle of any one breed, not less than ten, owned by one person..... 100

CLASS III—SWEEPSTAKES.

Best bull of any age or stock, silver pitcher worth.. 100
Best cow of any age or stock, silver pitcher worth.. 75

#### SHEEP AND GOATS.

CLASS I—STOCK SHEEP AND MUTTON.

Best ram two years old and over..... 20
Best ram under two years..... 15
Best three ewes two years old and over..... 15
Best three ewes under two years..... 10

CLASS II—FINE WOOL SHEEP.

Best Spanish merino ram two years old and over.... 30
Best Spanish merino ram under two years..... 20
Best three Spanish merino ram lambs..... 20
Best three Spanish Merino ewes two years old and over..... 20
Best three Spanish merino ewes under two years.... 20
Best five Spanish merino ewe lambs..... 20
Best French merino—same premiums as for Spanish.
Best Cotswold and Leicestershire—same premiums.
Cross between any two thoroughbreds, same premi'ns.

CLASS III—GRADE OR CROSS WITH SPANISH MERINO.

In this class a statement must be filed with the Committee, of the degree of the cross and the breed of the sheep crossed with.

Best ram two years old and over..... $20
Best ram under two years..... 15
Best three ram lambs..... 20
Best three ewes two years old and over..... 15
Best three ewes under two years..... 15
Best five ewe lambs..... 15
Best grade or cross with French merino—same premiums as for Spanish.
Best cross with Cotswold and Leicestershire—same premiums as for Spanish.

CLASS IV—SWEEPSTAKES ON SHEEP.

Best buck of any age or breed, silver goblet..... $30
Best ewe of any age or breed, silver goblet..... 25
Best pen of not less than five ewes of any age or breed, silver goblet..... 30

CLASS V—CASHMERE AND ANGORA GOATS.

Best thoroughbred buck..... $30
Best thoroughbred she goat..... 20
Best thoroughbred three kids..... 20
Best graded lot of three..... 15

#### Swine.

CLASS I—LARGE BREEDS, WHICH, WHEN FAT, WILL WEIGH AT MATURE AGE OVER 300 POUNDS.

Best boar two years old and over..... $30
Best boar under two years old..... 20
Best boar six months old and less than one year.... 10
Best breeding sow two years and over..... 25
Best breeding sow one year old..... 15
Best sow six months old and under one year..... 10
Best lot of not less than six pigs, not less than five nor more than ten months old..... 20

#### POULTRY.

CLASS 1.

Best lot of white or gray Dorkings..... $5
Best lot of black Spanish..... 5
Best lot of black Poland..... 5
Best lot of Jersey Blues..... 5
Best lot of Sumatra game..... 5
Best lot of English game..... 6
Best lot of light Bramahs..... 5
Best lot of any other distinct variety..... 5
Best lot of turkeys..... 5
Best lot of ducks, any good variety..... 5
Best lot of geese..... 5
Best lot of Guinea fowls..... 5

## SECOND DEPARTMENT.

### Machinery, Implements, Etc.

Models in Classes 1, II, III and IV cannot compete with full sized machines.

All machinery, as far as practicable, to be exhibited in motion.

All articles named in Classes I, II, III, IV, V, VI and VII of this Department, if of California manufacture, will receive the premium offered and diploma; if not, they will be awarded a diploma only.

CLASS I—MACHINERY, ENGINES, ETC.

Best display of general machinery from one shop... $50
Best light portable prospecting mill for reducing quartz..... 25
Best machine for saving quartz sulphurets..... 25
Best concentrator for copper ores..... 25
Best grinding and amalgamating pan combined..... 25
Best turbin wheel (Cal manufacture)..... 25
Best quartz crusher (Cal. manufacture)..... 25
Best steam engine (Cal. manufacture)..... 50
Best portable steam engine (Cal. manufacture)..... 25
Best portable sawmill..... 20
Best saw gummer..... 2
Best self-setting sawmill head block..... 5
Best stave machine..... 5
Best shingle machine..... 5
Best lathe machine..... 5
Best hoop machine..... 5
Best molding machine..... 5
Best mortising machine..... 5
Best sash machine..... 5
Best tenoning machine..... 5
Best scroll sawing machine..... 5
Best wood turning lathe..... 5
Best iron turning lathe..... 5
Best iron planing machine..... 10
Best wood planing machine..... 10
Best water wheel..... 10

CLASS II—AGRICULTURAL MACHINES (FIRST DIVISION).

Best display of agricultural machinery by any one house (Cal. manufacture)..... $50
Best threshing machine.....Fr. diploma
Best sweep horse power (Cal. manufacture)..... 10
Best endless chain, horse power (Cal. manufacture) 10
Best threshing machine, operated by endless chain power..... 10
Best circular sawmill, operated by horse power..... 10
Best log crosscut sawmill, horse power..... 10
Best clover huller and cleaner..... 5
Best clover huller..... 5
Best hemp and flax dressing machine..... 10
Best cider mill and press..... 10
Best horse hay rake..... 10
Best hay and straw cutter..... 5
Best hay press..... 20
Best power corn sheller..... 5
Best hand corn sheller..... 5

If possible, the Board will manage to have a grand trial of reaping and threshing machines, to come off during the Fair, and will give special premiums for the same.

CLASS III—AGRICULTURAL MACHINES (SECOND DIVISION).

Best header (Cal. manufacture)..... $50
Best wheat drill (two horse)..... 10
Best wheat drill (one horse)..... 5
Best grain broadcast sowing machine..... 10
Best machine for cutting and shocking corn..... 5
Best clover seed harvester..... 5
Best self-raking and reaping machine..... 10
Best reaping machine..... 10
Best mowing machine..... 10
Best combined reaper and mower..... 20
Best display of reaping and mowing machine knives 5
Best hay pitching machine..... 5
Best corn planter (horse power)..... 5
Best corn planter (hand)..... 2
Best potato planter..... 5
Best potato digger..... 5
Best field roller and crusher..... 10
Best harrow..... 5
Best one-horse corn cultivator..... 5
Best two-horse corn cultivator..... 10
Best horse hoe..... 5
Best double shovel plow..... 5

CLASS IV—AGRICULTURAL MACHINES (THIRD DIVISION).

Best smut machine..... $10
Best farm feed mill..... 10
Best fanning mill..... 5
Best flour packing machine..... 5
Best self-regulating windmill..... 15
Best stock scales for general purposes, to be set up by exhibitor, and be used by the Board during the Fair, free of charge..... 25
Best platform scales..... 5
Best stump extractor..... 10
Best brick machine..... 10
Best drain tile machine..... 10
Best farm gate..... 15
Best beehive (without bees)..... 3
Best refrigerator..... 5
Best agricultural boiler..... 5
Best portable fence..... 20
Best ornamental fence..... 10
Best economical fence for tile land..... 25

CLASS V—TOOLS AND HOUSEHOLD IMPLEMENTS.

Best display of haying and harvesting tools..... $20
Best set of draining tools..... 5
Best farm road scraper..... 2
Best garden seed drill..... 2
Best cheese press..... 10
Best cheese vat, with heater attached..... 10
Best cheese shelf model..... 5
Best churn..... 10
Best butter worker..... 5
Best cabbage cutter..... 2
Best sausage meat cutter and stuffer..... 5
Best washing machine.....Diploma and 5
Best clothes wringer.....Diploma
Best mangle or ironing machine..... 5
Best clothes horse, to occupy the least space..... 5
Best well pump..... 10
Best apparatus for raising water for irrigating purposes..... 20
Best apparatus for raising water for mining purposes 20

CLASS VI—PLOWS.

Best steam plow, to be tested to the satisfaction of the Committee, and its utility fully demonstrated.$200
Best two-gang plow..... 40
Best plow for general purposes..... 10
Best stubble plow..... 10
Best sod plow..... 10
Best steel plow..... 10
Best cast iron plow..... 10
Best subsoil plow..... 10
Best sidehill plow..... 5
Best one-horse plow..... 5
Best mole or blind ditching plow..... 10
Best open ditching plow..... 10
Best dynamometer..... 10

The Board will furnish to exhibitors suitable grounds for practically testing their plows, under the direction of the Awarding Committee.

CLASS VII—VEHICLES.

Best two-horse family carriage.....Diploma and $30
Best one-horse family carriage.....Diploma and 25
Best top buggy.....Diploma and 20
Best trotting wagon.....Diploma and 15
Best farm wagon for general purposes..... 15
Best spring market wagon..... 15
Best cart..... 5
Best street goods wagon..... 5
Best wagon or carriage brake..... 5
Best jackscrew..... 5
Best carriage or cab for children..... 5
Best display of carriage wheels, hubs, etc..... 10

## THIRD DEPARTMENT.

### TEXTILE FABRICS—MILL AND DOMESTIC PRODUCTS.

#### Textile Fabrics and Materials of which they are Made.

Articles to be exhibited by manufacturer, and articles which heretofore have received a premium, to be excluded from competition, except in Class VI.

CLASS I—FABRICS MADE FROM CALIFORNIA SILK.

Best specimen of silk manufactured, not less than five yards..... $20
Best pound reel silk, made in family..... 10
Best pound sewing silk, made in family..... 10
Best specimen of raw silk goods..... 10
Best pair of silk stockings..... 10
Best pair of silk gloves..... 10
Best silk shawl..... 20
Best silk cravat..... 10
Best piece of pocket handkerchiefs..... 10

CLASS II—MILL FABRICS.

Best display of woolen goods by one manufactory... $50
Best display of cotton goods by one manufactory... 50
Best ten yards woolen cloth..... 5
Best ten yards cassimere..... 5
Best ten yards satinet..... 5
Best ten yards jean..... 5
Best ten yards floor oil cloth..... 10
Best ten yards tweed..... 5
Best ten yards cloth of flax cotton..... 5
Best piece cotton sheeting..... 5
Best ten yards of flannel..... 5
Best fifteen yards woolen carpet..... 20
Best fifteen yards tow cloth..... 5
Best ten yards linen..... 20
Best ten yards linen diaper..... 10
Best ten yards kersey..... 5
Best hearth rug..... 5
Best double carpet coverlet..... 5
Best pound linen sewing thread..... 5
Best shawl..... 5
Best mackinac blanket..... 5
Best pair woolen blankets..... 5
Best stocking yarn..... 3
Best oil cloth table cover..... 5
Best display of cordage.....Diploma and 5

CLASS III—NEEDLE, SHELL AND WAXWORK CLOTHING, HATS, CAPS, FURS, ETC.

Best exhibit and greatest number of articles in this class.....Fr. Diploma and $10
Best ottoman cover..... 5
Best table cover..... 5
Best fancy chairwork with needle..... 5

Best fancy chair cushion and back ..... 5
Best woolen shawl ..... 5
Best crochet shawl ..... 5
Best worked shawl ..... 5
Best lace cape ..... 3
Best lampstand mat ..... 3
Best ornamental needlework ..... 5
Best silk embroidery ..... 5
Best embroidered sofa cushion ..... 5
Best embroidered mantilla ..... 5
Best embroidered table spread ..... 5
Best embroidered dressing gown ..... 5
Best embroidered lady's robe ..... 5
Best embroidered lady's dress ..... 5
Best embroidered children's clothes ..... 5
Best embroidered undersleeves ..... 3
Best embroidered lady's collar ..... 3
Best embroidered handkerchief ..... 3
Best chenille embroidery ..... 5
Best embroidery with beads ..... 5
Best tatting collar ..... 3
Best worked collar ..... 3
Best worked veil ..... 3
Best worked handkerchief ..... 3
Best silk bonnet ..... 5
Best velvet bonnet ..... 5
Best knit cloak ..... 3
Best exhibit of men's clothing ..... 10
Best exhibit of boys' clothing ..... 5
Best exhibit of men's hats and caps ..... 5
Best collection of furs ..... 10
Best assortment leather gloves and mittens ..... 5
Best variety of linen embroidery ..... 10
Best group of artificial flowers ..... 10
Best variety of artificial flowers ..... 5
Best specimen of wax flowers ..... 5
Best group of wax flowers ..... 5
Best specimen of wax fruit ..... 5
Best and largest variety of wax fruit ..... 5
Best specimen of moss or lichen work ..... 5
Best specimen cone work ..... 5
Best specimen leaf work ..... 5
Best specimen flower work ..... 5
Best specimen shell work ..... 5
Best braid of straw or grass ..... 5
Best specimen of braid work ..... 5
Best embroidered picture ..... 10
Best white quilt ..... 5
Best worked quilt ..... 5
Best silk quilt ..... 5
Best patchwork quilt ..... 5
Best children's affghan ..... 5
Best display of millinery ..... 20

CLASS IV—HOUSEHOLD FABRICS.

No article manufactured in factories or out of the family will be received in this class. Exhibitors must accompany their articles with a certificate of manufacture in the family within the year.

Best ten yards jean ..... $10
Best pair woolen blankets ..... 10
Best ten yards flannel ..... 10
Best woolen carpet, fifteen yards ..... 10
Best ten yards linen ..... 10
Best ten yards linen diaper ..... 10
Best ten yards kersey ..... 5
Best pair kersey blankets ..... 10
Best rag carpet, fifteen yards ..... 10
Best fifteen yards of tow cloth ..... 5
Best hearth rug ..... 5
Best double carpet coverlet ..... 5
Best pair woolen knit stockings ..... 3
Best pair of cotton knit stockings ..... 3
Best pair by misses under twelve years of age ..... 5
Best pound of linen sewing thread ..... 3
Best pair of woolen fringe mittens ..... 3
Best pair of woolen mittens ..... 3
Best pair by misses under twelve years of age ..... 5
Best pair of woolen stockings by misses under twelve years of age ..... 5
Best linen handkerchiefs ..... 5
Best netting ..... 3
Best worsted knit stockings ..... 3
Best stocking yarn ..... 5
Best woolen shawl ..... 5
Best mill bag ..... 5
Best woolen knit drawers ..... 5
Best woolen knit shirt ..... 5
Best foot mats ..... 3
Best straw hat ..... 5
Best straw bonnet ..... 5
Best grass bonnet ..... 5
Best grass hat ..... 5
Best gentleman's shirt ..... 5
Best knit bedspread ..... 5
Best wove bedspread ..... 5
Best ten pounds dressed flax ..... 10
Best five pounds flax cotton ..... 10
Best five pounds flax yarn ..... 5

Articles exhibited by misses under ten years of age, entrance free.

CLASS V—SADDLERS' AND SHOEMAKERS' WARE AND MISCELLANEOUS ARTICLES.

Best traveling trunk ..... $10
Best carpet sack ..... 5
Best set of carriage harness ..... 10
Best set of farm harness ..... 10
Best display of leather ..... 10
Best display of saddles and bridles ..... 10
Best display of hames ..... 3
Best display of saddletrees ..... 3
Best display of brushes ..... 3
Best display of shoe lasts, pegs and lasting machine ..... 5
Best pair of dress boots ..... 5
Best pair of heavy boots ..... 5
Best pair of gent's dress shoes ..... 5
Best pair of Congress gaiters ..... 5
Best pair of ladies' gaiters ..... 3
Best pair of ladies' slippers ..... 3
Best pair of bootees ..... 3
Best display of bound account books ..... 5
Best display of paper ..... 5
Best display of paper hangings and borders ..... 5
Best silk hat ..... 5
Best soft hat ..... 5
Best made suit of gentleman's clothing ..... 10
Best display of printing ..... 10
Best display of gloves and mittens ..... 3
Best display of ladies' furs ..... 10

## FOURTH DEPARTMENT.

### MECHANICAL PRODUCTS.

All products of industry competing for premiums are to be exhibited by or for the maker or improver or inventor.

CLASS I—WORKED METALS.

Best display of copper work ..... Diploma and $20
Best display of brass work ..... Diploma and 20
Best display of axes ..... 5
Best display of locks ..... 5
Best display of door trimmings ..... 5
Best display of window trimmings ..... 5
Best display of window, blind or shutter trimmings 5
Best display of saddlers' hardware ..... 5
Best display of horseshoes ..... 5
Best display of horseshoe nails ..... 5
Best display of plumbers' goods and ware ..... Diploma and 10
Best display of gas chandeliers and burners ..... Diploma and 10
Best display of lamps ..... 10
Best display of general hardware ..... 10
Best display of iron and steel ..... 5
Best display of iron fencing including post ..... 10
Best display of mechanics' tools ..... 10
Best display of table cutlery ..... 5
Best display of pocket cutlery ..... 5
Best display of silver ware ..... 10
Best display of Britannia ware ..... 5
Best display of clocks ..... 10
Best display of kitchen utensils of brass or copper .. 10
Best display of kitchen utensils of tin ..... 5
Best circular saws ..... 5
Best mill saws ..... 5
Best hand saws ..... 5
Best display of files ..... 5
Best burglar and fireproof safe ..... 20
Best collection of California marble ..... 25

CLASS II—STOVES, CASTINGS, ETC.

Best cooking stove for wood ..... $ 5
Best cooking stove for coal ..... 5
Best parlor stove ..... 5
Best warming furnace or other furnace ..... 5
Best cooking range ..... 10
Best parlor grate ..... 3
Best pair ornamental iron vases ..... 3
Best specimen of marbleized iron ..... 3
Best specimen of marbleized stone ..... 5
Best specimen of marbleized wood ..... 5
Best display of hollow iron ware ..... 5
Best ornamental statuary ..... 5
Best ornamental fruit and flower stand ..... 5
Best church bell ..... 20
Best farm bell ..... 5
Best chime of bells ..... 5

CLASS III—MUSICAL INSTRUMENTS, CABINET WARE—CALIFORNIA MANUFACTURE.

Best grand or semi-grand pianoforte ..... $20
Best boudoir piano ..... 20
Best square piano ..... 20
Best parlor piano ..... 10
Best dressing bureau ..... 10
Best sofa ..... 10
Best lounge ..... 5
Best extension table ..... 5
Best office chair ..... 5
Best set of parlor chairs ..... 10
Best center table ..... 5
Best pair of side tables ..... 5
Best set of parlor furniture ..... 20
Best display of furniture ..... 20
Best display of mattresses ..... 5
Best seats and desks for schools ..... 5
Best writing desk ..... 5
Best book case ..... 5
Best wardrobe ..... 10
Best sick chair or couch ..... 5

CLASS IV—WOODEN WARE.

Best display of cedar ware ..... $ 5
Best display of pine ware ..... 5
Best display of oak ware ..... 5
Best display of window shades ..... 5
Best display of window blinds ..... 5
Best display of willow ware ..... 10
Best display of splitwood baskets ..... 5
Best display of pine, oak or walnut doors ..... 10
Best display of flour, pork and tight barrels ..... 10
Best display of turning-lathe work ..... 5
Best display of osier willow ..... 5
Best wine cask ..... 10
Best display of wooden ware ..... 50

CLASS V—PHILOSOPHICAL, SURGICAL, DENTAL, DRAWING, PAINTING, SURVEYING AND LEVELING INSTRUMENTS AND APPARATUS, ETC., OF FINE WORKMANSHIP, EXHIBITED BY MAKER—AMERICAN MANUFACTURE.

Best surgical instruments ..... Diploma
Best set optical instruments ..... Diploma
Best dentist's instruments ..... Diploma
Best set of mathematical and philosophical instruments ..... Diploma
Best specimens dentistry ..... Diploma
Best theodolite ..... Diploma
Best level ..... Diploma
Best surveyor's compass ..... Diploma
Best achromatic telescope ..... Diploma
Best reflecting telescope ..... Diploma
Best optical apparatus ..... Diploma
Best balance ..... Diploma
Best thermometer ..... Diploma
Best barometer ..... Diploma
Best electro-magnetic apparatus ..... Diploma
Best electric telegraph ..... Diploma
Best electric machine ..... Diploma
Best galvanic battery and apparatus ..... Diploma
Best set drawing instruments ..... Diploma
Best chronometer ..... Diploma
Best clock (eight day) ..... Diploma
Best specimen silverware, with agricultural designs, suitable for premiums ..... Diploma
Best specimen Argentine or Britannia ware .... Diploma
Best turned and cast Britannia ..... Diploma

CLASS VI—CHEMICALS.

Best ivory black ..... $ 5
Best Prussian blue ..... 5
Best copal varnish ..... 5
Best glue ..... 5
Best prussiate of potash ..... 5
Best linseed oil (5 gallons) ..... 10
Best white lead ..... 5
Best display of soap ..... Silver Medal
Best display of soap (California make ..... $10
Best specimen of lard oil ..... 5
Best five gallons of castor oil ..... 10
Best display of potash, saleratus, pearlash and other alkalies ..... 5
Best display of writing fluid ..... 2
Best display of blacking ..... 3
Best display of lubricating petroleum ..... 5
Best display of illuminating petroleum ..... 5

CLASS VII—GLASS, CROCKERY, STONEWARE, BRICKS AND TILES—AMERICAN MANUFACTURE.

Best specimen Rockingham ware ..... Diploma
Best stoneware ..... Diploma
Best specimen ground glass ..... Diploma
Best specimen stained glass ..... Diploma
Best water pipe of water lime ..... Diploma
Best sample drain tile ..... $5
Best roofing tiles ..... 5
Best flooring ..... 5
Best looking glass ..... Diploma
Best plate glass ..... Diploma
Best window glass ..... Diploma
Best flint glass ..... Diploma
Best bottle glass ..... Diploma
Best bottles, green glass ..... Diploma
Best tincture and other stoppered bottles and vials ..... Diploma
Best retorts and receivers, tubulated and plain. Diploma
Best demijohns ..... Diploma
Best carboys ..... Diploma
Best terra cotta ..... Diploma
Best fire bricks ..... $3
Best pressed brick ..... Diploma
Best pottery, various kinds ..... Silver Medal
Best display of stoneware ..... $10
Best display of glassware ..... 10
Best display of queensware ..... 5
Best dressed stone ..... 5
Best mill stone ..... 5
Best marble of California ..... 10
Best barrel common salt ..... 3
Best sack table salt ..... 3
Best barrel lime ..... 5
Best hydraulic cement ..... 5

CLASS VIII—MINERALS, FOSSILS, BIRDS, FISHES, ETC.

Best set of useful minerals of California, including coals of California, iron ores of California, limestones of California, marbles of California, sandstones of California, marls of California, peats of California, soils of California, salt waters of California, minerals of California, potters' clay of California, fire clay of California, burr stones of California, gypsum of California ..... $20

For the following articles, such awards as the Board shall deem best, on the recommendation of the Committee, will be made:

Best collection of minerals illustrating the geology of California.
Best collection illustrating the ornithology of California.
Best collection of natural fishes, living or dead.
Best suit of crystallized minerals of California.
Best suit of crystallized minerals from all parts of the world.
Best suit of fossils of California.
Best suit of the vegetable kingdom, including the woods and most useful plants and native grasses of California.
Best suit of the animal kingdom, including insects injurious to the farmer.

## FIFTH DEPARTMENT.

### AGRICULTURAL PRODUCTS.

#### Farm Products, Food, Condiments, Etc.

CLASS I—SILK.

Best exhibition of the silk business, from the mulberry tree to the silk cocoon, including the feeding of the worms, their eggs, etc ..... $50
For the greatest number of useful forest trees planted in permanent plantation during the year .. 50

CLASS II—FLOUR AND GRAIN.

All parties desiring to compete for premiums on flour, wheat or barley, and who will send the required samples to be exhibited to J. W. H. Campbell, San Francisco, or to H. G. Smith, Sacramento, will be paid the market price for the flour or grain, and the same will be properly labeled with the producer's name and be exhibited for him; and also, will be paid any premiums awarded to the same. The object of this arrangement is to secure a good exhibition and to save trouble to the producer.

Best sack wheat flour (California manufactured and California wheat) ..... Silver Medal
Best two bushels of wheat of the Chile variety ..... $10
Best two bushels of wheat of the Australian variety 10
Best two bushels of the Club variety ..... 10
Best two bushels of any other variety ..... 10
The premium wheat to become the property of the State Board of Agriculture.
Best sample of rye, not less than two bushels ..... 10
Best sample of oats, not less than two bushels ..... 5
Best sample of barley, not less than two bushels ... 5
Best sample of buckwheat, not less than one-half bushel ..... 5
Best sample of flax seed, not less than one-half bushel ..... 5
Best sample of hops, not less than twenty-five pounds ..... 5
Best sample of timothy, not less than one-half bushel ..... 5
Best sample of clover seed, not less than one-half bushel ..... 5
Best sample of blue grass seed, not less than one-half bushel ..... 5
Best sample of red top seed, not less than one-half bushel ..... 5
Best sample of orchard grass seed, not less than one-half bushel ..... 5
Best bushel yellow corn ..... 5
Best bushel white corn ..... 5
Best bushel early corn ..... 5
Best exhibit garden seeds of California production, not less than twenty-five varieties ..... 10

Evidence must be presented showing that the grain, vegetables and products have been grown by the exhibitor.

CLASS III—CHEESE (DOMESTIC MANUFACTURE).

Best cheese one year old and over ..... $15
Best cheese under one year old ..... 10

CLASS IV—CHEESE (FACTORY MADE).

Best cheese one year old and over ..... $15
Best cheese under one year old ..... 10

CLASS V—SWEEPSTAKES ON CHEESE.

For the best and largest display of cheese ..... Diploma and $20

CLASS V—BUTTER, BREAD, ETC.

Best lot ten pounds of butter, in rolls ..... $10
Best tub of firkin, not less than twenty-five pounds, at least three months old ..... 15
Best four loaves of baker's bread not less than forty-eight hours old ..... 3
Best pilot bread ..... 2
Best biscuit ..... 2
Best soda biscuit ..... 2
Best crackers, butter ..... 2
Best crackers, sweet ..... 2
Best crackers, Boston ..... 2
Best domestic corn bread ..... 5
Best domestic rye bread ..... 5
Best domestic brown bread ..... 5
Best domestic wheat bread ..... 5

CLASS VII—HONEY, PRESERVES, PICKLES, ETC.

Best ten pounds honey ..... $5
Best canned tomatoes ..... 3
Best canned blackberries ..... 3
Best canned raspberries ..... 3
Best canned peaches ..... 3
Best canned pears ..... 3
Best canned apples ..... 3
Best canned quinces ..... 3
Best canned cherries ..... 3
Best canned gooseberries ..... 3
Best canned currants ..... 3
Best canned grapes ..... 3
Largest and best variety of canned fruits ..... Diploma
Largest and best variety of canned jellies ..... Diploma
Largest and best variety of canned preserves ... Diploma
Best apple jelly ..... $3
Best currant jelly ..... 3
Best peach jelly ..... 3
Best quince jelly ..... 3
Best preserved quinces ..... 3
Best preserved peaches ..... 3
Best preserved pears ..... 3
Best preserved apples ..... 3
Best preserved plums ..... 3
Best tomato catsup ..... 3
Best cucumber catsup ..... 3
Best pickled cucumbers ..... 3
Best pickled peaches ..... 3
Best pickled tomatoes ..... 3
Best pickled walnuts ..... 3
Best pickled mangoes and melons ..... 3
Best pickled onions ..... 3
Best pickled gerkins ..... 3
Best specimen of concentrated vegetables ..... 3
Best specimen of concentrated milk ..... 3

CLASS VIII—WINES, SUGARS, SYRUP AND BRANDY.

Best white still wine, four years old ..... $10
Best white still wine, three years old ..... 10
Best white still wine, two years old ..... 10
Best white still wine, one year old ..... 10
Red wines—same premiums as white wines.
White sparkling wines—same premiums as white still wines.
Best port wine ..... 10
Best claret wine ..... 10
Best sherry wine ..... 10
Best exhibit of wines from foreign grapes ..... 20
Best exhibit of wines from native grapes ..... 20
Best brandy made from grapes, one year old ..... 10
Best brandy made from grapes, two years old ..... 15
Best brandy made from grapes, three years old and over ..... 25
Best brandy made from peaches ..... 15
All wines and brandy must be the product of the exhibitors.
Best one hundred pounds of sugar made from sugar beet ..... $20
Best one hundred pounds of sugar made from Chinese cane ..... 20
Best one hundred pounds sugar made from melon .. 20
Best five gallons syrup from either of the above named articles ..... 10

CLASS IX—VEGETABLES, ROOTS, ETC.

All articles in this class are to be raised by the exhibitor.

Best half bushel red potatoes ..... $5
Best half bushel white potatoes ..... 5
Best half bushel of any other variety ..... 5
Best and greatest variety of Irish potatoes, half peck of each variety ..... 10
Best half bushel sweet potatoes ..... 5
Best twelve parsnips ..... 3
Best twelve carrots ..... 3
Best six long blood beets ..... 3
Best six turnip beets ..... 3
Best six sugar beets ..... 3
Best display of beets in variety and quality ..... 5
Best peck of tomatoes ..... 3
Best display of tomatoes, variety and quality ..... 5
Best six drumhead cabbages ..... 3
Best six heads of red Dutch cabbage ..... 3
Best six heads of any other variety ..... 3
Best three heads of cauliflower ..... 3
Best three heads of brocoli ..... 3
Best six heads of lettuce ..... 2
Best half peck of red onions ..... 3
Best half peck of yellow onions ..... 3
Best half peck of white onions ..... 3
Best display of onions in variety and quality ..... 5
Best half peck of peppers for pickling ..... 3
Best display of peppers in variety and quality ..... 3
Best twelve roots of salsify ..... 3
Best six stalks of celery ..... 3
Best six marrow squashes ..... 3
Best six Hubbard squashes ..... 3
Best six crookneck squashes ..... 3
Best display of squashes, variety and quality ..... 10
Best and largest pumpkin ..... 5
Best display of pumpkins, variety and quality ..... 5
Best dozen of sweet corn, green ..... 3
Best display of sweet corn in variety and quality, green or dry ..... 5
Best three mountain sweet watermelons ..... 2
Best three watermelons of any other variety ..... 3
Best three green-fleshed muskmelons ..... 3
Best three yellow-fleshed muskmelons ..... 3
Best and greatest display of melons of all varieties, both watermelons and muskmelons ..... 10
Best six cucumbers ..... 2
Best half peck Lima beans, in pod ..... 3
Best half peck white beans, dry ..... 2
Best half peck kidney bush beans, in pod ..... 3
Best half peck pole beans, other than Lima, in pod. 2
Best half peck field peas, dry ..... 2
Best half peck garden peas, dry ..... 3
Best half peck castor oil beans ..... 5
Best and greatest variety of peas, dry ..... 5
Best half peck gerkin cucumbers ..... 3
Best three purple egg plants ..... 5
Best and greatest variety of vegetables raised by one exhibitor ..... 50

CLASS X—FLOWERS.

Best miniature flower garden ..... $50
Best display growing flowers ..... 25
Best display cut flowers ..... 25

## SIXTH DEPARTMENT.

### FRUITS.

CLASS I—GREEN FRUITS.

Best twenty varieties of apples, properly named, five specimens each ..... $40
Best ten varieties of apples, properly named, five specimens each ..... 20
Best twenty varieties of pears, properly named, five specimens each ..... 40
Best ten varieties of pears, properly named, five specimens each ..... 20
Best ten varieties of peaches, five specimens each .. 20
Best five varieties of peaches, five specimens each .. 10
Best ten varieties of plums, five specimens each .... 20
Best five varieties of plums, five specimens each .... 10
Best twenty varieties table grapes, not less than two bunches each ..... 40
Best ten varieties table grapes, not less than two bunches each ..... 20
Best display of Mission grapes ..... 20
Best single variety of grapes, not less than two bunches ..... 10
Best and greatest variety wine grapes ..... 40
Best display of tropical fruits ..... 20
Greatest number and best specimens oranges ..... 5
Greatest number and best specimens lemons ..... 5
Best display of seedling fruits ..... 10
Best general display of fruit embracing best and greatest varieties ..... 100

CLASS II—DRIED AND PRESERVED FRUITS, NUTS, ETC.

Greatest number of varieties and best specimens, not less than three pounds each ..... $10
Best dried figs, prepared so they will keep in condition for export, not less than six pounds ..... 10
Best twenty-four pounds raisins ..... 15
Best ten pounds dried prunes ..... 10
Greatest number of varieties and best specimens fresh preserved fruits, not less than one jar each, nor less than six varieties ..... 10
Best half peck English walnuts ..... 5
Best half peck soft-shelled almonds ..... 5
Best half peck peanuts ..... 3

## SEVENTH DEPARTMENT.

### FINE ARTS.

CLASS I—DRAWINGS, PAINTINGS, ETC.

Best life-size photograph, colored in oil ..... $20
Best specimen of portrait painting, in oil, by California artist ..... 50
Best specimen of landscape painting, in oil, by California artist ..... 50
Best specimen in water colors ..... 10
Best specimen uncolored photograph ..... 20
Best specimen of not less than twelve different objects of natural history, in water colors, by California artist ..... Diploma and 25
Best specimen fruit painting ..... 10
Best specimen of California landscape, in oil, by California artist ..... 20
Best exhibition of paintings ..... Diploma and 50
Best fancy painting in water colors ..... Diploma
Best engraving ..... Diploma
Best wood engraving ..... Diploma
Best lithography ..... Diploma
Best porcelain painting and gilding ..... Diploma
Best specimen penmanship ..... $5
Best crayon drawing ..... 5
Best pencil drawing ..... 5
Best pen drawing ..... 5

CLASS II—SCULPTURE, ETC.

Best sculpture ..... $20
Best collection of marble work ..... 50
Best carving in wood ..... Diploma
Best collection and greatest variety of California birds, prepared ..... Diploma and $15
Best collection and greatest variety of quadrupeds, prepared ..... Diploma and 15

CLASS III—DESIGNS.

Best design for farm house ..... Diploma
Best design for farm barn ..... Diploma
Best design for carriage house and stable ..... Diploma
Best design for dairy house ..... Diploma
Best design for poultry house ..... Diploma
Best design for farm gate ..... Diploma
Best granary ..... Diploma
Best bridge (model of) ..... Diploma
Best domestic apparatus (or model of) ..... Diploma

## Thoroughbred Cotswold Sheep.

COTSWOLD KING.

IMPORTED FROM THE FLOCKS of Lane, Garne & Fletcher, England, aud J. D. Wing, of New York, with their grades half and thiee-quarter breeds.

REFERENCES.—Secretary of State Agricultural Society, wbo says: "Your Cotswold and Merino grade rams (recommended by bimself to parties in Sacramento) give entire satisfactiou since tbey have seen the result of tbe cross."

A. Lovell, of Millerton, and Charles Peck, of Snelling, with others from different parts of the State, say, in regard to their cross with Merino sheep: "Have more and larger lambs, with better staple wool than ever before."

Wm. O. Brine, of Sau Fraucisco, purchased all of our quarter Cotswold lambs at $2 per head on our rancho.

Christy & Wise sold tbirty-nine halea of our grade wool at thirty-two cents per pound, for six montbs clip.

1,300 Spring Lambs, shears in May, averaged 2¼ lbs. of wool per bead.

Below, find statement of wool scoured by me for tbe New York State Sheep Breeders and Wool Growers' Association, of wool sbeared at tbe meeting in this place, in May, 1867.

Truly, WM. HAYDEN,
Woolen Manufacturer.

| Owners' Names. | No. | Ages. | Breed. | Sheared. | Scoured. |
|---|---|---|---|---|---|
| S. W. Crandall | 1 | 2 | Merino. | 19 2⅓ | 8.2⅓ |
| Chamberlain | 2 | 2 | " | 8.10½ | 4 ⅓ |
| A. H. Cispp | 3 | 4 | " | 10.3½ | 5 6 |
| McMullen | 4 | | " | 16.3½ | 6 4½ |
| W. Cole | 5 | 1 | " | 13 7½ | 5 2½ |
| W. H Holmes | 6 | 2 | " | 18 7 | 7.13½ |
| Q Bonan | 7 | 2 | " | 16 6 | 6.9 |
| J. D. Wing | 8 | 1 | Cotswold. | 18 9 | 11.27 |
| D. H Barnes | 9 | 4 | " | 11 12 | 8.7 |
| J. D. Wing | 10 | 2 | " | 19 4½ | 10 6 |

Nos. 8 aud 10 are tbe Cotswsld rams "Golden Fleece" and "Champion," imported from England by J. D. Wing, and now owned by us. "Golden Fleece" won tbe Randall Prize, for which the above fleeces were scoured.

For pampblet, address
H. F. BUCKLEY & BRO.,
19v1-3m Hopeton, Merced Co., Cal.

## FULL BLOODED SHEEP!

**For Sale, at Fair Prices, 40 Rams and 20 Ewes, of**

**Full Blooded Silsian Stock,**

from the celebrated "Electoral" Flock of William Chamberlain, Esq., of Red Hook, Duchess County, New York. These are the purest and best bred Silesian Sbeep in tbe United States, if not in the world, aud have carried off the

### FIRST PREMIUMS

in Fine Wool Classes at tbe State and National Fairs since 1854.

ALSO FOR SALE,

**Full Blooded Cotswold and Full Blooded Leicestershire Rams and Ewes,**

just selected from the Best Flocks in England by one of the best of judges, WM. T. WILSON, ESQ., and imported by him especially for this market.

Also, California Bred, Full Blooded

**COTSWOLD AND SOUTHDOWNS,**

and ½ and other crosses between these Breeds and between each of these Breeds and Full Blooded Spanish Merinos.

**Also, Full Blooded Berkshire Pigs,**

selected and Imported by tbe same party above named.

HIGHEST PRICES PAID FOR WOOL,

and Wool Pressed and Shipped for Exporters, with Care and on Reasonable Terms, by,

**ROBERT BECK,**

At the Office of the Secretary of tbe Cal. State Agricultural Society, SACRAMENTO, Cal.
20v1-3m

## EGGS! EGGS! EGGS!

STEVENS BROS'

## Patent Egg Boxes.

We would respectfully call tbe attention of all persons wbo ship or bandle Eggs, to the advantage to be derived from using Stevens' Bros. Patent Egg Cases.

These cases hold thirty dozen Eggs each, self counting, and can be packed with ease and facility. Eggs shipped in tbe above cases sell quicker and give more satisfaction to buyers than any otber package in use, as the contents are not damaged, and buyers subjected to no trouble as regards the count.

**NO BROKEN EGGS! NO HEATED EGGS! NO PACKING REQUIRED!**

### To the Trade.

We offer tbese Egg Cases at the following rates:

SCALE OF PRICES:

100 cases or over, casb price..... $3 00 eacb
50 cases or under, casb price..... 3 50 eacb

CAUTION!

STEVENS' PATENT EGG BOXES, patented Feb. 26, 1867.

All persons are berehy cautioned against manufacturing, selling and using any cases for packing and transporting eggs, constructed with compartments, by placing a separate diaphragm borizontally between each tier, from the bottom to the top of each case, and any and all infringements upon said patent, either for manufacturing, selling or using witbout authority from the undersigned, will be prosecuted. Parties desiring information will apply to the owners.

STEVENS & GRAY,
Union Market, Howard street,
18-v1-3m Between Third and Fourth streets.

## Farmers and Teamsters,

## SAVE YOUR MONEY!

BY USING THE

**Patent Wood Horse Collars and Hames Combined,**

Which bas many advantages over the Leather Stuffed witb Straw.

1st. DURABILITY, lasting at least ten times as long.

2d. CONVENIENCE. Opening below, can be laid on and off tbe Horse, baving one fastening in place of two or three.

3d. Is one-third ligbter tban leather collar and hame.

4th. Can be easily fitted, as it is so constructed that tbe length and width can be cbanged in a few minutes.

5th. As there are no stitches to bresk, or stuffing to press out, IT NEVER LOSES ITS SHAPE, alwsys bearing upon the muscular part of the shoulder, near the neck—the proper place for draft.

6th. Its smootb, bard surface, giving equal pressure on the wbole line of draft, NEVER SWEATS OR RUBS OFF THE HAIR.

7th. It has an important advantage in tbe stationary curved arcb, keeping THE COLLAR FROM SETTING TIGHT AROUNN THE TOP OF THE NECK when heavy tongues have to be carried (as in some machines), THUS KEEPING THE NECK OOOL, AND FREE FROM SORES IN THE HOTTEST WEATHER. Leather Collars WILL TIGHTEN over the top of the neck, and heat and gall the animal.

8tb. Wood being a non-conductor of beat the soreness caused by Leatber Collars becoming wet by perspiration is avoided. It has many other advantages which cannot be known without a trial. This Collar is WARRANTED to Cure Horses witb Sore Shoulders in Three Weeks, Working Every Day. Give them a trial.

For Circulars, price of Collars, and all otber particulars, apply to or address

**WILDMAN & MARBLE,**
No. 30 California street, San Frsncisco, Cal.
Sole Manufacturers and Dealers for the Pacific Coast.
Agents wanted. 19v1-3m

## CHOICE POULTRY.

The undersigned, Importer and Breeder of

**Light and Dark Brahmas,**
**Partridge and Buff Cochins,**
**Houdans,**
**Black Red Game Bantams,**
**Black African Bantams, and**
**Aylesbury Ducks.**

OFFERS FOR SALE BOTH

IMPORTED AND CALIFORNIA BRED STOCK.

ALSO,

**Eggs for Hatching,**

No orders filled C. O. D.

For further particulars address

**C. M. NICHOLS,**
Fruit Vale Avenue,
Brooklyn,
Alameda Co.,
21v1-tf Cal.

## THOS. BUTTERFIELD & SON,

Breeders and Importers of the

**Cotswold, Lincoln, Leicester, Texel and South Down Sheep;**

ALSO, THE ANGORA GOAT.

Now offer for sale the Pure Bred and High Grades. We have a good lot of crosses between the Cotswold and South Down, between the Lincoln and Leicester.

THOS. BUTTERFIELD & SON,
24v1-11w Hollister, Monterey County, Cal.

## PURE BERKSHIRE SWINE.

**R. S. THOMPSON,**
Importer and Breeder of

## Imported Berkshire Hogs,

NAPA, CALIFORNIA.

Orders solicited.
19-v1-1m R. S. THOMPSON.

H. K. CUMMINOS. 1858. J. M. MAXWELL 1871.

**HENRY K. CUMMINGS & CO.,**

**Wholesale Fruit and Produce Commission House,**

ESTABLISHED 1858.

415 and 417 Davis street, cor. of Oregon, San Francisco.

Our business being exclusively Commission, we bave no interests that will conflict witb tbat of tbe producer.
17 v1-tf

## SACRAMENTO SEMINARY,

**I Street, between Tenth and Eleventh,**
SACRAMENTO, CAL.

THE SEVENTEENTH SEMI-ANNUAL SESSION of this Seminary for Young Ladies, owned and conducted by Mr. and Mrs. Hermon Perry, assisted by a full and efficient corps of Professors and Teacbers, will commence on MONDAY, AUGUST 7TH, 1871.

For particulars address

HERMON PERRY, A. M.,
24v1.2m Sacramento, Cal.

THE

## ASPHALTUM PRESSURE PIPE COMPANY,

**HAVING ERECTED A MANUFACTORY** of sufficient capacity to supply their Aspbaltum Pipe in large quantities,

### Are now Prepared to Take Orders

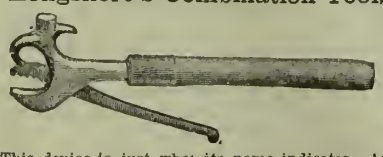
**AND MAKE CONTRACTS.**

Tbis Company will manufacture Pipe and guarantee it to stand any pressure required; itis ligbter than Iron pipe and more durable, It is not affected by cbemical action, cannot corrode, and being glazed imparts no disagreeable taste to water. To miners and farmers It is invaluable; any body can put it down; it is twenty per cent cheaper than iron pipe and ten times more durable. For further particulars, apply at the office of tbe Company, Room No. 2, 645 Market street.

☞ Circulars sent on application. 16v21-tf

## Patented Articles for Agents.

### Longshore's Combination Tool.



This device is just what its name indicates. As a KITCHEN TOOL it is indispensible. It will fit and lift with perfect safety, any Stove Lid, Frying Pan, Pie Pan, Pot, Kettle, or any other vessel or dish used about a stove. It is a complete tool for stretching carpets, driving tacks, pulling tacks, &c., &c. It answers the double purpose of hammer and pincers, and is also a good Nut Cracker. It is made of the best malleable iron, and the Hammer, Pincers and tack puller, are all hardened so as to stand the roughest usage. An Agent is wanted in every town on the Pacific Coast to sell this valuable little implement. Retail price fifty cents.

### Richards' Corner Protector.

Tbis is a novel and beautiful invention. It completely prevents dust from settling in the corners of rooms or stairways, and at tbe same time makes a very fine finish. Tbey sell very readily. Send 50 cents for samples.

### Finger Guards.

No lady who Sews can afford to be without one of these Guards; and no Book Agent wbo understands his business will fail to order a good supply as soon as he sees them. It completely protects the left fore-finger from being pricked by the needle. Retail price, 50 cents.

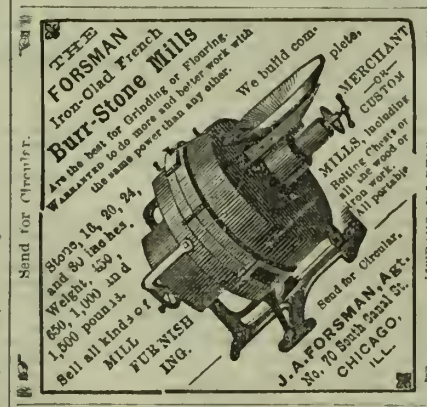
### Hunter's Improved Grain Separator.

Tbe best machine to *Clean Grain* in the world. Prices reduced. Send for descriptive circular and price list.

### O'Hara's Patent Giant Corn Sheller.

Altbough tbis little invention weighs only twelve ounces, and can be carried in the pocket, yet it is really a "Little Giant" for sbelling corn. It is a late invention, and has recently taken the First Premiums at the State Fairs of Mississippi, Louisiana and Texas. We are prepared to furnisb them in quantities to suit. Will give exclusive agencies to local agents who will advertise and pusb the introduction of the Sheller. Retail price, $2. A liberal discount to agents. A sample will be sent by mail, prepaid, for $2.75.

WIESTER & CO.,
17 New Montgomery street (Grand Hotel),
SAN FRANCISCO.



**Of a far Higher Class** tban any other proprietary medicine of the day stands

**Terrant's Effervescent Seltzer Aperient,**

And for tbis reason: it is an exact counterpart of one of the most valuable natural medicines in the world. We refer to tbe great Seltzer Spring of Germany, to which thousands of the dyspeptic, tbe bilious, the rheumatic, and the victims of venal diseases resort annually, and return to their bomes convalescent or cured. The Aperient is one of the first, and by far tbe most successful, of all the efforts made to reproduce, in a portable form, tbe popular mineral waters of Europe. SEE THAT YOU PURCHASE ONLY THE GENUINE ARTICLE.

SOLD BY ALL DRUGGISTS.

## GEORGE H. POWERS, M. D.,

## Oculist,

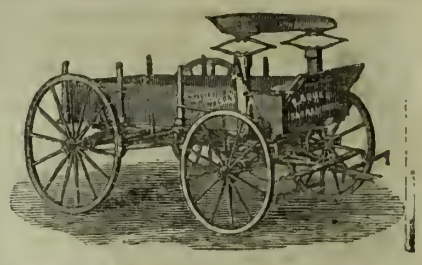
Has removed to 19 Post street, San Francisco.

☞ Hours for consultation, 11 to 3. ap18-3m

## S. N. PUTNAM,

**704 Montgomery Street, San Francisco.**

Dealer in improved and unimproved Farms, Grazing and Timber lands. Particular attention given to procuring small Farms and Homesteads for purchasers, claims for pre-emptors &c., in every part of the State.
1v1-3mr



FIRST PREMIUM AWARDED at the State Fair, 1870, for the best Farm Wagon: also for the best improved Tbimble Skein. All kinds of Wagons on band and made to order, of the Best Eastern Material, aud Warranted to give satisfaction.

**E. SOULE,**
Corner Eleventb and I streets,
ap22-3m SACRAMENTO, CAL.

## BAKER & HAMILTON,

IMPORTERS OF

## Hardware, Farming Implements,

## MACHINES, ETC.

THE EXCELSIOR MOWER.

Are Sole Agents for

EXCELSIOR MOWER AND REAPER,
CHAMPION MOWER AND REAPER,
BURKE'S EAGLE MOWER AND REAPER,
NEW YORK MOWER AND REAPER,

**Haines' Genuine Illinois Harvester,**
**Pitts' Improved California Thresher,**
**Portable Steam Engines, Etc.,**

Witb a full stock of all kinds of implements needed in Farming.

Send for List of Prices.

THE CHAMPION SELF RAKE REAPER.

9, 11, 13 and 15 J street, SACRAMENTO.
13, 15, 17 and 19 Front Street, SAN FRANCISCO.
17-v1-3m

## McLURES PATENT CHURN.

**Patented May 17, 1870.**

Has taken the premium at all tbe State Fairs East of tbe Rocky Mountains.

### The Greatest Labor Saving Machine of the Age

☞ *Warranted to make Butter in from Three to Five Minutes.* ☜

It is self-cleaning, requires no scrubbing.

### 100 JUST RECEIVED.

For sale y J. L. HUNT,
1v1-6mr Corner Battery and Washington sts.

## YOSEMITE HOUSE,

STOCKTON, CAL.

**ALEX McBEAN, Proprietor.**

THE LARGEST AND

### Best Furnished House in this city.

January 28.--4v1-3mr

WM. M. LYON. CHAS. C. BARNES.

## LYON & BARNES,

Successors to LYON & SON, dealers in Produce Vegetables, Butter, Eggs, Green and Dried Fruits, Cheese, Poultry, Honey, Beans, etc., etc.
1v1-3mr No. 21 J Street Sacramento.

BUY THE BEST!

STYLES, SIZES & PRICES TO SUIT ALL FARMERS.
Descriptive Circulars Forwarded by Mail.

**MARCUS C. HAWLEY & CO.**, Agents,
108 & 110 Front Street, San Francisco, Cal.

GREAT REDUCTION IN PRICES OF

MACHINES AND EXTRAS

FOR 1871.

The Buckeye is the

BEST MOWER NOW IN USE.

As a Reaper,

We guarantee it superior to any SELF-RAKING REAPER yet invented.

Sole Agents for the Celebrated

**Sweepstakes Thresher.**

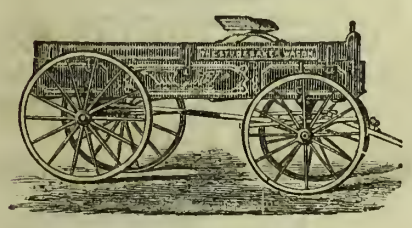
Also, Sole Agents for

GENUINE HAINES' HEADER,
HOLLINGSWORTH WHEEL-HORSE RAKES,
BURDICK'S NATIONAL FEED-CUTTER.

We have also WOOD'S MOWER, KIRBY MOWER and REAPERS. Also, Extras for the above, with a full Stock of Agricultural Implements and Hardware.

**MARCUS C. HAWLEY & CO.**,
108 and 110 Front street, and Nos. 10 and 12 Pine street,
ap22-3m SAN FRANCISCO.

THE STUDEBAKER



WAGON.

THE BEST FARM WAGON;
THE BEST RANCH WAGON;
THE BEST TRUCK WAGON;
THE BEST TEAM WAGON;
THE BEST HEADER WAGON;

The Best Thimble Skein and Iron Axle
WAGONS,
Sold for $100 to $175.

**AMES & WOOLVERTON,**
General Agents for the Pacific Coast.
5v1-3mr 217 & 219 K St., SACRAMENTO, CAL.

MILLER & HALEY'S MILLS,

BERRY STREET,

Between Third and Fourth Streets, S. F.

Having been burned out at the late fire on Fremont street, we have removed our business to the above locality, where the manufacture of sash blinds, doors, frames, mouldings, etc., in connection with a general mill business, will be carried on by us as formerly, and where we shall be pleased to see all our old friends and patrons, and as many new ones as may favor us with a call.

Thankful for past favors, and especially for the sympathy extended to us for our late heavy losses, we intend, as heretofore, to deserve the patronage of the public by strict attention to business, fair dealings, and justice to our customers.

19v1-3m MILLER & HALEY.

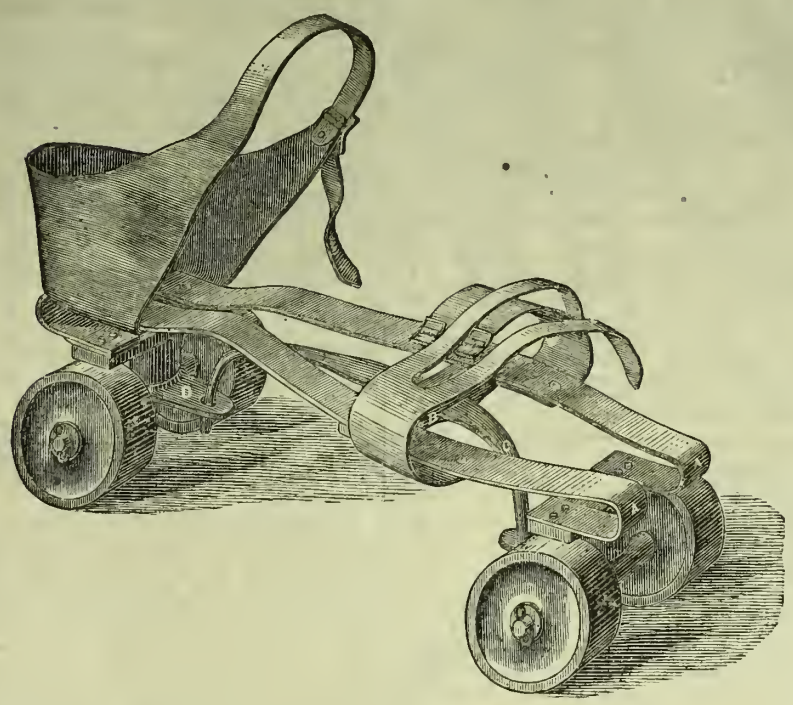
WM. M. LANDRUM,
BREEDER AND IMPORTER OF
Long-Wool Varieties and Southdown

SHEEP AND ANGORA GOATS.

Offers a fine lot of all grades of RAMS for sale.
WM. M. LANDRUM,
22v1-6m Watsonville, Santa Cruz County, Cal.

BOONE'S C-SPRING ROLLER SKATE.

PATENT GRANTED.



This SKATE surpasses in Elasticity, Durability and Ease of Operation, any other Skate in existence. Its superiority has been proved wherever it has come in competition with any other Roller Skate.

FOR DESCRIPTION SEND FOR DESCRIPTIVE CIRCULAR.

Warranted to run longer without requiring to be repaired than any other Skate.

Owners of Rinks will find it the most profitable as well as the most satisfactory to their patrons. The patentees guarantee the right to run this Skate to purchasers of rights for the full term of the patent, and

Warrant it to be no Infringement on any Existing Patent.

State, County, Town and Rink Rights for sale at reasonable terms.

Apply by letter or in person to

UNDERHILL BOYNTON,
105 Montgomery Street, S. F., Cal.,
General Agent for the United States.

The World Mower and Reaper.

IT HAS NO EQUAL.

IT MOWS—IT DROPS—IT SELF-RAKES!

This Machine is the harvest-gathering of twenty years' experience in the manufacture of Agricultural Machinery, and takes rank with the PRINTING-PRESS, ENGINE-LATHE, AND LOCOMOTIVE, in the qualities of PRECISION STAUNCHNESS AND DURABILITY.

ITS FOUNDATION IS A SINGLE PIECE OF SOLID IRON, of shape to resist all possible strains.

ITS GEARING IS SHAPED TO STANDARD GUAGE AND EACH COG CUT OUT OF SOLID IRON WITH MATHEMATICAL EXACTNESS.

The working parts are all so permanently fixed that they cannot vary, and are fully protected from Water, Dust, Grass, and all other causes of disturbance.

By these means we REDUCE FRICTION to the Lowest Point—stop the self-destruction common to all rough-cast machines—avoid BREAKAGES in harvest—secure EASY DRAFT and the same DURABILITY which pertains to CUT GEAR in other kinds of machinery. The WORLD has been tested Four Years, in the hands of the Most Intelligent and Reliable Farmers in the land, all of whom unite in declaring that, comparatively,

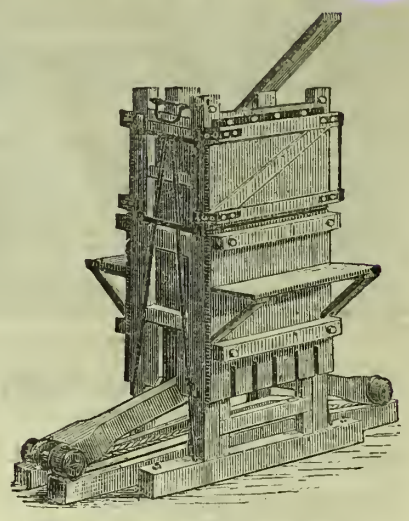
"There is no other Harvester."

r Prices and Complete Information, address

E. BALL & COMPANY., Canton, O.

LINFORTH, KELLOGG & CO., Nos. 3 AND 5 FRONT STREET, SAN FRANCISCO, General Agents for World Mower and Reaper and Tornado Thresher and Separator. mal1-8t-r

THE EAGLE HAY PRESS.



The above is a correct representation of this remarkable

Eagle Hay Press,

THE INVENTION OF J. A. McGILLIVRAL, OF ILLINOIS, TO WHOM LETTERS PATENT WERE ISSUED JANUARY 10TH, 1865, AND JULY 24TH, 1866.

Several years were devoted by the patentee to the perfection of this powerful press, and its unprecedented sale in the East induces the proprietors to introduce it into California and the Pacific States.

All who have seen or used these Presses pronounce them superior to anything used heretofore. The power is applied by means of two levers, and it will be seen the power increases in ratio to the resistance; as the levers approach a horizontal position the power can scarcely be estimated. It is not only a powerful Press, but has the advantage of being Cheap, and also Simple, therefore not liable to get out of order.

Three men with one horse can bale from Ten to Fifteen Tons per Day, each bale weighing 250 to 300 lbs. It obviates all necessity by beating the hay before pressing. On account of its great power it is well adapted for pressing Hydes, Rags, Wool or Cotton. When a bale is pressed and fastened, the follower runs down of its own weight, and the bales can be taken out on either side.

These Presses are now manufactured in San Francisco by the

**Kimball Car and Carriage**
MANUFACTURING COMPANY,

Who are the Proprietors on the Pacific Coast, and will endeavor to have a supply constantly on hand.

Every Press made by them is WARRANTED to give perfect satisfaction.

PRICE, $250.

ap8-3m

STEREOSCOPES,
VIEWS,
ALBUMS,
CHROMOS,
FRAMES,

E. & H. T. ANTHONY & CO.,
591 BROADWAY, N. Y.,

Invite the attention of the Trade to their extensive assortment of the above goods, of their Own Publication, Manufacture and Importation.

Also,

PHOTO LANTERN SLIDES
and
GRAPHOSCOPES.

NEW VIEWS OF YOSEMITE.

E. & H. T. ANTHONY & CO.,
591 BROADWAY, NEW YORK,
Opposite Metropolitan Hotel,
IMPORTERS AND MANUFACTURERS OF
**Photographic Materials.**
ma25-10t

Crandall Patent Spring Bed,

Received Premium for best Spring Bed at the State Fair and was on exhibition at all of the District Fairs in this State.

IT EXCELS
IN
Lightness, Cleanliness,
Elasticity and Durability,
Any other Spring Bed Ever Invented.

Being without upholstery in can be aired at pleasure; while the springs being in couplets are self-supporting, thus dispensing with cords, twine, etc., and from the peculiar construction of the various parts it is impossible for the bed to get out of order.

Manufactory—123 Front street, near corner of M, Sacramento; and at 1124 Market street, San Francisco. These beds can also be obtained of our agents in nearly every town in the State.

COOLEY & GREEN, Proprietors.

Holbrook's Patent Swivel Plows,
For Level Land and Side Hill.

8 Sizes.

WON THE HIGHEST PRIZE at N.Y. State Trial, 1870, for Plowing Sod & Stubble

Send Stamp for Circular.

They leave no dead furrows nor ridges, but an even surface for the Reaper, Mower, Rake, and Irrigation; turn deep flat furrow slices on level land; clear and pulverize thoroughly; are of easy draft, strong and durable. Have self-adjusting hinged steel Cutters. Changeable Mould-boards for sod and stubble, and cast steel edged Shears, when desired.

Manufactured and sold by

F. F. HOLBROOK & CO.,
19v1-7½m Boston, Massachusetts

## California Industrial Fairs for 1871.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., June 22d.

FLOUR—The market still continues quiet with a further decline of from 12½@25 cts. per bbl. The local trade shows no animation. The only export movement is that quoted below for China, which passed on private terms.

Transactions embrace 2,000 bbls. California extra, 2,500 bbls. Oregon extra, and 6,000 qr. sks. National Superfine,—the latter for China.

We quote superfine, $6.37½@6.50; extra, $7.37½@7.50.

WHEAT—Is still without demand for export, although offerings have been more free, than for the past few weeks, and at a small decline of about 10 cents since our last report. Good milling may be quoted af from $2.30@$2.40—$2.42½ may be set down as the outside for choice. Sales of 15,000 sacks have been reported, during the week, at current rates.

The Liverpool market still remains at 11s. 11d.—New York rates are given at $1.65.

BARLEY—Has been in fair demand for both feed and brewing. The second lot of new crop—this time from the lower coast—has come to hand during the past week. It was in better condition than that reported last week, from Moss' Landing, and sold at $1.70. Sales during the week have aggregated about 7,000 sks. The range of the market may be quoted at $1.70@1.82½.

OATS—Have met with a limited demand. Quotable at close at $1.80@2.00, which is an extreme figure.

CORN—The market is firmer, with a slight advance. There has been another arrival, overland, from Iowa—making with that reported last week 1,200 sacks. The arrivals from the Southern coast have about ceased. The market may be quoted, at the close, from $2.00@2.10.

CORNMEAL—Is quotable at $2.50@3.50. according to quality.

BUCKWHEAT—Still quotable at $3.

RYE—Nominal at $2.50 for choice.

FEED—We quote: STRAW, $8@9; BRAN, $25.00@27.50; MIDDLINGS, $37.50@40.00; OIL CAKE MEAL $40.

HAY—The receipts are fair with good demand at slightly improved rates. We quote ordinary to choice at $15.00@$22.00 ₱ ton.

HONEY—Is coming in freely. We quote Los Angeles comb 13@14c. Potter's in 2-lb cans. $9@12 per doz.

POTATOES—Owing to continued free receipts rates are still declining. We quote current rates to-day at $1.10@1.37½—the latter is an extreme figure.

HOPS—Demand light—prices nominal at 9@12½c. for California crop of 1870, which is about exhausted. Hops of choice quality are scarce at present.

HIDES—We quote Dry, slaughterer's stock, 17@18½c; Salted, 8@9c. Sales during the week 2,958 Cal. dry, and 1,400 salted.

WOOL—The market is more quiet. The spring clip is nearly all in. We quote the range of fair to choice shipping grades at 28@33c while fancy lots, as heretofore are still taken at an advance of regular quotations. Sales of 350,000 pounds are reported for the week, leaving the market nearly bare. The business in this line is about over for the season.

TALLOW—The extremes may be quoted from 7¼@8¾c.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 14½@15c; Oregon, 14@15; Chicago 15½c; California Hams 14@15; Oregon do, 17@19c; California Sugar-cured Hams, 17c; Oregon do, 17@19c; Eastern do, 18@19c; California Smoked Beef, 13@14c.

BEANS.—Extremes of quotations—Bayo, $2.75@$3.25; Butter, small White and Pea, $2.00@$2.37; Pink, $1.75@2.00. The growing crop is promising and present prices mostly nominal.

NUTS—California Almonds, 12½@15c for hard and 20@30c for soft shell; Peanuts, 7@8c; Hickory and Walnuts, 12½c; Pecan, 23@25c ₱ lb. Cocoanuts $15@16 per hundred.

FRESH MEAT—There is a good supply of all descriptions. We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@ 9c ₱ lb.
Do 2d do 6@ c7 ₱ lb.
Do 3d do 4@ 5c ₱ lb.
VEAL—Extremes, 6@9c.
MUTTON—4½@5c ₱ lb.

LAMB—May be quoted at from 6@6½c ₱ lb.

PORK—Undressed is quotable at 5@7¼c. dressed, 9@10¼.

POULTRY, ETC.—The Market has improved Hens $7½@8; Roosters $7@8; Ducks, tame, $7½@8 ₱ doz; geese, tame, $2.00@2.12½ ₱ pair; live turkeys, 19@20c ₱ lb.

WILD GAME—Hare, $1.50@$2.00;

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 27½@30c; California firkin butter, 25@30c.

CHEESE—In fair supply, California new, 10@14c., Eastern, 16@17c. for new.

EGGS—California fresh, 28@29c.

LARD—California Lard, 11-lb tins, 13@15c; Eastern do. 14c in bulk, and 14½@15c in tins

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line is becoming quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12c ₱ lb; Raisins, layer, $3.50@4.25 per box; Currants, Zante, 10½@11½c.; 50c.

### TABLE OF MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Sugar, crsh'd, lb. | $ 14¾@$ 15 | | Hemp Seed, lb. | $ 7 | @ 9 |
| Hawaiian, do. | 9 @ 12 | | Castor Beans, lb. | 4 | @ 4½ |
| Coffee, Cos. R, lb | 15½ @ 16 | | Castor Oil, gal. | 1 75 | @2 00 |
| Rio, do | 16 @ | | Linseed Oil, gal. | 1 05 | @1 10 |
| Tea, Japan, ₱ lb. | 50 @ 90 | | Broom Corn, ₱ lb | 3 | @ 5 |
| Green, do | 50 @1 00 | | Beeswax, ₱ lb | 27 | @ 30 |
| Rice, Haw'n, ₱ lb | 8½@ 9 | | Peanuts, ₱ lb | 5 | @ 7 |
| China, do | 6 @ 7½ | | Corn Meal, cwt | 2 50 | @1 00 |
| Coal Oil, ₱ gal | 50 @ 60 | | Onions, cwt | 1 50 | @3 50 |
| Candles, ₱ lb | 15 @ 18 | | | | |

## San Francisco Retail Market Rates.

FRIDAY, June 23, 1871.

### MISCELLANEOUS.

| | | | | | |
|---|---|---|---|---|---|
| Butter, Cal fr. lb | 35 @ 45 | | Wool Sacks, new | 40 @ 90 | |
| Pickled, Cal. lb | 35 @ | | Second-hnd do | 67½@ 70 | |
| do Oregon, lb | @ | | Wheat-sks, 22x36 | 15 @ 16 | |
| Honey, ₱ lb | 25 @ 30 | | Potato G'y Bags. | 23 @ 24 | |
| Cheese, ₱ lb | 20 @ 25 | | Second-hnd do | 15 @ 16 | |
| Eggs, per doz | 30 @ 35 | | Deer Skins, ₱ lb. | 15 @ 22 | |
| Lard, ₱ lb | 18 @ 20 | | Sheep sks, w'l on | 50 @ 75 | |
| Sugar, cr., 6½ lb. | 1 00 @ | | Sheep sks, plain. | 12½@ 25 | |
| Brown, do, ₱ lb | 10 @ 13 | | Goat skins, each. | 25 @ 40 | |
| Beet, do, 1 lb | 1 00 @ | | Dry Cal. Hides | Weak | 18½ |
| Sugar, Map. lb. | 25 @ 30 | | Salted do | Dull | |
| Plums, dried, lb. | 15 @ 25 | | Dry Mex. Hides. | 15 @ 16 | |
| Peaches, dried, * | 15 @ | | Salted do | 9 @ | |

### PRODUCE, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Codfish, dry, lb. | 6 00 @ 12½ | | Barley, cwt | 1 75 | @1 85 |
| Flour, ex, ₱ bbl | 7 50 @7 75 | | Beans, cwt | 2 50 | @3 00 |
| Superfine, do | 5 50 @6 00 | | Potatoes, cwt | 1 25 | @1 50 |
| Corn Meal, 100 lb. | 3 00 @3 25 | | Potatoes, new | 1 00 | @1 50 |
| Wheat, ₱ 100 lbs. | 2 35 @2 50 | | Hay, ₱ ton | 18 00 | @24 00 |
| Oats, ₱ 100 lbs | 1 90 @2 10 | | Live Oak Wood. | 10 00 | @12 00 |

### FRUITS, VEGETABLES, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Pine Apples, † | 5 00 @9 00 | | Cauliflower, † | 2 50 | @1 25 |
| Bananas, ₱ lb | 3 00@5 00 | | Cabbage, ₱ doz. | 3 00 | @1 50 |
| Cal. Walnuts, lb. | @ 20 | | Carots, ₱ doz | 10 | @ 25 |
| Cranberries, ₱ g | 75 @1 00 | | Celery, ₱ doz | 75 | @1 00 |
| Cranberries, O.¶ | @1 00 | | Cress, ₱ doz bun | 20 | @ 25 |
| Apples, Early, bx | 50 @1 25 | | Dried Herbs, ℔ h | 25 | @ 50 |
| Red Astra'n | 1 50 @2 50 | | Egg Plant | | @ 25 |
| Red June | 2 00 @2 50 | | Garlics | 5 | @ 8 |
| Pears, table, ₱ bx | 75 @1 25 | | Green Peas, ₱ lb | | @ 6 |
| Plums, Cherry,* | 6 @ 8 | | Green Corn, doz. | 25 | @ 35 |
| June, ₱ lb | 10 @ 12½ | | Sugar Peas, ₱ lb | | @ 6 |
| Apricots, Royal* | 3 @ 4 | | Lettuce, ₱ doz | 12 | @ 25 |
| Moorpark, ₱ lb | 3 @ 5 | | Mushrooms, ₱ lb | 25 | @ 50 |
| White, ₱ lb | 2½@ 4 | | Horseradish, ₱ lb | | @ 20 |
| Cherries, lb | 5 @ 10 | | Okra, dried, ₱ lb | | @ 50 |
| Currants, lb | 6 @ 8 | | Okra, green, ₱ lb | 50 | @ 75 |
| Gooseberries, lb. | 3 @ 8 | | Pumpkins, ₱ lb. | 3 | @ 4 |
| Raspberries, lb | 18 @ 20 | | Parsnips, † bncha | | @ 25 |
| Strawberries, lb. | @ | | Parsley | | @ 25 |
| Blackberries, lb | 8 @ | | Pickles, ₱ gal | 50 | @ 75 |
| Oranges, ₱ cwt. | 30 00 @ | | Rhubarb, ₱ lb | 6 | @ |
| Lemons, ₱ cwt | 5 00 @7 00 | | Radishes, † buns | | @ 25 |
| Limes, cwt | 25 00 @30 00 | | Green Peppers,* | | @ 25 |
| Figs, dried, ₱ lb. | @ | | Red, do | | @ 25 |
| Asparagus, wh.* | 6 @ 10 | | Summer Squash | 8 | |
| Apricots, lb | 6 @ 10 | | Marrowfat, do. | | @ 6 |
| Artichokes, doz. | 50 @ 75 | | Hubbard, do | | @ 5 |
| Brussel's sprts, * | @ 15 | | String Beans, lb. | 6 | @ 8 |
| Beets, ₱ doz | 20 @ 25 | | Dry Lima, shl | | @ 8 |
| Potatoes, ₱ lb | 2 @ 3 | | Spinage, ₱ bskt. | 25 | @ 50 |
| Potatoes, sweet,* | @ | | Salsify, ₱ bunch | 12 | @ 25 |
| Potatoes, new | 4 @ | | Turnips, ₱ doz | | @ 25 |
| Tomatoes, ₱ lb | 20 @ 25 | | New Tomatoes,* | 8 | @ 12½ |
| Broccoli, ₱ doz. | 1 50 @2 00 | | | | |

### POULTRY, GAME, MEATS, ETC.

| | | | | | |
|---|---|---|---|---|---|
| Chickens, apiece | 75 @1 00 | | Bacon, Cal., ₱ lb | 18 | @ 20 |
| Turkeys, ₱ lb | 20 @ 25 | | Oregon, do | 18 | @ 20 |
| Ducks, wild, ₱ p | | | Hams, Cal, ₱ lb. | 18 | @ 20 |
| Tame, do | 1 50 @ | | Hams, Cross' & c | | @ 25 |
| Teal, ₱ doz | | | Choice D'field | | @ 25 |
| Geese, wild, each | 37½@ 50 | | Whittaker's | | @ 25 |
| Tame, ₱ pair | 2 50 @3 00 | | Johnson's Or. | | @ 25 |
| From Chicago. | @ | | Salmon, ₱ lb | 15 | @ 20 |
| Hens, each | 75 @1 00 | | Smoked, new,* | 10 | @ 12 |
| Snipe, ₱ doz | 1 25 @1 50 | | Pickled, ₱ lb | 6 | @ 8 |
| English, do | 2 50 @3 00 | | Rock Cod, ₱ lb | 10 | @ 12 |
| Venison, ₱ lb | @ | | Kingfish, ₱ lb | 25 | @ |
| Quails, ₱ doz | | | Perch, s water, lb | 10 | @ 12½ |
| Pigeons, dom. do | 3 00 @3 50 | | Fresh water, lb | 12½@ | 15 |
| Wild, do | 1 50 @2 00 | | Lake Big. Trout* | 20 | @ 25 |
| Hares, each | 40 @ 50 | | Smelts, ₱ lb | 6 | @ 8 |
| Rabbits, tame | 50 @1 00 | | Herring, fresh | | |
| Wild, do, ₱ dz. | 1 75 @2 00 | | Sm'kd, per 100 | | @1 00 |
| Squirrel, ₱ pair. | 25 @ 38 | | Tomcod, ₱ lb | 15 | @ 20 |
| Beef, tend, ₱ lb. | 20 @ 25 | | Terrapin, ₱ doz. | 3 00 | @4 00 |
| Sirloin and rib | 18 @ 20 | | Mackerel, p'k, ea | | |
| Corned, ₱ lb | 10 @ 12 | | Fresh, do | | |
| Smoked, ₱ lb | 15 @ 18 | | Sea Bass, ₱ lb | | @ |
| Pork, rib, etc., lb | 12½@ 15 | | Halibut | 62 | @ 75 |
| Chops, do, ₱ lb | 12 @ 15 | | Sturgeon, ₱ lb | 4 | @ 5 |
| Veal, ₱ lb | 15 @ 20 | | Oysters, ₱ 100 | 1 00 | @1 25 |
| Cutlet, do | @ 20 | | Chesp. ₱ doz | | @1 00 |
| Mutton chops,* | 12½@ 15 | | Turbot | | @ 50 |
| Leg, ₱ lb | 12½@ | | Crabs ₱ doz | | @1 00 |
| Lamb, ₱ lb | @ 12½ | | Soft Shell | 37 | @ 50 |
| Tongues, beef, ea | @ 75 | | Shrimps | 10 | @ 12 |
| Tongues, pig, ea | @ 15 | | Pompino, ₱ lb | 1 50 | @ |

—— * Per lb. † Per dozen. ¶ Per gallon.

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## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109, Post st.]

SAN FRANCISCO, Thursday, June 22.

SOLE LEATHER.—Price still continues the same, there being a scarcity of light weights.

| | |
|---|---|
| City Tanned Leather, ₱ lb | 26@ 30 |
| Santa Cruz Leather, ₱ lb | 26@ 30 |
| Country Leather, ₱ lb | 24@ 28 |

All French goods still have an upward tendency, with a growing scarcity of leading stocks. No change in domestic skins.

| | |
|---|---|
| Jodot, 8 Kil., per doz | $62 00@ |
| Jodot, 11 to 19 Kil., per doz | 82 00@ 96 00 |
| Jodot, second choice, 11 to 15 Kil. ₱ doz | 68 00@ 88 00 |
| Lemoine, 16 to 19 Kil., ₱ doz | 96 00@ |
| Levin, 12 and 13 Kil., per doz | 68 00@ 70 00 |
| Cornellian, 16 Kil., per doz | 72 00@ |
| Cornellian, 12 to 14 Kil., per doz | 68 00@ 70 |
| Ogeran Calf, ₱ doz | 54 00@ |
| Mercier Calf, 16 Kil., per doz | 65 00@ |
| Common French Calf Skins, ₱ doz | 35 00@ 75 00 |
| French Kips, ₱ lb | 1 00@ 1 30 |
| California Kip, ₱ doz | 60 00@ 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ 1 25 |
| Eastern Calf for Backs, ₱ lb | 1 15@ 1 25 |
| Sheep Roans for Topping, all colors, ₱ doz | 8 50@ 13 00 |
| Sheep Roans for Linings, ₱ doz | 5 50@ 10 50 |
| California Russett Sheep Linings | 1 75@ 5 50 |
| Best Jodot Ca f Boot Legs, ₱ pair | 5 25 |
| Good French Calf Boot Legs, ₱ pair | 4 50@ 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 |
| Harness Leather, ₱ lb | 30@ 37½ |
| Fair Bridle Leather, ₱ doz | 48 00@ 72 00 |
| Skirting Leather, ₱ lb | 34@ 37½ |
| Welt Leather, ₱ doz | 30 00@ 50 00 |
| Buff Leather, ₱ foot | 20@ 24 |
| Wax Side Leather, ₱ foot | 18@ 20 |

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M. K. LAUDEN, President, San Francisco, Cal.

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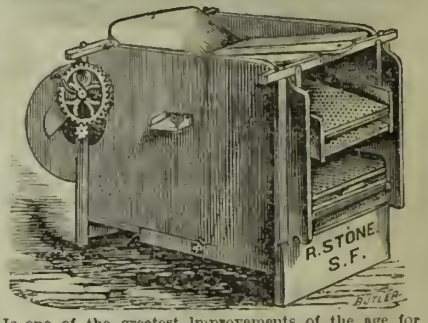


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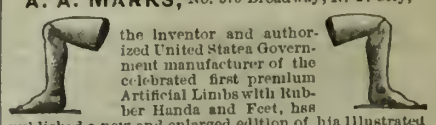

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PACIFIC RURAL PRESS

Volume I.] SAN FRANCISCO, SATURDAY, JULY 1, 1871. [Number 26.

## The Eumelian Grape.

We have placed upon our first page today a finely executed engraving of a bunch of the Eumelian grape, a comparatively new variety, which is now attracting considerable attention among the vine growers of the Atlantic and Western States. Mr. F. R. Elliott, a well known Eastern pomologist says of this grape:—"Perhaps no grape of very recent introduction better merits approval. It is a variety which in quality of fruit we may hope to tone up and improve in taste, while realizing a profit from its sale. I have watched its growth for several years and it compares very favorably with, in all respects, any and all other varieties."

Dr. Grant speaks of and describes this grape as follows:—"I have made a most thorough investigation of its character and history, and find that during its whole existence of more than 30 years, the accounts of it have been favorable. It is very vigorous, hardy and productive in habit; ripening always considerably earlier than the Hartford Prolific. It not only resembles but fully equals some of the most excellent foreign varieties for eating and for wine. Its special qualifications as fruit for the table are:—

1st. Mealy, uniform texture, of tender, melting flesh that all goes to wine, like juice under the slightest pressure of the tongue, after the skin is broken by tearing the berries from the stem.

2d. Ripening evenly and perfectly all through, and as soon at the centre as at the circumference.

3d. Flavor pure and refined; very sugary, rich and vinous; with a large degree of that refreshing quality which belongs distinctly to the best foreign wine grapes for late keeping—bearing exposure well for long transportation to market, etc. For making red wine it has no near competition among American grapes." Of course no results obtained at the East can be depended upon under the changed climate and conditions on the Pacific Coast; still there is nothing lost in experimenting here with varieties approved elsewhere.

THE EUMELIAN GRAPE.

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The Largest Ship ever built on the Pacific coast was launched some two weeks since at Port Madison, Puget Sound. Her carrying capacity of general merchandise is about 1,700 tons.

Our New Volume.—For the convenience of binding we divide our annual issues into two volumes. Volume Two will commence with our next issue, and the occasion will be most opportune for new subscribers to send in their names. We trust our friends will not forsake us in these dry times, but rather increase their efforts in our behalf, and we assure them that the improvements in the paper will keep pace with its increase in circulation and other patronage. With proper effort on the part of those interested in such a paper, we might be able to double our present circulation within the next six months; in which case we shall be able to greatly improve its columns and make it what we desire it should be, the best agricultural journal on the continent.

---

There are 13,000 doctors in the U. S.

Auckland to the Mechanics' Fair.—Auckland proposes to send to the Mechanics' Fair a gilded pyramid which shall represent in its solid contents the actual bulk of gold which has been taken from the Thames Gold field, up to the present time. Is there not some one in California who has sufficient public spirit to get up a similar representation of the total gold yield of California. A silver pyramid for Nevada, or for the Comstock vein would also make a very appropriate and attractive exhibition.

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Choice Fleeces.—Thirty-eight fleeces, from Silesian sheep, imported last year by Major Beck, Secretary of the State Agricultural Association have recently been clipped. They weigh 401 pounds. The staple is said to be finer than any ever before exhibited in this city. It will be shipped to Boston. Wool-fanciers can see it at 42 Clay street.

## California Cotton Growing.

The growing of cotton in California is now no longer to be regarded as a subject of experiment. Two eminent southern planters, both having had great experience in the States of Alabama, Louisiana and Tennessee—we allude to the Brothers Strong—are developing the great cotton theory of California. Colonel J. M. Strong, the appointed Superintendent of the California Cotton Growers' and Manufacturers' Association (whose head quarters are at 125 Sansome street, under the clerical and general management of Jas. Dale Johnston) reports that notwithstanding the season has been the most unpropitious for cotton growing that he ever experienced, his 200 acres of cotton is the finest, for its age, he ever saw. He asserts that similar windy weather, in the old cotton belt of the South, would have destroyed the crop. Reports from Tenessee fully confirm Col. Strong's assertion.

His brother, John L. Strong, who entered into an engagement with the Los Angeles Land Company, to plant 500 acres on Abel Stearns rancho, near Anahiem, will come out successfully, after a hard fight with Spaniards and grasshoppers. His crop is now safe and presents a most encouraging prospect. It looks as though the golden State was to become eminent as a cotton producing region, and we feel much pleased to see that a good foundation is being laid by the California Cotton Growers' and Manufacturers' Association, to establish a gigantic cotton industry—or rather combination of industries on this coast. They are pressed by several parties to occupy land, offered to them in fee, at several points in the State, from Klamath to San Bernardino; but prudence requires a careful selection—as the determination to constitute the industry a foundation for creating a *manufacturing city* would fully justify. We cordially recommend this Association to the adoption of our speculative citizens.

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Work Progressing.—The Tulare *Times* says that work is progressing satisfactorily upon the San Joaquin irrigating canal in the vicinity of Fresno Slough, at which point the water is taken from the river. There are now seventy teams at work, and two hundred more are asked for immediately.

## MECHANICAL PROGRESS.

SCREW-BOLT MAKING IN CHICAGO.—The *Railway Review*, for June 15th, describes the establishment of the Union Screw-Bolt Company. We quote in reference to the patented machine for threading the blanks: —"Two flat steel disks of the same size (varying in size and strength with the work to be done, but generally about five inches in diameter) revolve rapidly in opposite directions in a vertical plane; and, when idle, run far enough apart to receive between their faces the rod to be threaded. These disks take the place of the "plates" in all other contrivances. They have sharply defined thread dies raised from their planes near their outer edges, and facing each other. These raised threads are not more than four or five in number, and are just as far apart as the desired thread is to be. They form a spiral, clean-cut, raised edge, commencing inwards a little ways from the extreme outer edge and traveling outward (more or less rapidly, according to the number of threads to the inch), finally terminating at the periphery. Between these revolving disks the blank rod is introduced, point foremost, as far as the thread is desired to extend up the rod, and is left free to turn with the disks, which are then, by means of a powerful lever, brought as near together as the rod allows, and made to bear upon opposite sides of it. The rod at once takes a rapid revolving motion from them, and commences traveling outward. When the point is reached it drops on to an apron a perfectly threaded bolt. With this machine a boy will make on an average 8,000 three-quarter inch bolts per day. The rod may be wrought hot or cold, though when over three-fourths or seven-eighths of an inch in diameter, it is preferable to heat it." It will be seen that the thread is not *cut*, but *impressed;* thus toughening, instead of weakening, the rod.

BESSEMER METAL MANUFACTURE IN THE UNITED STATES.—"There are now nine establishments in the United States which will give their quota of Bessemer metal rails to supply the constantly increasing needs of our railways. Of these one is located at Troy, N. Y.; four in Pennsylvania, respectively at Harrisburg, Lewiston, Bethlehem, and Johnstown; two in Chicago, Ill., and another at Joliet, in the same State; and one at Cleveland, Ohio. Only three of these were running in 1870. They turned out about fifty thousand tuns of steel rails. It is hoped that the whole number being in operation the present year will give a production fifty per cent. greater than that of last; while there are those sanguine enough to predict that, should present inducements to the manufacture continue, the year 1872 will witness a yield of one hundred and fifty thousand tuns. Already ten millions of dollars have been invested in American Bessemer works, and the result of the increased product is seen in the reduction of the price from two hundred dollars per ton in 1862 to one hundred and five dollars per tun in 1871."—*Artisan.*

ELECTRO-MAGNETIC BOILER-SCALE PREVENTOR.—We mentioned this some time since. It seems to be a success. The *Railroad Gazette* says: "The result of a lengthy trial on their locomotives and steam ferry boilers on the Mississippi River induced the Chicago, Burlington & Quincy Railroad to purchase the patent, and this railway is now understood to have the batteries applied to upwards of sixty engines. An expert is stationed at Aurora to examine the engines and keep the batteries in order. It is claimed that by its use the interior surface of the boiler is even cleaner and less oxidized than when it was new; that a boiler will evaporate nearly or quite its maximum of 7 lbs. of water to one pound of coal, never going down to the average of 4 lbs of water to 1 of fuel; that the saving in fuel and consequent increase of power being thus large, the vitality of fiber of the iron in the flues and fire-boxes is never destroyed by the intense heat necessary to penetrate the incrustations of foul boilers. A sheet from the most exposed locality, where it had been most fully tested, was taken out at Aurora and pronounced to be even tougher and more ductile than when it was new. A piece from a boiler which had no battery on it was as brittle as a china dish."

NEW SAFETY VALVE.—A correspondent of the *Railway Times*, writes: "A new and ingenious safety-valve arrangement has been brought out by an inventor at Worcester, Mass. The valve requires neither spring nor lever, and no weight except its own for its operation. The valve, some three inches diameter and one and a quarter thick, is inclosed in a case, in which it works up and down easily yet snugly; it has a range of three-eighths to half an inch —its diameter and range must vary, of course, according to the capacity of the boiler; the lower face is flat, and its upper face slightly concave, and it has a small hole through its center. The bottom of the cup or case upon which it rests has a central hole for the escape of steam from the boiler; around this central hole, and concentric with it, are several segmental holes, through which the steam passes to the atmosphere. The valve covers all of these holes with a steam-tight fit. The reader will perceive that, if there were no other opening into the valve-case than the central and segmental ones just named, there could be no action to the valve, for the steam from the boiler would pass through the small hole in the valve into the space above it, and of course would press the valve upon its seat with a force in proportion to the aggregate area of the segmental holes. To relieve the valve of this pressure, a small auxiliary valve is fitted in the cover of the case, or perhaps one-fourth of a superficial inch area, which is adjustable to any pressure required. When this valve opens, the larger valve is relieved of its top pressure, and rises at once and relieves the boiler."

COMPOSITE SHIPS.—The *Engineering and Mining Journal* prints an article from an English journal upon the advantages possessed by composite ships over those of wood or iron alone, and appends the following remarks:—"The galvanic action which took place when other than copper bolts were employed to fasten the copper sheathing and the wooden planking to the iron frames, has necessitated the abandonment, to a great extent, of the composite principle. The cost of the copper bolts is excessive, and those of galvanized iron are not suited to the purpose. * * The apparent cheapness and strength of iron vessels ruined the shipbuilding interests of this country. Iron ships can be built more cheaply in England than here. American shipbuilding must be based upon the superiority and cheapness of the native timber for years to come. Our ship-yards are to a great extent idle because it is supposed that iron is superior to wood as a shipbuilding material; but let some Yankee find a cheap and reliable substitute for copper bolts, and we venture to predict that the composite shipbuilders of this country will, ere long, be able to compete successfully with the finest ship-yards of the Clyde or Tyne."

TORPEDOES IN OIL WELLS.—The Roberts patent for increasing the productiveness of oil wells, by the use of torpedoes has just been sustained in the United States Circuit Court, at Pittsburgh, Pa. The patent consists in sinking to the bottom of the well a water-tight flask, containing explosive material, and so constructed that its contents may be ignited by means of electricity. The result is in most cases to greatly increase the flow of oil. The theory is that the oil is in seams or crevices in the rock, of various sizes and irregularly located; and that a well sunk through the oil-bearing rock may not touch any of them, and thus may obtain no oil, though it may pass very near the crevices. The torpedo breaks through obstructions and permits the oil to reach the well.

RAILS OF PRIME QUALITY.—The Director of the Canada Grand Trunk Railway has placed on exhibition in the rooms of the Board of Trade at Montreal, samples of steel and iron used in manufacturing the rails for the road. Among these samples is an iron rail which was twisted cold thirteen times before fracturing, and was formed into the shape of a spiral spring. There are also plates bent by hammering cold across the grain, a double-headed steel rail, bent cold and elongated twenty-five per cent. An axle bent cold in a testing machine forms a complete knot without any fracture whatever.

CIRCULAR SAWS FOR STONE CUTTING.—J. E. Emerson, the inventor of the movable saw-teeth, has patented "the use of adjustable, reversible, and interchangeable chisels or cutters for sawing stone; also the use of adjustable diamond or carbon holders, the use of diamonds or carbons alternated with the chisels, and the manner of fastening them in the saw-plate."

## SCIENTIFIC PROGRESS.

ANIMAL AND VEGETABLE KINGDOMS CONTINUOUS.—The following is from Prof. Wyville Thompson's lecture at Edinburgh University: "A plant cannot assimilate pure carbon, or hydrogen, or nitrogen; it seems that it can assimilate no elementary substance except oxygen, unless it be presented to it in the nascent condition. An animal stands in precisely the same relation to the binary compounds, carbonic acid, water and ammonia. However abundantly, therefore, it might be supplied with these binary compounds which actually contain all the elements necessary for its sustenance, it would surely die of inanition. In order to be capable of affording nourishment to the animal kingdom, these substances must be elaborated to the condition of ternary and quaternary compounds, and this can only be done in the cells of plants. This, then, is the broad and practical distinction between the vegetable and the animal kingdoms. Plants have the power of absorbing, modifying, and organizing inorganic substances, while animals are entirely dependent upon the organic substances thus prepared for their support. Taken in this sense, the distinction between the two kingdoms is most marked, and of the highest practical value; but when we set aside this one peculiar property, which is possessed only by some plants, and only by certain parts of those plants at certain periods of their life, and especially when we observe certain minute forms, of low organization, on the verge of either kingdom, it becomes absolutely impossible to assign any definite distinctive character. The character which is, perhaps, most palpable and universal, is that a mass of vegetable protoplasm is at some time during its existence, inclosed in a cell-wall, which is composed of cellulose, or some very nearly allied ternary compound. Animal protoplasm is rarely, if ever, confined in this way; that is to say, in nucleated cells, with cellulose walls, which are found in all plants, and are not found in the animal kingdom. * * *

Now, although the power which plants possess of fixing carbon and combining it with the elements of water, is the character which practically distinguishes the Vegetable from the Animal kingdom, I have already shown that we cannot regard this as by any means a universal test. In this respect broomrapes and dodders are animals. When we pass down by any path we choose, either through animals or plants, we come equally to a great series of very simple forms—mere little masses of protoplasm with a nucleus. Some of these contain peculiarly formed masses of bright colouring matter, green, scarlet, or yellow, and with the possession of such pigment we usually associate the power of decomposing carbonic acid. Many of these bodies have, however, no coloring matter at all, except what is derived from their food. A large number of these simple forms are enclosed in a wall of cellulose, but very many of them are naked or merely covered with a pellicle of firmer protoplasm; while some, such as the plasmodia of the myxogastric fungi are, for some part of their lives, enclosed in a cellulose wall, and for another part, naked. Going still lower, we have Haeckel's Monera, differing from the others merely in the absence of a nucleus and the total want of differentiation of any part. Even these last are sometimes coloured, and from their chemical reactions it seems very likely that they possess some low form of the peculiar vegetable power. Now, the question is, whether all these considerations lead in any way in the direction of establishing a separate kingdom for these simple beings. I think decidedly not, but it seems to me that they prove almost to demonstration that organic nature must be taken as one whole, that the Animal and Vegetable kingdoms are absolutely continuous, and that a tree flinging its green flags into the sunshine and feeding on the winds of heaven, is essentially nothing more than a vast colony of a protozoon, comparable to a gigantic nummulite, only building a cellulose instead of a calcareous shell, and developing a special secretion in special organs for the purpose of enabling it to do so."

THE NITRO-CHROMIC BATTERY FLUID.—The *Journal of the Franklin Institute* for June gives a letter from the Supt. of the New York Fire Alarm Telegraph to W. G. Levison, a part of which we copy:—"Ten days since, I put up your battery, viz., filled up the porous cup around the coke with bichromate of potash, filling up with nitric acid, then in the glass jar a solution of sulphuric acid 1 to 10. At the same time I put up the same number of cups (five) of the electropoion battery. Testing each battery through galvanometer with 38 miles of resistance, I found that each marked 40°. I then placed 3 cups of your battery in service (working two machines,) and two cups short circuited, with six inches of wire. These remained so for 20 hours; after which the 3 cups showed 28° and the 2 cups 10° *through same resistance.* I then for the same length of time, placed the electropoion battery, 3 cups in service and 2 short circuited, and my tests then showed the elec. 4 cups to be 23° and the two cups dead. The new battery, on being tested at this time, showed 3 cups *thirty* degrees, 2 cups fifteen degrees. I have this afternoon found the 5 cups electropoion dead, while the *new* battery is in such good condition that I have put the 3 cups in service again, and the two cups on short circuit."

STRING VIBRATIONS MADE VISIBLE.—In a recent lecture on "Sound," at the Royal Institution, Prof. Tyndall illustrated different rates of vibration by means of different tuning-forks with strings attached. He made the vibrations visible to the audience, —says the *Mechanics' Magazine*,—"by darkening the theatre, and illuminating the strings by means of the electric light, so that they threw long shadows on the screen, and when they were made to vibrate, shadowy segments of a gauze-like appearance were seen. In another experiment he showed the segments in an exceedingly beautiful manner. A fine platinum wire, several feet long, was attached to one end of one of the tuning forks, and then made red hot by means of a current of electricity passed through it from a forty-cell Grove's battery. When the fork was then made to vibrate, the red hot wire was thrown into vibrating segments, and wherever it vibrated most it was of course most cooled by the air, so there became dark—lost all its redness. But at the nodal points it remained red hot. Thus by its own vibrations it was divided into red hot and dark sections. While thus vibrating, the red hot nodal points were hotter than while the whole string was at rest, because the cooling of the other portions of the wire increased their electrical conductivity, and thus a more powerful current acted on the points of no motion."

CONSERVATION OF FORCE.—In a communication to *Nature*, N. A. Nicholson says: "What, then, does the Conservation of Force doctrine amount to in plain English? It amounts to the simple admission that the tendency to move is a property of matter inseparable from it and coexistent with it, and it is this tendency to move which is the cause of all the changes which we observe around us. * * * Prof. Ansted says: "The first and greatest lesson that the students of Geography and Geology must learn is that motion is not limited to masses of bodies, but is actually taking place always and under all circumstances within all masses, whether solid, liquid, or gaseous, and often without approaching the surface." The Universe is one mighty system of changes, and these changes arise from the inseparable connection between matter and motion; and Dr. Bence Jones says truly, "The question between materialism and spiritualism is in fact only a question between ponderable and imponderable materialism."

HERSCHEL THE FATHER OF PHOTOGRAPHY. The author of a biographical sketch, in *Nature*, of John Herschel, who has just died at the age of 79, says that indirectly he may be regarded as the father of photography, inasmuch as he announced in 1819 the property of the hyposulphite of soda to "dissolve newly precipitated chloride of silver almost as readily as sugar." "To this property alone it was owing that, twenty years after, Daguerre was enabled to practically realize the hopes of Davy and Wedgewood, that the photographic pictures they had already obtained might one day be fixed and preserved.

DETECTING ARTIFICIALLY COLORED WINES.—Phipson proposes the spectroscope for this purpose. He asserts that naturally colored wines give no definite absorption bands, but only a very general absorption, greatest toward the violet; whereas, Brazil wood and so on, produce very distinct absorption bands. He adds water if the wine is too dark. The least sign of an absorption band he deems suspicious. This method may prove of great value.—*Journal Franklin Institute, June.*

# CORRESPONDENCE.

## Right and Left.

EDITORS PRESS:—In your issue of June 3d is a communication over the signature of "Curiosity," in which the writer attempts to refute my argument on this question, by giving the result of several experiments made by himself and a friend, to ascertain whether a person would walk more to the right than to the left, and he assumes that the lecturer was entirely right in his conclusions. At the same time, the writer does not wish his experiments "to be regarded as conclusive, but only as strong evidence."

I can give "Curiosity" threo good and sufficient reasons why his experiments ought not to be considered as conclusive, and why they furnish no evidence in support of the lecturer's theory.

First. His experiments were made with *the eyes shut*; and the natural tendency of a person groping in the dark is to rely on the protection of his "good right arm" as a fender from accidents by falling over obstructions or running against objects. The mind and body of the blindfolded person would therefore follow the leading of the dexter member aforesaid.

Second. The writer went out prepared to make the experiments in the interest of his theory of the matter, and, so far as his action of the matter is concerned, ho is too swift a witness. To be sure, if a man *wishes* to go to the right in preference to the left, he can always do so, provided he is not in the hands of a policeman, who wishes him to go the other way.

Third. The distance traveled to the tree or post designated must have been comparatively short—too short to afford conclusive evidence.

### An Experiment.

But I will offer "Curiosity" an experiment which he can make *with his eyes open*, and which will not only be conclusive, but which will afford him evidence that can be seen with "half an eye."

Let him be set down in the center of a piece of woodland, in a locality with which he is unacquainted; and let the distance from his place of landing to the nearest open country be five or six miles, and no path or traveled road existing for him to follow. Having provided himself with a pocket compass he can take his course in any direction to find the open country; but ho must not again consult the instrument until he emerges from the wood. On reaching the open place, and before turning to the right or left, let him examine the compass and he will find that ho has diverged several points to the left of the course he had marked out for himself when he started.

The lecturer referred to in this discussion was correct in his premise, but wrong in his deduction. The right side, or the limbs carrying it, will show a tendency to outwork the left, and I have no doubt of their ability to do so. But that is the very reason why the body should be carried more to the left in walking long distances. If a curve is described in any manner—and it seems evident that there is one—is it not more reasonable to suppose that the stronger and more enduring right limbs should take the outer and longer half circumstance of the semicircle, while the weaker left leg and foot move upon the inner and shorter curve of tho same?

### How it is in Training Horses.

Several facts in the training of horses support this view. The principal acts in circus-riding are performed toward the left, which place the left side of the horse on the inside or shorter curve of the circumference of the ring. Race courses are laid out from the grand stand with the same purpose. Who does not known that there is always a contest for the "inside track," which, of course, is the shortest? And the weaker horse has a better chance of winning on that side than the stronger on the outside, because his left feet describe a circle of less dimensions than the left feet of his competitor. The "nigh horses," in a team of any number, are those placed on the same side as the driver, namely, the right side; and are always the stronger animals of each span. They are so placed that they may be within easier reach of his whip and his voice, and that he may be the better able able to urge them to use their strength in keeping the vehicle on a straight course; whereas, the tendency would be to sheer off to the left if the horses were not so placed. And, finally, horse-powers in the field, with revolving horizontal arms to each of which is attached a draft animal, are made to move to the left, so that the right limbs, being able to "outwalk the left," as said the lecturer, shall take the outside circumference of the circle traveled, being the longest in distance, and requiring more endurance and strength than the "inside track."

The force of the foregoing examples is in their evident confirmation of the position taken in my first article on this subject, namely, that the left leg and foot constitute the *pivot* on which the body swings in a state of comparative *rest*, while the right leg and foot perform the heavy work of locomotion. A *pivot* suggests revolving motion; and who ever saw a mechanical contrivance, even for perpetual motion, the moving parts of which revolved *away from* their pivotal center? From such a centrifugal catastrophe the Lord preserve the members of the human family, and all other families upon which they depend for subistence!

### Nature Bears Out this Reasoning.

All nature bears out the reasoning of the preceding argument. The right side of any natural object is always the largest and tho heaviest. It is so with an orange an apple, a pear, even a mustard seed. The skin and other portions of the right side of these will always be found thickest and toughest. The right side of a tree is the heaviest limbed, and the most umbrageous. The great globe itself, the earth which we inhabit, taking the north pole as its head, has more land out of water on its right or eastern hemisphere. And, what is very curious, if we take the east as the head, and the northern and southern hemispheres as the right and left limbs, we shall find more land on the northern or right side of the earth.

And in man, it is not only the right hand, arm, leg, and foot which are the largest and strongest, but the entire bodily economy also. The right eye, the right half of the face, the viscera of the right side—as tho lung, liver, kidney, etc,—are also the largest. The circulation of the blood is toward the right side, as the one having the most work to do.

It must now be plain to your correspondent, as it is to me, that if the right limbs in "outwalking tho left" cause the body to mako a detour to the right, as the lecturer said, such movement must place the right side on the inner or shorter side of a curve, and give the left limbs more work to do than they are constituted to perform. He will at once see that this is very unphilosophical and improbable. It would make the right side the pivotal or resting one, and the left the energetic, strong and active working part of the body, which every one knows it is not. PHILO SOPHUS.

## The Hoopa Valley Reservation.

### How Grant's Indian Policy Works.

EDS. PRESS:—Thinking that a few words from this distant locality might prove interesting to the readers of your excellent journal, I have concluded to drop you a few lines from Hoopa Valley.

This locality is about 50 miles above the mouth of the Klamath river, and about 10 miles above its junction with the Trinity. It is a beautiful valley about six miles in length, and averaging three-fourths of a mile in width. The Trinity river winds its way, from side to side, through its entire length. Nature seemingly could not have produced a more beautiful or appropriate place for a reservation, locked in, as it is, by rough, precipitous and almost impassible mountains.

The curse of Indian reservations, generally, is their easy communication with the outside world, where evil-disposed persons, having fear of neither God nor man in their hearts, carry on an illicit traffic in intoxicating liquors with the Indians. Here we are entirely free from this source of annoyance;—a drunken Indian on this reservation being an object that I have never witnessed.

Camp Garton, garrisoned by two companies of U. S. infantry and commanded by Col. Nelson, is situated in the center of the valley.

There are about 750 Indians on the reservation, who are at present peaceable and quiet; though it was only a few years since that they were the terror of Humboldt, Klamath and Trinity counties. Four years since they killed the agent, Mr. Stockton.

### How the New Policy Works.

President Grant, in pursuance of his policy of christianizing and civilizing the aborigines of the country, commissioned Rev. D. H. Lowry, of the California Conference of the Methodist Episcopal Church, as agent of this reservation, and under his administration a complete change has been wrought. Formerly the employés and whites generally were in the habit of cohabiting indiscriminately with Indian women, and many half-breed children is the result of this crying evil. All the employees at present are christian men, with their wives and children, who have left comfortable homes with the desire and hope of improving the condition of these Indians. Several of the ladies have started schools, and it is interesting to witness the eagerness with which they crowd around their teachers. A building is now being prepared, for a school-house, and will be finished in a few days, when a permanent day school will be established. Probably within the next twelve months, four or five schoolhouses will be erected and as many schools in successful occupation.

### Agricultural Prospects.

While the denizens of the valleys are suffering from the drouth, we in the mountains are having an abundance of rain. There are about 700 acres in hay and grain, all of which look well and give promise of an abundant harvest. The soil is of a clayey nature and has been injured by being plowed too wet; and should we be visited with a drouth within the next year or two, this ruinous system of plowing will tell.

### Another Lesson in Thorough Culture.

The strongest proof of the advantages of summer fallowing I have ever witnessed, is a field of wheat containing about 40 acres. This piece of grain is a strip in the center of a large field. It was plowed last year for corn, but not planted. This spring it was sown to wheat, which is headed out and looks as well as any grain I have ever seen; while that on each side of it is not yet headed out and does not look nearly so well, and I presume will not yield more than two-thirds as much. When harvested I will report the difference in yield.

Acting on the principle that "all work and no play makes Jack a dull boy," we concluded to have a "May Day" picnic. The officers of the fort and their wives joined us, and we spread our lunch on the side of a huge old mountain overlooking the valley, and enjoyed ourselves for an hour or two, when we returned to our home, all feeling better for our little frolic. MORE ANON.

Klamath County, May 28th.

## Blackberry Wine.

Don't can, or dry, or eat up all your blackberries. Save some of them for wine, of which a most excellent article can be made—good alike for the table and kitchen, and highly valuable for the sick room. In some classes of diseases, especially affections of the bowels, a first-class article of blackberry wine is more valuable than the most costly foreign wine, even when made from the pure juice of the grape.

One great reason why blackberry wine is not more appreciated is because it is so seldom properly made; and yet there is no difficulty in making a good article, and the process is very simple. A writer in the *Southern Planter* says he has made it for several years past, and never, in a single instance, failed to produce a good article by following the subjoined directions:—

Gather the berries when perfectly ripe, and in such a manner as to avoid bruising. Empty them, as fast as gathered, into a tub until you have a quantity sufficient to fill, with juice, the cask in which you propose to make the wine.

Have the utensils, etc., required in the process, all ready before you pick—or at least before you mash your berries. Everything must be scrupulously clean. You want a keg, a beater of seasoned hard wood, a pail, a large bowl, tureen or other vessel into which to strain your juice, a good thick strainer—two or three folds of fine white flannel is the best material—a couple of yards of osnaburgs, a spare tub or a bucket or two, and a tub of soft spring water. Everything must be perfectly clean and free from dirt or odor of any kind.

Crush the berries thoroughly with the beater, and then after straining the liquor, which runs freely from the pulp through the folded flannel, empty it into the cask, measuring it as you put it in. When the juice has been all drained from the pulp, you proceed to press the pulp dry. If the quantity is large, this had best be done by a regular press, but if only a few gallons are wanted, the osnaburg answers very well. Stretch out the osnaburg, put a gallon or a gallon and a half of the pulp into the center, fold the cloth over it on each side, and let a strong hand at either end twist the cloth with all their strength; when the juice is well pressed out, remove and lay aside the cake of pomace, and put in more pulp. This process is apparently rough, but is both rapid and effectual. The juice so extracted is strained and measured into the cask as before mentioned. The flannel strainer and the osnaburg may need rinsing occasionally during the work.

When all the pulp is pressed, put the hard cakes of pomace taken from the cloth into a tub, and pour upon them a little more soft spring water than you have clear juice; break up the balls and wash them thoroughly in the water, so as to obtain all the juice left in the mass, and then strain it clear; measure out as many gallons of this water as you have of clear juice, say five gallons of the water to five gallons of the juice, dissolve in each gallon of the water six pounds of sugar, (brown or white as you want a common or first-rate wine,) and when thoroughly dissolved, add the juice, (first passing it again through the strainer), and mix them. Then rinse out your cask, put it where it can stand undisturbed in a cellar; fill it perfectly full of the mixture, and lay a cloth loosely over the bung hole. In two or three days fermentation will commence, and the impurities run over at the bung; look at it every day, and if it does not run over, with some of the mixture which you have reserved in another vessel, fill it up to the bung. In about three weeks fermentation will have ceased, and the wine be still; fill it again, drive in the bung tight, nail a tin over it, and let it remain undisturbed until the following November, or what is better, March. Then draw it off, without shaking the cask, put it into bottles or demijohns, cork tightly and seal over.

For a ten gallon cask, you will need about 4⅓ gallons of juice, 4⅓ gallons of water and 26 pounds of sugar, and in the same proportion, for larger or smaller quantities. Some persons add spirit to the wine, but instead of doing good, it is only an injury.

Another process is, after pouring in the mixture for a ten gallon cask, to beat up the whites of two or three eggs into a froth, put them into the cask, and with a long stick mix them thoroughly with the wine. In five or six days, draw the now clarified wine off by a spigot and without shaking the cask at all, into a clean cask, bung up and tin, to be drawn off into glass in November or March.

The more carefully your juice is strained, the better the quality of your sugar and the more scrupulously clean your utensils, particularly your kegs are, the purer and better will be your wine.

The best quality when you gather your own fruit, and make it yourself, costs you only the price of the white sugar, and when bottled will cost you in money about twelve and a half cents a bottle.

DOES BLACK WALNUT DESTROY FRUIT TREES?—Mr. O. Snowberger, of Quincy, Pa., writes to the Farmers' Club, in New York as follows:—"I feel satisfied that I have seen three apple trees destroyed by black walnut, and I believe they destroy grape vines. I judge it is the water dropping off the walnut leaves that does the work." Have any of our readers met with any similar experience? If what is stated by Mr. Snowberger, is a fact, it is one which should be generally known, as the large number of people in this State who are now planting black walnut, would, under such circumstances, take special care to place them in localities where no such damage could occur.

BENEFIT OTHERS AND PROFIT YOURSELF. Ben Holladay is the leading spirit and Joseph S. Wilson the President of the Oregon Land Company, which is forwarding scores of good Western farmers and German immigrants to our moister neighbor, where stock lands range from 50 cts. to $1.50, and average farm lands from $2.50 to $5 out of Willamette, and $10 in Willamette valley.

## Grain Culture on Twitchell Island.

Mr. Oliver Hyde, of Road Locomotive notoriety, has left at this office several samples of wheat and oats, taken from the Ranch of Prather & Miner, on Twitchel Island. There are two stools of wheat, which number respectively 96 and 81 stalks, which contained an average of about 80 grains to each head. This was some of the grain which was stamped in by sheep, as described by us last winter. The ranch is known as the Kentucky ranch, and contains about 1,000 acres; 1,200 sheep were employed in treading in the grain. They were driven over the ground in a lengthened band about thirty feet wide, a driver preceding and following, and one traveling upon either side, midway. After being carefully drilled to the work one day, they marched thereafter almost as steady as a regiment of soldiers. Mr. Hyde has also left with us a bunch of oats, numbering 78 stalks, growing from a single stool. They measure over five feet in hight and are well headed out.

This is the first year's tillage of this land, which cost the present owners about $10 per acre, and they get from it, this year, about 50 bushels of wheat to the acre. After the wheat has been harvested the land will be flooded, and a second growth will spring up, which will make good hay, or other crops may be put in and harvested in the fall. The wheat grown on this land was from seed sent out from the Patent Office.

The property of cereal plants to tiller or stool is a most remarkable and valuable one, and adds largely to their product. The extent of tillering depends on the circumstances of soil, weather and the amount of seed put into the ground. A loose, free soil is more favorable for tillering than one that is stiff and compact. Tillering implies an instinctive faculty in plants to take advantage of all the food within their reach. When the cereal plants find an abundance of food and room, they push out their radicals vigorously; but when they are crowded for room and poorly fed, they exhibit but slight tendency to tiller. The tendency to tiller seems also greater on new than on old lands. In fact, wheat always seems to do best on new lands.

In the old lands of Europe the tillering is very scant. Col. L'Couteur, a French writer on the wheat plant, mentions, as a very remarkable circumstance, a peculiar kind of wheat which sometimes tillers to the extent of 32 stalks; while 5 to 10 stalks are set down as the usual tillering in that country for the ordinary varieties of wheat. This proportion also holds good for England.

We are not informed as to the usual extent of tillering in the Atlantic or Western States; but our impression is that it is not more than half what is usually met with in well cultivated lands in this State. Our stools of 70, 80 and 100 stalks and over, as is sometimes met with, must seem very extraordinary to our European readers. The stools above described may be seen at this office, and we should be pleased to receive similar favors from other of our agricultural readers. Who will send us a stool of wheat that will exceed the highest number of stalks above given? We shall place them on exhibition, properly labelled, at the coming exhibition in this city, and also at the State Fair in Sacramento.

Crofutt's Transcontinental Guide.—The publishers of this work—the best and most complete guide book published in America—furnishes numerous illustrations of the rarest scenery on the line of the Union Pacific R. R., and the C. P. R. R., a few of which views he has consented that we should reproduce in our paper. Two appear with our "Editorial Notes" in this issue. Crofutt is entitled to much credit for his liberal enterprise, and every tourist should buy his book, no matter how many other guide books they possess.

## The Foot-Hills.

We are just beginning to appreciate the value of the foot-hills bordering the great central valleys of our State for agricultural purposes. The hills of Sonoma, Marin, the lower part of Napa and Solano and other portions of the State, subject to the fogs arising from the Bay, have long been most successfully cultivated in grain, potatoes and other valuable crops while the hills, further north and beyond the influence of these fogs, have been regarded as of but little value. The experiences of the past and present seasons, however, are revolutionizing all our ideas upon this subject. While the crops on the plains and flat lands have proved almost an entire failure, this season, grain sown on the high, gravelly ridges and foot-hills along the coast range adjoining these plains is, almost without exception, giving most satisfactory results.

We were told by a very intelligent farmer in Solano County, whose place is located just south of the Wolfskil neighborhood, that he last season summer-fallowed one thousand acres, six hundred of which were on the plains, and four hundred in the foot-hills. All was sown early last fall—before the rain. The six hundred acres on the plains return him nothing, while the four hundred acres of the foot-hills will net him $20 per acre.

If he had sown the entire 1,000 acres in the foot-hills, as he might have done, his profits would have been $20,000 on the year's operation, while, as it is, he comes out about even.

The experience of all his neighbors, as to the superior capacity of the hilly land to withstand the drouth, is the same as his. It is probable that more rain fell upon the hills than upon the plains near by, as it is well known that this year the course of the rain belts has been around the mountain ranges, avoiding the large, open valleys; but the difference, in so short a distance, could not have been very great. The foot-hills of the Sierras have this year also developed a similar state of facts as compared to the low lands adjoining. So actual experience in agriculture, in this State, is constantly upsetting our supposed well-established theories. It is a hard country in which to conduct, free from error, an agricultural paper. Facts are valuable. Theories are uncertain and unsafe. Farmers, give us your facts, and we will use them for the benefit of agriculture.

## Thimble Skein Wagons, Etc.

Editors Press:—I have often asked well-informed persons why there is so much difference of opinion on the subject of iron axle and thimble skein wagons, and as I have not received a very satisfactory answer as yet, I have thought it might be answered by some of your readers, and perhaps important to not a few. Some prefer an iron axle wagon to a thimble skein, saying it runs lighter, being equal in other respects; but some prefer the thimble skein, giving the same reasons. Some want the chambered boxing, as in the Studebaker wagon; others the straight boxing, as in Soule's Improved Wagon, of Sacramento, who says his thimbles are on the principle of the Concord coach wagons and better than all others. C. L. See.

Nicolaus, 1871.

Came to its Home Again.—The family of Dr. Porter, which resides at 433 Clementina street, in this city, have had a pet California linnet, which they have cared for over two years. Some three months ago the bottom of the cage fell out and the linnet disappeared, and was not heard from or seen by any of the family for three months, until one day last week, it was observed on the outside of the house, peeking at one of the windows. Its cage was brought and placed within sight, when the little wanderer immediately took possession, and manifested its joy by warbling some of its sweetest notes.

# The Swine Yard.

## Improving the Breed of Hogs.

It is interesting to note that increased attention is being given in this State to improving the breed of hogs, and to this end it is essential that buyers should be well posted as to the "points" of the animal. It is not our purpose now to discuss the relative breeds; but to lay down certain rules for judging of the quality of the animal which shall be applicable alike to all breeds. We have here eleven rules for judging the character of the animal, as laid down by an extensive and intelligent breeder of hogs—Mr. John Fisher, of Carhead, England. In the main, we believe they will be generally accepted as correct; although in certain points exceptions will be taken by some:

*Head and Ears.*—The head wide in front; ears erect and pointed forward; chops rounded, and well filled, up to the brisket.

*Crest and Shoulders.*—Crest wide, and rising well to the shoulders; shoulder-blades well sloped backwards.

*Ribs and Loins.*—Ribs well sprung, loins wide and slightly arched.

*Hind-quarters.*—Hind-quarters not to slope, nor narrow towards the tail.

*Hams.*—Hams rounded outwards, well let down; and full towards the twist.

*Chest.*—Chest wide, with elbows well out.

*Fore-ribs and Flank.*—Fore-ribs wide underneath; flank well let down, straight, and well filled to the stifle.

*Legs and Feet.*—Legs straight and small in the bone; feet small and compact.

*Hair and Color.*—Hair plentiful, bright and vigorous; color to denote purity of breed.

*Tail.*—Tail entire,—thick at root, and tapering.

*Size.*—Size according to the breed.

The *Mark Lane Express*, the best authority perhaps in the world, lays down the following table, for giving the full value to perfection in each of the above particular points:

| No. | | Award to Perfection. |
|---|---|---|
| 1. | Head and Ears | 8 |
| 2. | Crest and Shoulders | 8 |
| 3. | Ribs and Loins | 12 |
| 4. | Hind-quarters | 10 |
| 5. | Hams | 12 |
| 6. | Chest | 10 |
| 7. | Fore-ribs and flank | 15 |
| 8. | Legs and Feet | 10 |
| 9. | Hair and Color | 10 |
| 10. | Tail | 5 |
| 11. | Size | 10 |

Award a less number to each of these points in the proportion that it falls short of perfection or the highest standard of excellence. Thus—if the head be long or narrow, the chest light, and the ears hang down over the eyes, award only 6 or 4, or 2 or 0, as they may deserve, and so on through all the points. Then add the number of awarded points together, and the total will give the order of merit in the animal.

## Fodder for Hogs.

A correspondent of the *Journal of Agriculture* writes as follows:—I have never seen any distinction made between growing fodder for cows and hogs, and one might suppose that there is none; but there is quite a difference.

Any close observer will see that cows eat the blade first and then the stalk. With hogs it is just the reverse; they look for nubbins first, then the stalk, and last the blade (if at all). My experience is this: If I meant to feed to cows, I would sow about forty grains to the foot; if it was intended for hogs I would sow about twenty to the foot. Where it is sown about twenty to the foot, every stalk will have a nubbin on it, which is quite an item. I sow in drills four and a half or five feet apart, and cover with a one-horse harrow, as it comes up more even than if covered in any other way.

### Grass for Breeding Hogs.

A correspondent of the *Western Rural* says: "A good supply of grass for breeders is of untold value. They should be put on pasture two or three weeks before breeding time, as it increases the milk greatly. Breeders on a good supply of grass, with some corn, will not only retain their flesh, but grow continually, and be easily fattened in the fall or winter, while the pigs will be large and healthy, and their growth will not be checked during the winter. If breeders, with their pigs are confined in small yards during the summer, and fed on grain alone, it will take two of the former to make a shadow in the fall, while the latter will be small and poor, and go into winter quarters good subjects for diseases.

## How to Fatten Hogs Profitably.

The rearing and fattening of hogs is one of the leading industries of the country, and should form an important part of the economy of every farmer, in California, as well as elsewhere. This is a matter that should be especially taken into account in this State, especially at this time, when we are importing such large numbers of live hogs, by rail, from hundreds of miles beyond the Missisippi! In addition to the "points" given in another article, we propose to make two or three more, which if rightly improved may be of service to the farmers of this State.

The hog, like other animals, has been much improved by judicious selections and crosses in breeding; but several points in every good breed depend upon the swill pail. High feeding is required to do the best with any animal of any breed. There is no such thing as making a 600 pound porker on scanty food. When a man pretends that his breed of hogs can be made large, rangy and fat on a small quantity of food, you can set him down as one that has reckoned without his host.

The first point to be made is, that the pig should be kept growing thriftily, and enlarging his skin, from the first to the last day of his life. The hog is kept as a machine to work up food into pork, and the more he works up in a month the greater the profit. It costs twice as much to make a hundred pounds of pork upon a stunted, half-starved pig as upon one that has always been kept growing thriftily.

An Ohio hog grower says that the following treatment will make the biggest hog out of a pen in twelve months:—"Take two parts of barley, two of corn, and one of oats; grind them together, then cook and feed cold. He says it is the cheapest food, and that any pig of good improved breed can be made in this manner to gain a pound a day until a year old." We would add two parts of peas to the mixture.

With resources not excelled in any part of the world, pork, in California, has been in short supply ever since the advent here of the gold seekers; and the prospect appears to indicate that prices will keep up for years to come—a fact which should encourage an increase in this branch of husbandry until our home market, at least, is amply supplied.

## Value of Hogs at any Point of Shipment.

The following rule of ascertaining the value of hogs at various points more or less distant from a market was lately adopted by the Union Farmers' Club of Illinois, and will be found valuable here as well as there, to both buyer and seller—and particularly to the seller.

*Rule.*—To ascertain the value per 100 lbs. of live hogs at point of shipment, according to San Francisco market prices for same description of hog, multiply the average weight, less estimated shrinkage, by the number it takes to make a car load; then multiply this by the San Francisco prices for the same; from the amount deduct freight and charges, and into the amount divide the gross weight of same number of hogs, for the actual value per 100 lbs. at place of shipment.

*Example.*—What should be the net value of 50 good hogs at Stockton, weighing 300 lbs. when the price in San Francisco is quoted as averaging $7.10 per 100 lb.?

From 300 lbs. deduct 8 lbs. for shrinkage. This amount, 292 lbs., multiply by 50, the number of hogs in a car. Multiply this product by $7.10, the price per hundred at San Francisco, and we get $1,036.60 as the price at San Francisco. Deduct freight and charges, say $67.80, leaving $968,85, net value at San Francisco. Divide this by weight of hogs at Stockton (15,000 lbs.) and we get $6.45 as value at that city. Deduct this from the San Francisco price, and we get the cost of freight and expenses of shipping per 100 pounds.

Improving Swine.—Mr. George L. Barbee, who was recently in England looking for Berkshire hogs, writes home to his correspondent that he met buyers there, upon the same errand, from almost every part of the civilized world. This fact speaks well for the interest which is being taken at the present time to improve this important branch of farm stock.

# AGRICULTURAL NOTES.

## CALIFORNIA.

CROPS AND WEATHER IN BUTTE.—The *Record* of June 24th says: Mr. Leiphansor, a ranchman, living near Forbestown, has sent us a specimen of oats grown on his place, and which were taken from a considerable field of like growth. The stalks now in our office measure over six feet in hight, and are well headed with grain. The foothills of Butte can beat the world in whatever they are called upon to produce, whether it be golden sands, luscious fruit, or golden grain.

MONTEREY COUNTY.—The Castroville *Argus* of June 24th has the following: Up the valley, and on the uplands, many have commenced harvesting, and many more will do so in a week or two. The humid weather we have had lately keeps back the ripening of crops in some localities, but farmers say the harvest generally will be earlier than usual. Owing to the shortness of the straw, there will be far more "heading" done than in ordinary seasons. We are told by those who know, that wheat is filling out finely under the influence of the cool, foggy weather, which still continues, and makes fires very acceptable morning and evening. Potatoe, bean and other late crops are also thriving vigorously, so that the effect of the weather upon the fields makes up in a great measure for the absence of sunshiny weather.

THE SAN JOAQUIN ISLANDS.—The Antioch *Ledger* of June 24th, says: Kemball's Island, opposite Antioch, containing about seventy acres, one half of which has been reclaimed by a substantial levee, is the most thrifty spot in our vicinity. About fifteen acres are under a high state of cultivation. The fruit trees are all in a bearing condition, and one may find strawberries, blackberries, raspberries, currants, etc., in abundance. Along the levee there are innumerable vines, laden with fine clusters of grapes. This island, which formerly produced but tules and willows, has been converted into one of the loveliest spots that can be found on the San Joaquin. Truly, the wilderness may be "made to blossom like the rose." There are 15,000 acres of wheat on Twitchell's Island, near the mouth of the San Joaquin river, which it is estimated will yield at the rate of fifty bushels per acre. The unusually dry season has proved beneficial to the owners of reclaimed swamp lands, enabling them to raise large crops.

FRESNO COUNTY.—The *Expositor* learns that the farmers in the mountains have better crops this season than ever before. Mr. Yancey claims to have the best field of grain, wheat and rye, in Fresno county, and Col. Burrough has about two hundred acres of as fine barley as ever grew outdoors. On King's river, where the fields are convenient for irrigation, excellent crops will be raised. Taking these King's river fields as a sample, what will Fresno county be able to do when her broad plains are thoroughly irrigated by the abundant waters of the San Joaquin and King's rivers?

GRAIN AND FLAX IN SAN MATEO.—According to the San Mateo *Gazette* of June 24th, the haying season is past, and the farmers are now busy cutting their grain. On the coast haying has scarcely commenced yet, as crops are usually from three to four weeks later than they are in the valley and the interior of the State generally.

Most of the Wilsey ranch on the top of the mountain was sown with flax this year, and as seen from the Half Moon Bay road, there seems to be a fair crop.

GRAIN IN SACRAMENTO COUNTY.—The *Telegraph* says: Salsbury, of Salsbury Station, from a field of ninety acres of barley harvested thirty-three bushels to the acre, and has several larger fields from which the average yield will be larger; his hay crop yield has been about two hundred tons. We have heard of another farmer in that vicinity who, it is said, will clear seven thousand dollars from his crops this season. The farmers in this section are well satisfied.

TALL WILD OATS IN NAPA.—The Napa *Register* of June the 24th says: Robert Grisby brought into town on Friday last, from his ranch eight miles above this city, a bundle of wild oats of this season's growth, which measured nine feet in hight.

ORCHARD GRASS IN HUMBOLDT.—The Humboldt *Times* of June 17th says: We have received from James Smith, of Ferndale a specimen of orchard grass, grown upon his farm, which is the finest we ever saw. It is seven feet in hight, straw finer than would be expected for such a growth, and is luxuriantly headed out.

NORWAY OATS IN SONOMA.—The Petaluma *Journal and Argus* of June the 14th says: We were shown a bunch of Norway oats at Whitney's store last week, consisting of twenty-eight stalks, from one seed, that was growing on the Pierce farm, this side of Two Rock Valley. The stalks were five feet high and well headed out. The field they were from consists of five acres, which was sown on the 24th of March last, the amount of seed planted being only twenty-eight pounds to the acre.

CRICKETS IN SISKIYOU.—Crickets, says the Yreka *Journal* of June 23d, have been destroying crops to a great extent on Little Shasta, and are journeying eastwardly.

SCALE BUG.—We copy the following from the Los Angeles *News* of June 21st: The scale bug is on the war path, and is more numerous in the orange groves this year than for several years past. It is said that the dry season is very favorable to the rapid increase and development of this little pest, which has the good taste to prefer the orange tree for a place of residence, although not unfrequently attacking the lemon and lime. Mr. Mateo Keller has taken the field against the invasion of his orchard, and is having all of his infested trees washed with strong soap and water, by which means he expects to abate the nuisance and destroy the bug.

NORWAY OATS.—A bushel of Norway oats sowed last winter in San Miguel cañon, Monterey county, is producing a remarkable crop. Its yield in grain will be no less than one hundred bushels, while if cut for hay it would turn out eight tons per acre.

WHAT DEEP PLOWING WILL DO.—The present season passes in this valley for one of the very dryest the whites have seen and yet there has been no difficulty in producing grain anywhere when the ground was properly cultivated. Mr. Handy Huffaker brought some very fine potatoes into town and sold them. Knowing that this gentleman lived upon the broad plain between the Kaweah and Kings river, some eight miles removed from any ditch or running stream, we ventured to ask how his potatoes were raised; his answer was that in a portion of his patch he put the plow down to the beam and there he raised good potatoes, notwithstanding they were topped by the grasshoppers. The other portion of the patch was plowed with a refractory team and therefore slighted, and the potatoes were a failure.—*Visalia Delta.*

SALE OF BLOODED SHEEP.—We see it stated that a portion of the Silesian sheep, which we recently noticed as having been brought to this State by Major Beck, of Sacramento, have been sold at what are considered very fair rates—bucks $150, ewes $100.

GRASSHOPPERS.—Bad accounts of the ravages of grasshoppers reach us from several quarters in the lower part of the State. We have an article prepared on the subject, which is crowded out this week.

RIPE APPLES.—Peter Young brought the first ripe apples into the Stockton market on the 24th inst.

## OREGON.

THE REPORTED OREGON WOOL FRAUDS.—The Walla Walla paper has this notice of the wool frauds: We learn that the lot of wool complained of was purchased by A. Frank, of Hardman & Co., Touchet. Mr. Frank says he saw the wool weighed after it was packed; that the lot consisted of twenty-seven average sized bales, gross weight, 5,089 pounds; that the bales were, if anything, under the average weight. The affidavits of persons who helped do the shearing and packing of the wool have been taken and sent below, in which they declare that the twenty-seven bales could not have had one hundred pounds of dirt in them. Mr. Frank is of the opinion that a wilful mistake has been made at San Francisco, with the view of depreciating the price of Walla Walla wool, which has heretofore stood high in the market. We hope his view of the case will prove correct on investigation.

WEATHER AND CROPS.—The weather at last accounts from Oregon was highly favorable for bringing forward the crops, although the season is backward, and will compel farmers to work with more industry to get their crops in. The wheat was looking well. The editor of the Portland *Bulletin* had made a trip up the east side of the Willamette, and found the crops along there looking exceedingly well, and gave promise of an unusual yield in quality as well as quantity. The very beneficial effect of the late rains and the cool weather of the tardy spring is visible in the uncommon brightness of the blades of the growing cereals, and this indication is of itself of the best character. The fall and winter sowed wheat looks fine, and so does all of that sowed early this spring; while that put in only within a few weeks already shows signs of much favorable promise.

THE Willamette *Farmer* advises a thorough trial of bean culture in Oregon, the present season, and urges the farmers to plant and sow every crop that can make food for man or beast, as a few days only will elapse before it will be too late to plant or sow late crops. Whatever in that respect is worth doing should be promptly and well done.

THE same paper also calls attention to the fact that the farmers of Oregon will have to stand a short competition with those of Illinois in the matter of pork, bacon and hams. A cheapening of feed for hogs is suggested by giving them clover pasture. The suggestion is a good one, and might be improved to advantage in California also.

FINE WOOL.—The *Farmer* of the 17th says: "Last week we saw T. L. Davidson unloading at Farrar's wareroom sixty fleeces of Spanish Merino wool of extra fine quality.—He informs us that the fleeces are considerably lighter than those sheared from the same sheep last spring."

THE Dallas *Messenger* says the arrivals in that city of wood and flour *en route* for Portland from the upper counties of Oregon and Washington Territory, are increasing.

SPECIAL PREMIUM FOR EARLY RISERS.—F. R. Hill, of Wilbar offers a special premium of $10 dollars to the youth under 20 whose habits have not allowed the sun to shine upon him either asleep or in bed for the last twelve months, and who has not allowed himself to loiter away his time at corner groceries, etc. The object of the premium is to encourage industry and good habits. The examination will be made by the President of the Oregon Ag. Society. At least three competitors must contest.

IMPROVED STOCK.—The *Farmer* says there was never before so much enquiry in Oregon for choice herds of horned stock as now. Farmers there have come to the conclusion that breeding small herds of choice stock, or carefully grading up common stock, by personal attention, feeding, soiling, etc., is a system which will pay, and has paid well, heretofore, in spite of adverse theories. Farmers are putting up more spacious barns and shed room, and will lay in hay for winter and raise green crops to feed in summer.

That is the true policy, and should be adopted in this State. The primitive, if not barbarous manner of stock-raising so generally practiced in this State is both unprofitable (as compared with a different policy) and inhuman, and should be done away with.

HOGS.—Hon. James Hendershott, of Union county, says the *Farmer*, has lately purchased four hundred head of hogs, in the Willamette valley, for his farm in Eastern Oregon.

LARGE COLT.—Thomas Townsend, who lives four miles southwest of Salem, owns a Samson colt, raised by him, which weighs 1,446 pounds, and stands 16½ hands high. The colt is three years old, and a fine specimen of an animal.

A FARMERS' CLUB.—There is talk of organizing a Farmers' Club in Thurston county, Washington Territory.

GOOSE LAKE VALLEY.—The Jacksonville *Times* learns from Goose Lake valley that the grass is excellent and stock in fine condition, the haying season is about commencing and large quantities will be put up this year. Many immigrants this spring are settling in the valley.

NEW COMERS.—Emigrants are coming into the Willamette and other valleys of Oregon, and into Washington Territory, in great numbers—from California, the Eastern States and from Europe. A new Immigration Society has been organized by the European and Oregon Land Company, who are prepared to hold out great inducements for immigration from Europe. To this end an agency has been established in Frankfort, Germany, and Herman G. Müller, an old resident of California, and a veteran editor of great intelligence, is connected with the enterprise. He has already started for Europe.

THE amount of land disposed of at the Olympia land office during May, was 20,874 acres.

MILLS FOR THE INDIANS.—The Willamette *Farmer* says that grist mills are being put up upon the Grande Ronde Reservation for the benefit of the Indians. A portion of the funds for this work is taken, by consent of the Indians, from the moneys to be paid to them by the government. It is better to use this money in the erection of useful improvements than to spend it for trinkets. And this new plan of consulting the Indians in council, as was done in this instance, as to how their money shall be used, is certainly an improvement on the plans heretofore followed.

Gen. Grant's Indian policy seems to be working well. In this connection we would call attention to our correspondence on another page from the Indian Reservation in Hoopa valley, in this State.

## MISCELLANEOUS.

CROPS IN UTAH.—The Salt Lake *Tribune* of June 22d, says: Intelligence from the southern counties represents that the growing crops with the exception of one or two localities where the grasshoppers have destroyed them, are remarkably good. Everything indicates that this is to be a prosperous year for Utah. Nothing is likely to fail but the kingdom, and it is so far disintegrated that it will be difficult to hold it together for another twelvemonth.

CROPS IN BOISE VALLEY are backward, from cold weather and late rains. Warm weather has set in. On June 7th the thermometer reached 93 degrees.

## ATLANTIC.

A SEVERE DROUTH has fallen upon the people of the extreme Eastern States, as well as upon us in California. The damage from drouth on Long Island alone is estimated at one million of dollars. The damage to New England can scarcely be estimated. There is much talk of a general introduction of irrigation in all localities where it is readily practicable.

THE WHEAT AND CORN PRODUCTS EAST, according to the Department of Agriculture report, are not flattering for the country generally. The acreage appears to have been somewhat increased, but the crop will not increase in like proportion, owing to a variety of causes, the chief of which is the dry spring in various parts of the country. The largest increase in the acreage of wheat is reported from Kansas, where it is 30 per cent. greater than last year. The report, on the whole, is not specially discouraging, except as failing to show such an increase in production over other years as might be expected.

FRUIT IN OHIO.—Mr. B. Batemau, Secretary of the Ohio Horticultural Society, in a letter dated May 15th, says: "The prospects of the peach crop continue quite good, in spite of frequent frosts. The apple crop will be light, as it was too heavy last year. Grapes are a little injured by frosts, but with a chance for a fair crop. The blossoms of the early strawberries were killed; later ones are doing well, but the weather is too dry and cool.

CRANBERRIES IN NEW JERSEY.—This branch of fruit production in New Jersey is now in advance of her strawberry culture, and on a safer footing. In Ocean county alone, last year's crop of cranberries amounted to 25,000 bushels, worth $100,000. The other counties will bring up the aggregate crops of the State to 40,000 bushels.

THE MAPLE SUGAR CROP of Vermont has been larger than it has been for any season during the past twenty years, and forms a very important item in the productions of the State—even at the low price sugar brings now, the best being from 8 to 10 cents a pound.

PLAGUE OF INSECTS.—The Eastern papers call this the "Insect Year." The Hessian fly is destroying the Southern wheat fields; the locusts are devouring everything before them in certain quarters of the north, and the potato-bug and ravenous worms of various sorts are eating up vegetables and killing fruit trees. One of the papers says it seems as though all the insect enemies of mankind had united in one grand revolution against human industry.

THE black caterpillars are worse in Arkansas than ever known before, and are stripping the leaves in the forest.

FARMERS in the vicinity of Rockford, Illinois, have gone extensively into tobacco raising this year.

OVER 200 women are now working farms on their own account in the States of Iowa and Indiana. This is official.

A FIRE COMPANY at Louisville, Kentucky, has a pet sheep that runs to all the fires.

A NEW HAVEN gentleman recently recovered $375 for a tree spoiled by gas from the New Haven Gas Co.'s pipes.

A PROLIFIC VINE.—A nursery in Maine has two rose vines on which there were 4,000 buds at one time.

IOWA has planted a corn crop to raise 100,000,000 bushels.

A MARYLANDER had 140,000 peach trees in blossom this spring.

A LONG ROOST.—A pigeon roost in Wisconsin is forty miles long and eight broad.

## San Diego.

Editors Press:—Your correspondent left San Francisco two weeks ago by steamer for the purpose of visiting San Diego and the interior towns of Southern California, and observing the physical characteristics of that portion of the State and its future prospects in regard to agriculture and business generally. In passing down the coast on a steamer, but little idea can be formed of the country, except that it appears mostly barren and destitute of vegetation.

We arrived at San Diego on Thursday, June 15th. The harbor fully equaled my expectations of what I had read and heard of it. It is perfectly sheltered from the waves of the Pacific; but not from the winds, which, coming from the south, blow over the low sand spit, or peninsula of land which separates the bay proper from the ocean. But heavy winds from this direction, I was told, were of rare occurrence, and even if vessels were forced on shore by the violence of a gale, they would merely lodge upon a sandy or muddy flat, where they would rest in safety and drift off at high tide. The bay contains over thirty square miles of surface, but of this less than three square miles has depth enough for the largest vessels, say from 18 to 22 feet. About one-half the entire harbor has an average depth of from ten to twelve feet. Whatever may have been said to the contrary, there is no doubt but the bay of San Diego is capacious enough for all the purposes of commerce which may be required of it. New San Diego has been built up mostly within the last two years, and contains about 2,000 inhabitants. Old Town, which was first settled by the Spaniards, nearly 100 years ago, is in a state of decay, and has perhaps from 200 to 300 inhabitants of a mixed character, such as Mexicans, Spaniards, Meztiztoes, and a small sprinkle of Americans. The town is two miles or more from a good anchorage, and four miles from New San Diego. Old Town has no future aspirations, or if it has, they are not likely of realization. If ever the harbor of San Diego has commercial importance, business will center in the new town. It is there the steamers and ships unload, and there also are the only wharves, or piers, two of which have been extended out, half a mile each, to deep water. The town rises gently back from the bay, and affords a superb site for a large city. The only question is as to whether the interests of commerce and trade will be sufficient to build up such a city. If that is ever done it will be by foreign trade and distant connections by rail across the continent.

The country back of San Diego is mostly worthless for agricultural and mineral purposes. There is some choice grazing and agricultural land, from forty to sixty miles back, in the interior, but it is small in extent when compared to that which is worthless. From the best information I could obtain, not one acre in ten of the country extending from the bay of San Diego to the Colorado river at Fort Yuma, is valuable in an agricultural point of view, or would be chosen by immigrants, even if they could get it for nothing. Good fresh water about San Diego is scarce, and is sold in the city at so much per bucketful. Artesian wells have thus far proved a failure, yet further efforts are being made in that direction which it is hoped may prove a success. Timber, even for firewood is scarce, and is hauled a distance of over twenty miles, and of an inferior quality at that.

Your correspondent took a ride up the San Diego river six or seven miles to the old Spanish mission, which was established 100 years ago, but is now in ruins. He did not make the trip in a steamer, sailing vessel, or skiff, but in a carriage, behind two horses. The river bed proper is from one-fourth to half a mile wide, but does not contain a drop of water, and I am informed has been dry for several years. At the old mission alluded to we saw a large number of olive trees, some of which were over two feet in diameter. The date palm, and other trees of a tropical character, and apparently of great age, planted by the mission fathers, still flourish, and attest the earnest, self-denying efforts of those who sought to make this apparently desert country a garden of fruits and flowers, and christianize and civilize by gentle persuasion the savage aborigines.

They had several hundred acres under improvement at the mission at one period, had a large number of Indians under their control, counted their cattle and horses by the tens of thousands, and were in a prosperous condition. The old Jesuit fathers, with their Indians, flocks and herds, have all disappeared, and a more complete ruin could scarcely be imagined. The olive, pomegranite, palm and fig trees, still flourish, and yield their fruit, although uncared for. Only two solitary individuals were living at the mission, and these, instead of taking care of the trees and premises, were engaged in killing ground squirrels for the sake of their skins. The old adobe church, 200 feet in length, has partly fallen down, and the standing portion looks tottering and unsafe. During the early occupation of the country by the Americans the soldiers used it for barracks, and lastly for a stable, and now the bats and owls have supreme control.

A portion of the mission grounds are partially surrounded by a fence of the cactus or prickly pear, so dense and impenetrable that it is said not even a bird or squirrel can pass though it. Several acres of these cactus are growing on the grounds, and probably at one time furnished a large amount of food for the Indians attached to the mission.

The remains of a canal for irrigation purposes are still visible and extend up the river for about ten miles. Why the mission has thus gone to such complete decay, is a matter of surprise to the writer. Whether the Indians, upon whom the fathers depended for labor became extinct, or the extreme drouth, or the zeal of the missionaries abating, was the cause of this decay, is a subject of conjecture.

The people of San Diego have faith that they are soon to be connected by a continental railroad with Arizona, New Mexico, and the Atlantic States. They say, and probably with some truth, that this is an unfortunate season for a stranger to take a look at the country on account of the extreme drouth. They state that when they have a rainy season the hills and valleys are covered with nutritious grasses, and present a very different appearance from what they do now. This is all quite probable, but a country that is destitute of timber, good water, and suffers from a drouth two seasons out of every three, is not likely to be filled with industrious settlers very soon. Much has been said in praise of the climate, which the writer will not dispute; but neither climate nor a good harbor are sufficient to build up a large city and develop an extensive interior country; an abundance of pure water, timber, and a good soil, with moisture enough to make it productive, are auxiliaries that are absolutely essential.

## Skaggs' Hot Springs.

Eds. Press:—In Sonoma county there is a small stream called Dry Creek, that empties its waters, when it has any, into the Russian river. Along this creek there are fertile lands and highly cultivated farms. Grains, grasses, vegetables, vines, and nearly every kind of "tree that is good for fruit" grows to perfection and produces abundantly.

At the head of this creek, about three miles above all settlements, is the famous Skaggs' Hot Springs. Some mysterious angel has so troubled the water in its subterranean course, that it comes boiling to the surface with a temperature of 120° to 140°. It seems that nature sometimes got out of fuel or tired of her operations down below, and fell back a moment to cool or change the temperature some two or three degrees. It may be that the source of these boiling springs is as cool as others, near by, that come to the surface from sixty to eighty degrees; but passing through so many layers of different mineral substances, it is finally extruded in a State of ebullition. Perhaps Prof. Carr, or some of the other Professors of our State University, can inform us agricultural folks, what makes the water boil down below.

The chemical analysis of this spring shows that the water contains magnesia, sulphur, iron, borax, and soda. The extraordinary medicinal properties of this water have caused many sick people and debilitated invalids to congregate here from both city and country, to be healed of their diseases. Some step in and bathe themselves; while others, more impotent, are put into the healing pool by their attending friends, and say they are made whole of whatsoever disease they have. I saw men and women, who told me they were brought there helpless with palsy and gravel, now walking about in apparent good health. Not far from the boiling water is a tepid spring (about seventy-two to eighty degrees,) the waters of which are highly charged with iron, and where extremely feeble individuals and persons of low vitality bathe and find relief. It is said that a few days bathing in this tepid iron water will give new strength and vigor to the whole man.

The accommodations are a plain, modest hotel, with 22 rooms and 16 cottages. The bath rooms are rather rustic but remarkably neat and cleanly throughout. Mr. B. Frank Tucker, the proprietor, is an accomplished and accommodating gentleman, well qualified for his position. The hotel and cottages have been lately renovated and refurnished. From the springs there is a daily stage with a careful and clever driver connecting with the cars at Healdsburg, for $2.

We were shown through the culinary department, and observed that all things were done up by white women "decently and in order." About 10 o'clock we took a bath, where the temperature could be regulated congenial to the feelings of persons in comparative good health or enfeebled by disease. We came forth, at least, some cleaner than when we went in, with checks red as the freshness of youth, and an appetite to relish our dinner. The dining room is large and airy; the table furnished No. 1; the viands varied and as well served up as any guest could desire at a country hotel. At the table we saw ladies and gentlemen who evidently knew how to compare the luxuries of the city with the mediocracy of the country. Some put on airs of wealth and style, while others, who perhaps possessed equal means and mental culture, were more plebian and less fastidious. I must not omit the fact that this deservedly fashionable summer resort is free from all living nuisances, such as mosquitoes, bugs, gnats and fleas.

The surrounding landscape is varied and beautiful. On all sides are smooth hillsides, gradually rising from the base, covered with Nature's golden carpet, and toward the tops interspersed with beautiful orchard oaks. From the summit of these hills one looks down upon the little green valley below, in the center of which stands the hotel, D. Skagg's cottages, bath houses and boiling springs, with "here and there a traveler" among its shady groves.

A thriving little orchard and some shall fruit trees are growing nicely. Any vegetable will grow here that is properly put into the ground. Nature has done much for this place; but there is great room for improvement in the buildings and rural ornamentation. As it is, tourists and invalids will find this spring and summer resort unsurpassed for the salubrity of its climate, its scenery and the medical virtues of its mineral waters. In a word there is every facility of climate, soil, water, hunting and trout-fishing, all so well improved as to make "Skaggs' Hot Springs Hotel" one of the most popular summer resorts for health and rustic pleasure seekers in the State.

M. B. S.

A Pyramid of Gold.—A pyramid representing the quantity of gold produced in the Thames gold field, New Zealand, is promised for exhibition in the Mechanics' Fair of San Francisco, by A. Bryce Bain, (Honorable Secretary of the Thames Mechanics' Institute,) of Thames, N. Z.

## The Improved Clinton Corn Sheller.

Good corn shellers are of prime importance to all farmers who are engaged to any extent in the cultivation of corn. There is a want felt in this direction, even in the Atlantic States, and we presume that want is still greater on the Pacific,—especially of medium sized hand shellers. In looking over our Eastern exchanges we endeavor to keep the wants of our Pacific farmers constantly in mind. It is in this way that our attention has recently been called to a machine of this description, which seems to very fully meet the want there, and which we should think might be found very serviceable in the corn-growing districts of this State. It is called the Improved Clinton Sheller, and in order that our readers may form some idea of it we present the annexed illustration of the machine, as it appears when set up and ready for work.

The frame of the machine is so constructed that the legs can be taken off and packed inside, thus saving largely in the cost of transportation, especially when the machine is to be shipped to a distant point. When so packed it measures only five cubic feet, and weighs 105 pounds. The machine is manufactured and sold by R. H. Allen & Co., who keeps one of the largest agricultural warehouses in the city of New York.

THE IMPROVED CLINTON CORN SHELLER.

## Analysis of Soils of Little Value.

In a recent lecture on the subject of soils, Dr. Voelcker vigorously opposes the belief that soil analysis alone can determine the kind and quantity of fertilizer required for a given crop. To those knowing little of the teachings of modern agricultural science, it appears very simple to remedy a deficient soil by finding out through analysis the wanting constituents, and then to supply them. But this is not so. It is not only difficult to exactly analyze a soil, but many other things besides its chemical composition have to be observed. The state of combination in which the mineral constituents of a soil are found, its physical condition, the presence or absence of substances injurious to the growth of plants, are so many points of great importance upon which analysis casts a very dim and uncertain light.

The fertility of the soil cannot be maintained, much less increased, if only as much of fertilizing constituents is applied to the land as was removed by the crop. Waste takes place in various directions, and one important source of this is through the process of drainage. Careful collection and examination of drainage waters has shown that a large proportion of nitrogen is carried off in this way, chiefly in the form of nitrates. Dr. Voelcker's analysis of drainage waters also shows that potash and phosphoric acid, both most important mineral constituents for the plant, are almost entirely retained in the soil; while others less important, such as lime, magnesia, or sulphuric acid, pass with greater readiness out of the land.

## Sunshine as Force.

A good illustration of man's inability for self-support independently of sunshine, is afforded by the following calculation. The mechanical equivalent of the vertical sunshine received upon a square mile of the earth's surface, is computed to be 3,323,000,000 pounds raised a foot high in a second. Under the most favorable circumstances, a square mile of terrestrial soil receiving this amount of sunshine, if planted with bananas, would yield according to the estimate of Baron Humboldt 50,000 tons of nutritious food yearly. This is the great amount of food-producing power of which the earth appears to be capable. But this quantity of food would suffice for only 100,000 men, whose united mechanical force would not raise more than 10,000,000 pounds a foot high in a second. It would, therefore, not be possible for any number of men, by their mere mechanical force, to produce anything like sufficient light and heat in the absence of sunshine to raise from the soil the food needful for their own support.

No man can be called poor who has what he himself considers enough; nor rich, if he covets more than he has.

In any business never wade into water where you cannot see the bottom.

# POPULAR LECTURES.

## A Plea for the Study of English.

[Prof. SWINTON before the MECHANIC ARTS COLLEGE, Mechanics' Institute Hall, S. F. Seventh Series, Reported expressly for the PRESS.]

LECT. II. June 24.—When the Regents of the University of California, said the lecturer, prescribed the study of the English language as a leading duty of the literary professorship, they expressed a strong and growing tendency of the modern school. Up to within quite recent times the study of English has been very much neglected, and our students have been instructed in every tongue but our own.

### The Study of English vs. Classics.

The lecturer did not wish to cast discredit on the study of the classics, nor to deny that it has very many advantages. He granted that it was of very great value as a means of mental discipline, and that it was a help and a key to a large part of our language. But he would vindicate the claims of our mother tongue, and, purposely abstaining from urging the practical reasons therefor, which are always able to make themselves felt, he would found his plea on these two points just mentioned—mental discipline and a help to understanding English—which are the main grounds of the advocates of the classics.

As to the latter point, the classics help us in our vocabulary in a great measure (but the same is true of the study of English) and do not help us at all in the grammar, in which the study of English has therefore the advantage. This will be illustrated hereafter. And as a means of mental discipline, why should not English serve as well as Latin and Greek? We shall get some important light on this matter by tracing briefly the steps which led to the study of modern philology.

### The Study of Language Reveals Ancient History.

The first true beginning of the sound investigation of language was the discovery, at the beginning of this century, of a certain agreement of some of the European languages, as the German, etc., and the Latin and Greek, with a certain Asiatic tongue which is called the Sanscrit. This showed why the Latin and Greek resemble one another, and why the Teutonic also agreed in its roots, etc., with the classics, —because they were all of *common descent.* Then another step was taken, and it was found that the Polish, Russian, Welsh, Celtic and other European languages also had the same affinity, and that they all came from the ancient Sanscrit. This also demonstrated an intimate kinship of the speakers of these tongues; that the ancestors of the Germans, Celts and Slavons of the European nations, dwelt side by side somewhere in Northwestern Asia, at least 3,000 years before the Christian Era, and by the side of the ancestors of the Latins and Greeks and of the Asiatic tribes. This investigation is called comparative philology, and its immense value was first shown by Jacob Grimm.

### The History of the English Language.

Now let us examine what the English language is, and trace up its history. We find that it has borrowed much of other languages in modern times, but this decreases as we go back. We find it strongly influenced by the Norman conquest, but yet a distinct language before this. We trace it back again to the Gothic, (Gernanic), and, through the discoveries just alluded to, to the ancient Sanscrit. This last is a recent discovery, and one which is now causing an increased study of Anglo-Saxon, is giving much greater importance to the matter, and is teaching us very much concerning our mother tongue.

### English Grammar an Absurdity.

The lecturer spoke at length concerning English grammar, a thing which at present does not exist. English has been called a grammarless tongue, which statement is only a rather emphatic statement of a pregnant fact. The English language is much older than the English grammar. In the 16th century, the scholars, in their learned ignorance, tried to fit to our tongue the Latin grammar. Hence sprung that hybrid—English grammar—to which we have been sacrificing, for 300 years, our children and the stranger within our gates. Prof. Swinton illustrated by examples the fact that Latin grammar is essentially foreign to English and cannot be adapted to it. Of the rules given in our grammars very many are absurd and most are superfluous. If we are to have an English grammar—and the thing is by no means hopeless—it must be built up by the intelligent study of the language and not by forcing on to it rules by nature foreign to its very essence.

### How Words are Made Up.

The lecturer spoke also at length of the vocabulary nature of our language, of the importance and interesting nature of its study. He gave several examples of the derivation and formation of words, of which we select a few.

FEARLESS is compounded of two parts or elements,—of the noun *fear* and of what is called the "formative element" (because it merely forms, by its addition, an adjective out of the noun) *less.* This last is not our word *less* but is the Anglo-Saxon *lease* which is our word *loose. Fearless* therefore means loose or free from fear.

BRAVELY is compounded of *brave* and the Anglo-Saxon *lic*, that is, *like.*

LOVED.—The termination *ed* of the past tense has long puzzled philologists. We get no light from the Anglo-Saxon, for it is used the same there as we use it. But the study of the Teutonic languages shows that it was an independent word. And the origin of this termination was found out through the discovery, a few years ago, in a Swedish library of the fragment of a translation made in the 4th century of the Christian Era of one of the gospels into Meso-Gothic, a language now dead. The Meso-Goths were a christianized tribe which dwelt on the lower Danube, and our termination *ed* is derived from *det* which is our *did. I loved* then means *I did love.*

The lecturer then spoke of the words adopted from the French and other languages in the course of time, and of how the engrafting of such had an effect in checking the inner growth of the language. We have not the space to do justice to his lecture, and are compelled to touch merely on some of the prominent points which he gave to show how interesting and important and useful is the study of our own language, and how it is valuable as a means of mental discipline and otherwise. He concluded with a eulogy of the purity and grandeur of English.

## Railroads Universal.

It is useless to attempt to summarise all that is going on in the railroad way. Like common roads, and like paths and trails that gradually become more and finally much frequented by the multiplication and influx of people, like frost net-work upon the windows on a wintry day, railroads are extending and interlacing everywhere, and in every country on the globe, including Shem's and Ham's, though not yet quite in the heart of the latter. We could stop to note Brigham's Southern Railroad and the Overland California Pacific; but on top of earnest doings in progress by the Northern Pacific and by the Texas Pacific, which companies all "mean business," we are told that Harry Meiggs is alive and active in the Peruvian Andes somewhere; that the Vancouver and Canadian Dominion surveyors, with a geological corps attached, are beginning their work eastward from the Pacific end of *their* pet route; that Mr. Fred A. Lane, one of the Directors of the Erie Railroad, has resigned and gone to Brazil, with a corps of engineers, to survey and direct a Brazilian transcontinental railroad, to be constructed by a party of English capitalists; and we are forced to shut down on the equally important (to themselves) Australian works, now reported to us firstly by steamer direct; and to ignore our brethren's great schemes in Mexico and Russia. Cheap excursion tickets and Great Easterns are in order.

RAILROAD BUILDING FORTY YEARS AGO. Less than forty years ago the Boston *Courier*, then one of the leading papers in New England, contained the following editorial notice of the project then entertained of connecting Boston and Albany by a railroad:—"Alcibiades, or some other great man of antiquity, it is said, cut off his dog's tail that *quid nunes* might not be extinct from want of excitement. Some such motive, we doubt not, has moved one or two of our *natural* and experienced philosophers to get up the project of a railroad from Boston to Albany,—a project which every one who knows the simplest rule in arithmetic knows to be impracticable, but at an expense little less than the market value of the whole territory of Massachusetts; and which, if practicable, every person of common sense knows, would be as *useless* as a railroad from Boston to the moon."

# GOOD HEALTH.

## The Stomach.

That most wonderful organ, the human stomach, is very frequently troubled with an excess of acid; and when so troubled, the first thing that is naturally suggested, is a dose of some alkaline remedy, and down goes a teaspoonful of bicarbonate of soda or something of the kind, when a little thought upon the economy of the vital process would lead to a different way of arriving at nearly the same result. The saliva is known to contain free soda, and generally, if extraneous substances were kept out, would be the proper corrective; but instead of properly masticating the food, it is too often washed down with a swallow of some liquid that contains the material for creating more acid, in that way rendering entirely useless the natural secretion; in other words, inserting a wooden cog in the wheel of refined steel, or its equivalent. And this is only one of many cases where the substitution of an artificial for the natural remedy works a finally irremediable evil; because eventually Nature becomes disgusted and refuses to supply the steel tooth we persist in replacing with a wooden one. F. M. S.

San Diego South, Feb. 20th, 1871.

## Insolation or Sunstroke.

As the time when attacks of sunstroke are most frequent, is now approaching, it seems desirable to correct certain misapprehensions on the part of the public concerning the causes of this dangerous affection. It is commonly supposed that attacks occur only during exposure to the direct rays of the sun. But this is not so.

### The Causes of Sunstroke

Are classified by medical authorities as predisposing and exciting causes, and of the latter, exposure to the heat of the sun is undoubtedly the most frequent; but the circumstance that attacks are common in sheltered situations, and sometimes actually come on in the night-time, shows that the direct action of sunshine is not alone responsible. Any vital vitiated condition of the system, arising either from living in a foul atmosphere or from dissipation, great fatigue, a lack of nourishing food, garments worn so tightly about the neck and chest that they restrain the free action of the parts, are all powerful predisposing causes, which, combined with exposure to great heat, are liable at any time to induce an attack. The influence of great fatigue in predisposing to an attack can hardly be overrated.

The experience of the British army in India is conclusive on this point. In the case of a particular body of troops obliged to make a hurried march of upward of eleven hundred miles during the hottest season of the year, all stood it well until some three-quarters of the distance had been passed, when the men began to exhibit unmistakable signs of fatigue in the shape of languor, loss of flesh, and failing strength. It was at this time that cases of sunstroke first appeared, and they continued with alarming frequency, coming on in the night as well as in the daytime during the remainder of the march.

Testimony from the same quarter concerning the bad effects of overcrowding and insufficient ventilation is equally explicit. It is remarked by Dr. Butler, that the men under his charge who, though not overworked or fatigued, were housed in crowded and badly ventilated barracks, were the ones who furnished the greatest number of serious cases. Out of sixteen cases mentioned by Mr. Longmore as occurring in a company belonging to his regiment, thirteen were attacked in barrack or in hospital. Insolation has also been frequently observed on board ship, most often where overcrowding and impure air were added to the influence of excessive heat. It is not uncommon on board the mail steamers in the Red sea during the months of August and September, and it has been observed that most of the cases occurred while the sufferers were in the horizontal position in their well-ventilated cabins.

### The Symptoms

Preceding an attack are in some cases scarcely observable, the person suddenly falling in fatal syncope, and dying before assistance can be of no avail. More frequently, however, they are well marked, and, if early recognized, much may be done even by the non-medical to avert the serious consequences that might otherwise ensue. The more obvious symptoms are extreme heat and dryness of skin, often accompanied by a peculiar stinging sensation over the whole surface of the body, giddiness, congestion of the eyes, a sense of oppression about the chest, and a frequent desire to micturate. Contrary to the general opinion, headache is not a common symptom, though occasionally present. After a longer or shorter continuance of these symptoms, the patient becomes insensible, the heat and dryness of the skin increase, the respirations become hurried and labored, and unless remedial measures are speedily applied, death soon follows.

At the earliest moment after the attack, let the patient be carried to some cool shade where there is free circulation of air, his body stripped, and his face, neck and chest, freely douched with cold water. Continue this until the more serious symptoms, such as absence of consciousness, disturbed breathing, and great heat of skin are relieved, or until the arrival of some competent physician, who, on the discovery of the trouble, should at once be called. Cold water may be freely given inside as well as out, if the patient demand it. The causes of sunstroke previously enumerated will suggest the means to be adopted for its prevention.—*Galaxy.*

## Little Causes of Death.

There is a time when a man is in such vigorous health, that it almost seems as if nothing could hurt him.

A young lady alighted from her carriage in the Central Park and stood upon the damp grass for half an hour, listening to the music of the band; her feet became cold, a chill struck through her system, and she died in a few days of disease in the throat.

Recently a lady from New York was visiting some of the interesting places in Rome; becoming weary, she sat on a stone bench for a few moments, and has been paralysed, from her waist down, ever since.

A person walks on a summer's day to some public exhibition or picture gallery; it feels refreshingly cool on first entrance, time passes unawares, when all at once an ugly chill runs down your back, and next day there is a cold which is to worry and annoy for weeks if not months. Very many, especially delicate ladies, "get their death" in this way, in visiting the picture galleries and public buildings of the Old World; the precaution should always on such occasions to have an extra shawl along, even in the hottest days of summer, to be thrown over the shoulders, and if the gloves are kept on, it is a great aid in preventing the system from cooling too rapidly.

It is a simple and a very little thing to take a bath. A young lawyer took a bath some years ago in this city; he stayed in too long, became chilled, and was a cripple all his days, for forty years afterwards.

Many a person has been found dead in the bath-tub, from attempting to enjoy that luxury too soon after eating. Never bathe, hot or cold, on a full stomach; the most perfectly safe time for taking any kind of bath is before breakfast, for then there is the least danger that the system is overheated, and then too it has the most vigor, the greatest power of retraction, the greatest ability of resisting the influence of cold.

It is usual for sea-bathing to be taken in the middle of the forenoon or afternoon; but considering the hot sun, sending its fiercest rays on the head, it will be wiser and safer to select the early morning.

BONE FELON.—Of all painful things can there be any so excruciating painful as bone felon? We know of none that flesh is heir to. As this malady is quite frequent and subject of much earnest consideration, we give the latest recipe for it cure, which is given by that high authority, the London *Lancet:*

"As soon as the disease is felt put directly over the spot a fly blister, about the size of your thumb nail, and let it remain for six hours, at the expiration of which time, directly under the surface of the blister, may be seen the felon which can be instantly taken out with the point of a needle or a lancet."

THE Oregon Insane Asylum, at the latest dates, contained in all one hundred and forty-one patients.

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SAN FRANCISCO:

Saturday, July 1, 1871.

## Our Weekly Crop.

There hangs, this week, at our outer gate, a choice cluster of the Eumelian Grape. This we have put in the PRESS that our kind friends may obtain a glass of golden wine in which to drink farewell to the old volume and success to the new.

Our Cotton field adjoining shows favorably notwithstanding the unfavorable season.

Our library of Mechanical and Scientific Progress is as usual well filled with matter of importance.

Whether we walk to the Right or Left is discussed in an interesting manner. From the Hoopa Valley Reservation comes a letter concerning our Indian policy. While reading this we have the opportunity of partaking of Blackberry Wine.

Twitchell Island offers us a favorable showing in Grain Culture, and the Foot Hills urge that more attention be given to them. The Silk Business commences making a firm stand and taking a place in our industrial ranks. In our Swine Yard we see a fat crop of hogs running about, and see how they are fattened and how improved in breed.

We take a good look at the Agricultural Notes of the Coast, and then consider at length the condition of San Diego. We take a trip up to Skagg's Hot Springs, and increase our store of implements by a new Corn Sheller which we find in that neighborhood.

The professor gives us a strong Plea for the Study of English, the engineer talks about Railroads, and the doctor reads to us concerning methods of preserving our Good Health.

We hear more this week concerning the topics of Ageing Wines and of Irrigation. We see new Inventions, visit the scenes of the Meeting of the East and West and shake Col. Scott by the hand, and then rush off to see a Rain of Frogs in Arizona.

The ladies of the Home Circle introduce to us Mrs. Maloney, who holds forth on the Chinese Question. We get a Receipt for Preserving Boys, and then, passing by the column of Young Folks, go immediately to the Kitchen to learn more Domestic Economy. Satisfied with what we there find, we look into the Patent Office, walk through the Markets, and part to meet next week.

MUSQUET GRASS SEED.—"J. Q." enquires where he can buy some musquet grass seed. We know of none now in the market. There was a small quantity here; but it has all been sold. Some of our seedsmen would do well to import a small quantity, as we feel assured many of our famers will be desirous of experimenting with it next fall.

WOOL.—It is assumed that the prevalence of yellow fever in Buenos Ayres will prevent the shipment of wool from that port this season. It is a large source of supply to our Eastern markets, and its failure must certainly enhance the price of California wools.

COMMUNICATIONS.—"Notes on Half Moon Bay;" "Something for Hop Growers;" "Napa Valley;" "Our Swamp Land;" "Carmel Valley;" and "The Santa Cruz Farmer's Club"—next week.

## Close of Volume One.

With the present number we close the first semi-annual volume of the PACIFIC RURAL PRESS. The time has sped rapidly since we commenced our new enterprise, and we can hardly realize that six months have already passed; but it is still more difficult to realize the fact that within that short time we have reached a circulation far greater than any other agricultural journal has ever attained on this coast. Our success has been far in excess of our anticipations.

The RURAL PRESS was started at the earnest solicitation of many of the leading agriculturists throughout the State, who pledged their personal support and hearty co-operation. The necessity for such a journal was felt, and we have been more than gratified at the willingness and earnestness with which our efforts to supply the want have been met. From the date of our first issue the PRESS has been daily increasing in circulation until it now reaches almost every agricultural settlement in California, with a fair sprinkling of readers in the adjoining states and territories. Even in distant Montana our circulation has reached into the hundreds.

Year by year the agricultural interests of the Pacific Coast has been advancing with a steady pace, until it now occupies the front rank of all our industries—mining not accepted. It therefores behoves the farmers to see to it that a first-class agricultural journal is encouraged and employed to represent them. How well the PRESS has filled the bill during the past year, we leave for our readers to judge. That we have done so well that there is no room for improvement, we do not pretend; hence we are constantly on the alert to give additional value to the paper, and to make it more and more worthy to represent so important an industry. Such arrangements have now been made as will enable us hereafter to add to the number and variety of our illustrations. This department, while it greatly increases the cost of publication adds much to the interest and value of the paper, and we feel confident that the additional patronage which it will secure will in the end fully compensate us for the increased outlay.

We now close our first volume, with the consciousness of having done the best we could to redeem the promise made at the outset; and with the fullest assurance that our labors have been appreciated by a discerning and indulgent public; we start forward upon a new volume, with a determination to improve as we progress, and with the consciousness that we shall receive such liberal patronage as will enable us to do much more for the benefit of the interest we have espoused than we have heretofore been able to accomplish.

HORIZONTAL WELLS.—Mr. S. M. Mezes, whose residence is immediately adjoining that of Mr. Ralston's at Belmont, being in want of water for irrigation purposes has recently tunneled into a hill near his house, minor fashion. After running an open cut 21 feet and a tunnel 33 feet further, he struck a supply of water equal to about 4,000 gallons in 24 hours, which will afford him all he needs for irrigation without pumping. He started his tunnel at an elevation of about 60 feet, which gives him a good head, and is far better than raising water by a windmill, to say nothing about the labor and cost of keeping a mill and pump in order. There are many other localities in our agricultural districts where water can be obtained with a short length of tunnel, and it should be borne in mind that it generally costs less to dig a horizontal well than it does to dig one perpendicularly. This is a matter worth investigating by parties who own land in hilly neighborhoods, and need water for irrigation or any other purpose.

## The Philosophy of Ageing Wine.

In our last issue we made some reference to the different artificial methods of ageing wine, alluding more particularly to the process recently invented by Messrs. Neil & Constable, of this city, and promised today to explain the philosophy of the same, which we will now endeavor to do.

The fermentation of wine is due to the presence therein of certain living organic germs, similar to or identical with the yeast plant, and to the debris of other vegetable matter, and to gluten. The living germs—as of the yeast plant—are supposed to live upon, and increase in quantity, by assimilating to themselves the particles of gluten. When these organisms are plentiful, the fermentation is active; as soon as they are entirely removed, fermentation ceases.

Wine undergoes its first fermentation very rapidly; but there still remains in the *new* wine a small quantity of organic matter, from which a second fermentation will eventually set in, if it is not removed. The object of all artificial means of refining is to remove these organisms. The *souring* of wine, and the harsh and unpleasant taste so peculiar to new wine, is due to the presence of these germs; the *ground taste*, as it is called, is supposed to be due to the gluten.

The second fermentation proceeds very slowly, especially when the wine is at rest, because of the insufficient access of air. The only air which can act upon wine when at rest is that which is absorbed slowly from the surface or still more slowly through the pores of the wood, and the small amount which is held in mechanical suspension in the liquid, at the time it is placed in the cask.

Wine which has been kept for a short time at the boiling point, in its packing vessel, filled full to the brim, so that the air held in mechanical suspension is all driven off, and the floating germs all killed, and the vessel then sealed up air tight, will not reach its second fermentation for a long time—generally not for years. New cider so prepared, as is well known, may be kept for a long time without change. If this work could be performed in an absolutely perfect manner, and the liquid so put up as to be absolutely air tight, no change would ever take place.

When wine is placed on shipboard and sent a voyage to sea, the air, by the constant agitation of the liquid, is admitted more freely to the fermenting germs, which consequently sooner become oxydised, and as soon thereafter as the wine is allowed to come to rest, they fall to the bottom as a pasty or flocculent kind of sediment, from which the wine may be easily drawn off, and is said to have acquired "age"—in other words it has become purified of the foreign substance left suspended in the liquid after the first fermentation. Various substances are sometimes placed in the wine to cause these impurities to settle sooner than they naturally would.

As we have already intimated, unless this aeration process is hastened by artificial means, it proceeds very slowly, occupying many years for its perfect work.

When this process is performed at a comparatively low temperature, nature is imitated perfectly, and the resulting purified wine may be depended upon as unchangeable; but the application of too high a degree of heat at the early stage of the process, so changes the germ organisms, that the oxygen will not act perfectly upon them, and a second fermentation is liable to set in at some future time. The process devised by Messrs. Neil & Constable seems to meet the case more completely than any other, and if our premises are correct, its value to the wine interest of this State can scarcely be estimated. The grape grower will realize its value when he finds that by it he can produce as good a wine in three or four months from the packing of the grape, as he can by the usual process in as many years. We shall watch and report the progress of this invention, which will be put in practical application, and on a large scale during the coming month.

The process is extremely simple and inexpensive, and consists in merely agitating the liquor in a closed vessel, under two or three atmospheres, with a moderate degree of artificial heat.

## Irrigation in Yolo.

We were at Woodland last week, and witnessed with our own eyes the wonderful effects of water upon the grain crops in that vicinity. We had been told of the sharp lines of demarkation between adjoining fields, otherwise in all respects alike—one having received the benefits of a "flooding," while the other had been left to drink only what nature had supplied them with; but seeing is believing. Many fields of wheat that did not receive the water until so late that all seemed nearly dead—all the lower leaves being sunburned and crisped—have come forward since the irrigation, and will yield from twenty to thirty bushels to the acre.

So fields of alfalfa that were pastured with sheep until the 20th of April, so close that scarcely a green leaf could be seen—the sheep being then taken off and the water turned on—are now covered with a most luxurious growth of clover, standing as thick as it can be, and from three to four feet high. The clover is just coming into blossom, and will yield from four to five tons and a half of good hay to the acre with a growth of only three months. The same ground will furnish another good crop for seed, or will give good pasture all the balance of the season.

So much are the farmers of Yolo county impressed with the benefits of irrigation that they are preparing to increase and lengthen their ditches, by tapping Cache creek higher up in the cañon, so as to run the water over almost the entire surface of the land in Yolo county.

In conversation with those who have had the longest experience in irrigation, we find they all agree that for grain crops the land should be flooded in the winter season. That with a thorough soaking then, the very best of crops can be secured with almost a positive certainty; and this without any injurious effect on the sanitary condition of the country. They will irrigate their garden vegetables and summer crops later in the season, and thus secure the year round all the substantials and luxuries of rural life.

Had the farmers of Yolo county used all the facilities for irrigation which they might have done the past winter, the crops of this season would have netted them a thousand dollars for each dollar they will now bring them.

In striking contrast to the dried up grain fields we noticed that the vineyards through this section of the country are making a most luxuriant growth, and promise an extraordinary yield of luscious fruit. No irrigation is necessary for vineyards of bearing age, even in the dryest of seasons.

We noticed that some of the vineyardists had used the pruning knife most too freely, of late, lopping off too much of the young canes. Experience will teach them that it is better to use the thumb and finger in pinching off the tender ends of these canes, earlier in the season, than to use the knife so freely now. The latter process takes off too many of the full grown leaves, and thus destroys the lungs of the plant, and exposes the tender fruit to the direct rays of the mid summer sun; while the former would have increased the growth of those same leaves, and thus added to the power of the vine to mature its fruit in greater perfection—the leaves at the same time affording the fruit the necessary protection from the burning sun.

# PATENTS & INVENTIONS.

## Full List of U. S. Patents Issued to Pacific Coast Inventors.

[From Official Reports to DEWEY & CO., U. S. and Foreign Patent Agents, and Publishers of the Scientific Press.]

For the Week Ending June 13th.

Mop-Head.—John Brizee, Alvarado, Cal.

Atmospheric-Pressure Attachment for Dental-Plates.—James P. Gillespie, San Francisco, Cal.

Gang Plow.—William Parrish, Dayton, Oregon.

## Stained Glass.

The modern method of staining glass is about as follows: A full sized cartoon of the subject to be portrayed is prepared by an artist; the figures and other objects to be represented being drawn, in bold, dark outlines, specially adapted for the exigences of a painting upon glass. From this picture a "cutting drawing" is made, generally on canvas, whose outlines are little more than a simple diagram for the guidance of the glazier, the outlines of the pieces being made to correspond exactly with the leaden ribs by which they will ultimately be fastened together. The glazier, who works under the superintendence of the glass stainer, having duly performed his share of the work, sends back the glass, cut to the required patterns, into the room of the stainer. The latter arranges the pieces of glass upon his table, and then, with a camel-hair brush, covers evenly the whole temporarily united surface with a coloring base or oxide, called *mat*, which is either red or black, as may be required. On this surface he next traces, with the proper pigments, (prepared generally with gum-water) the more elaborate outlines of the drawing, which are to be burned into the glass. All the coloring matter afterwards receives a coating with spirits of tar. After the pieces of glass have been thus prepared, they are taken away to be "fired," or baked, in a hermetically sealed kiln, where they remain for about nine hours, exposed to an exactly tempered intense heat, until the different colored metallic oxides have thoroughly combined with the surface of the glass.

The thick iron door in the front of the oven, or kiln, is carefully built up with bricks, previous to the "firing;" two long "nozzles," affixed to the door, being left projecting through the bricks, to enable the workmen from time to time to ascertain the exact stage of the burning-in process. The glass lies, with the painted side uppermost, on the iron shelves of the kiln, each shelf having been rendered perfectly level by a thin coat of whiting or prepared lime, to prevent any bending or deflection of the glass.

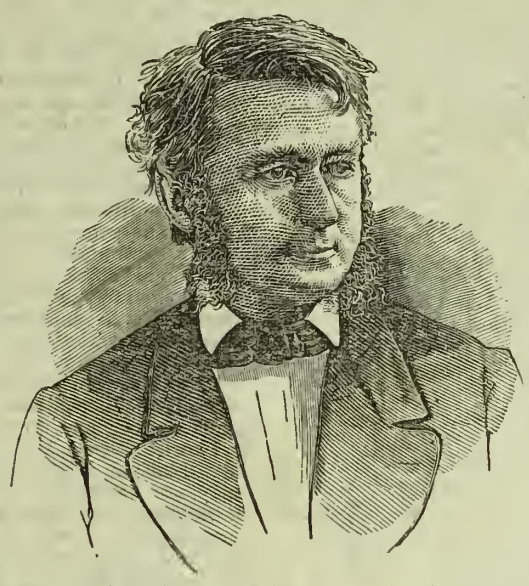
To indicate the attainment of the proper degree of heat, two small pieces of glass, called "watchers," are placed in front of the shelves within the oven, where they can easily be seen through the nozzles. The heat of the kiln, is regulated by an iron damper half way up the flue. When the workman sees that the colors have become thoroughly fixed through an incipient fusion, the fire below the kiln is at once drawn, and the glass left to cool of itself, or anneal, which it does in twelve or fourteen hours. The pieces, now totally changed and beautified, are sent back to the glazier, who, by the help of his cutting drawing, "leads them up," or sets them in the leaden frets, thus combining them in one harmonious whole. The apparatus for rough casting the frets, and for moulding them into the requisite forms, is very simple and effective.

In drawing the original cartoon, the special determination of the outlines is of the last degree of importance; for the leads will have to form the darker outlines of the picture—intensifying, instead of injuring, or in any way interfering with, the general effect. A carefully considered disposition of the drapery of figures must likewise be attended to, and such a judicious treatment be exhibited in the folds of the raiment, and in the smoother portions of the same as may serve to throw them into strong relief. It is impossible to get the "half shadows" of an ordinary picture into a glass painting, and numerous and interesting are the clever devices of the glass-stainer to obviate the difficulties inseparable from the exercise of this beautiful art.

## Editorial Notes Eastward.—8.

### Nevada to Utah.

Ever onward rushed our train, bearing us nearer our "home," as our elder generation in California still term the place of our nativity, however long we may have been on the Pacific Coast. Our children will no more think and speak thus of the East; and although it is pleasant to reflect on the strong tie between us now and our sister States, yet we cannot but be glad that on the shores of the grand Pacific our descendants will find "the dearest spot on earth—sweet home."



COL. THOS. A. SCOTT, PRESIDENT OF THE U. P. R. R.

We pass over the plains of Nevada, reaching and leaving behind the many towns whence radiate lines of travel to the north and south, and whence come the results of busy industry from the bosom of the earth to enrich the world. Past Carlin, Elko, Halleck, Toano, and soon we enter a new territory,—one far-famed throughout the world,—Utah, the chosen land of the Latter Day Saints.

### A Great Work and a Grand Celebration.

Before long, after having traveled some 800 miles from the Pacific Ocean, we reach the waters of an inland sea, Great Salt Lake. And while we are still slumbering soundly in our berths, we pass over a scene of a great work. For commencing some seven miles from Monument Station, between Lake and Rozel, the Central Pacific built ten miles of track in one day!—a feat never achieved before or since that time.

And while we sleep, unless the memory thereof incites us to rise at an exceedingly early hour of the morn, we pass by the scene of one of the grandest celebrations ever held in our land. Where, on the 10th day of May, 1869, the West and the East came together; where the iron links of the Atlantic and the Pacific were firmly connected by gold and silver rivets of California, Nevada and Arizona; where the iron horses of either slope, after a weary travel, met and rubbed noses in the most friendly fashion; and where was completed a work which, to a certain extent, may be fairly said to have revolutionized the trade of the world. How the last spike was driven, each blow echoing from the alarm bells of all the large cities in our Union; how speeches were made and friendships pledged in golden wine; and even "what the engines said,"—all these have been stated and restated in he journals of the land.

### The U. P. R. R. and its President.

The place where the rails met is not the place of the present junction of the Central and the Union Pacific. Ogden is now the junction, and at this place we leave the one road and pass under the management of the other.

THE MEETING OF THE ORIENT AND THE OCCIDENT—C. P. AND U. P. RAILROADS.

Since the completion of the road, the Union Pacific has changed its management, and is now under the charge of the first "railroad man" in our country,—the Honorable Thomas A. Scott. The attention of the East and of the West has lately been attracted to this gentleman on his being elected to the Presidency of the U. P., and there can be no question but that he will exercise a most powerful influence on the interests of our coast. The accompanying illustration will familiarize our readers with the features of one of the railway kings of the world, whose past history is being read with the greatest interest, and whose future actions are awaited with intense expectation, especially on our side of the continent. His management of the Pennsylvania Central R.R. and its associated lines is unrivalled in the records of railroad operations. D.

April 12, 1871.

## A Rain of Frogs in Arizona.

With the July number of the *Overland Monthly* is commenced the seventh volume of this most excellent magazine, which we heartily recommend to our friends. Among its pages we find the following concerning a (to us) new product of Arizona.

The phenomenon familiarly known as the "rain of frogs" has been ridiculed and contradicted by certain scientists; nevertheless, there is abundant proof to show that it has occurred, and probably will again. In 1864, the writer, in company with some fifty other travelers had personal experience of the fact. We were in Arizona, not less than twenty miles from any stream, pond, or water. The day was extremely sultry, and we had halted to let the animals graze and rest for an hour or two. Not a living thing besides ourselves and horses was in sight, and certainly no frogs were hopping over the the rich, tufted *gramma*-grass, which covered the ground for miles in every direction. Suddenly a dense, black cloud made its appearance, and it soon began to discharge a copious rain upon our unsheltered heads. The drops were very large, and the water quite warm. Nearly every person wore a broad-brimmed felt hat, which proved a great protection against the rain as well as against the sun. Our attention was soon arrested by the pelting of something which struck our hats like hail, but which proved to be frogs, and in less than two minutes the grass was fairly alive with those creatures. Several of the party took some from their hat-rims. Our unexpected visitors were all of one size, about a quarter of an inch long from nose to rump, very lively, and apparently in the best condition. Their fall had been broken by the springy, resilient nature of the grass. It is not probable that several hundred thousand, perhaps millions, of frogs had suddenly been hatched into life in the ground by the rain, or, if they had, that in their infantile glee they jumped five feet eleven inches from the earth to the top of our heads merely to show how the game of leap-frog should be played. Nor had they any such caudal appendages as are generally attached to juvenile *rana*. They came from above, in company with the rain; and this fact was made clear by holding out the hand and seeing them fall upon it, as well as finding them on our hat-rims. The eggs from which these reptiles sprung, had undoubtedly been drawn up into the atmosphere by the action of a water-spout, and held in suspension with aqueous particles long enough to hatch them out and give them perfect form; then, by the force of mutual attraction, the separated particles of vapor got together in such masses as to form heavy sheets of water, which, in turn, became amenable to the law of attraction of gravitation, returning to the earth from whence it had been drawn. In the fall new divisions were created, called "drops," among which the frogs descended, having been, obedient to similar forces, moving with the aqueous particles. This instance is cited to show that other things besides vapor are translated from earth to atmosphere by certain well-known and accredited developments of natural laws.

A New Class of people, says a writer in the *Bulletin*, is needed in the foot-hills before they can be made use of for what they are worth—a class of persons who have never been excited by seeing fortunes made suddenly, and who have not been subjected to the repeated failures of the hill stoics. Orange, fig and lemon orchards, walnut and almond groves, vines, etc., will be their common interest and support; a solitary fig tree ripening two or three crops, while grapes produce ten tons to the acre.

So let it be; but there is less imagination in, and more money just at present coming out of the gravel mines, which are good for 500 years to come.

The *College Courant*, an excellent paper always, is particularly good in the number of June 17. The article on the requirements of Yale University, by Prof. Dana, which was previously submitted to the professors, will interest all connected with universities. Published by C. C. Chatfield & Co., New Haven.

BY OUR LADY EDITORS.

## Mrs. Malony on the Chinese Question.

Och! don't be talkin'. Is it howld on, ye say? An didn't I howld on till the heart of mo was clane broke entirely, and me wastin' that thin you could clutch me wid yer two hands. To think o' me toilin' like a nager for the six year I've been in Ameriky—bad luck to the day I iver left the owld counthry! to be bate by the likes o' them! (faix an' I'll sit down when I'm ready, so I will, Ann Ryan, an' ye'd better be listnin' than drawn' your remarks) an' is it mysel' with five good charac'ters from respectable places, would be herdin' wid the haythens? The saints forgive me but I'd be buried alive sooner'n put up wid it a day longer. Sure an' I was the granchorn not to be lavin' at onct when the missus

kim into me kitchen wid her perlaver about the new waiter man which was brought out from California. "He'll be here the night," says she, "and Kitty, it's meself looks to yon to be kind and patient wid him, for he's a furriner," says she, a kind o' lookin' off. "Sure an it's little I'll hinder nor interfare wid him nor any other, mum," says I, kind o' stiff, for I minded me how these French waiters, wid their paper collars and brass rings on their fingers, isn't company for no gurril brought up dacint and honest. Och! sorra a bit I knew what was comin' till the missus walked into me kitchen smilin', and says kind o' sheared: "Here's Fing Wing, Kitty, an' you'll have too much siuce to mind his bein' a little strange." Wid that she shoots the doore, and I, misthrusting if I was tidied up sufficient for me fine buy wid his paper collar, looks up and—Howly fathers! may I never brathe another breath, but there stud a rale haythen Chineser a-grinin' like he'd just come off a tay-box.

If you'll belave me, the crayture was that yeller it, 'ud sicken you to see him; and sorra stitch was on him but a black nightgown over his trowsers and the front of his head shaved cleaner nor a copper biler, and a black tail a-hanging down from it behind, wid his two feet stook into the heathenestest shoes you ever set eyes on. Och! but I was up-stairs afore you could turn about, a givin' the missus warnin', an' only stopt wid her by her raisin' me wages two dollars, and playdin' wid me how it was a Christian's duty to bear wid haythins and taitch 'em all in our power—the saints save us! Well, the ways and trials I had wid that Chineser, Ann Ryan, I couldn't be tellin'. Not a blissed thing oud I do but he'd be lookin' on wid his eyes cocked up'ard like two poomp-handles, an' he widdout a speck or smitch o' whishkers on him, an' his finger nails full a yard long. But it's dyin' you'd be to see the missus a'larnin' him, and he grinin' an' waggin' his pig-tail (which was pieced out long wid some black stoof, the haythen chato!) and gettin' into her ways wonderful quick, I don't deny imitatin' that sharp, you'd be shurprised, and ketchin' and copyin' thiugs the best of us will do a-hurried wid work, yet don't want comin' to the knowledge of the family—bad luck to him!

Is it ate wid him? Arrah, an' would I be sittin' wid a haythen an' he a-atin' wid drum-sticks—yes, an' he a-atin' dogs an' cats unknownst to me, I warrant you, which it is the custome of them Chinesers, till the thought made me that sick I could die. An' didn't the crayture proffer to help me a wake ago come Toosday, an' me a foldin' down me clane clothes for the ironin', an' fill his haythin mouth wid water, an'afore I could hinder sqirrit it through his teath stret over the best linen table-cloth, and fold it up tight as innercent now as a baby, the dirty baste! But the worrest of all was the copyin' he'd be doin' till ye'd be dishtracted. It's yersel' kuows the tinder feet that's on me since I've bin in this counthry. Well, owin' to that, I fell into to the way o' slippin' me shoes off when I,d be settin' down to pale the praties or the likes o' that, and, do you mind! that haythin would do the same thing after me whinivir the missus set him to parin' apples or tomatorses. The saints in heaxen couldn't have made him belave he cud kape the shoes on him when he'd be paylin' anything.

Did I lave fur that? Faix an' I did'nt. Didn't he get me into throuble wid my missus the haythin? You're yersel' aware how the boondles comin' in from the grocery often contains more'n 'll go into anything dacently. So, for that matter I'd now and then take out a sup o' sugar, or flour or tay, an wrap it in paper and put it in mo bit of a box tucked under the ironin' blankit the' how it cuddent be bodderin' any one. Well, what shud it be, but this blossed Saturday morn the missus was a spakin' pleasant and respec'ful wid me in me kitchen when the grocer boy comes in an' stands fornenst her wid ihis boondles, an' she motions like to Fing Wing (which I never would call him by that name ner any other but just haythin) she motions to him, she does, for to take the boondles an' empty

out the sugar an' what not where they belong. If you'll belave me, Ann Ryan, what did that blatherin' Chineser do but take out sup o' sugar, an a handful o' tay, an' a bit o' chaze right afore the missus, wrap them into bits o' paper, an' I spachless wid shurprize, an' he the next minute up wid the ironin' blankit and pullin' out me box wid a show o' being' sly to put them in. Och, the Lord forgive me, but I clutched it, and the missus sayin' "Oh Kitty!" in a way that 'ud cruddle your blood. "He's a haythin nagar," says I. "I've found you out she. "I'll arrist him," says I. "It's you ought to be arristed," says she. "You won't says I." "I will," says she—and so it went till she give me such sass as I cuddent take from no lady—an' I give her warnin' an' left that instant, an' she a-pointiu' to the doore.—*Scribner's Monthly.*

Sober Children.—Joy is one of the main factors of mental development. The intellectual rank of any creature may be measured by the playfulness of its infancy. Who would buy a puppy with not a streak of fun in him, or a colt with no more friskiness than a worn-out cart horse? Your sober colt or puppy is either sick or stupid; and so, as a rule, is your habitually sober child. Go to our asylums for the weak-minded if you want to see patterns of sobriety; next to them the homes of intemperate and vicious parents. The fun-loving propensity of such little miserables, if they ever had any, has been crushed into untimely soberness by disease or ill-treatment, and they are not bright.—*College Courant.*

Ministers' Sons.—It is a current saying that ministers' sons and deacons' daughters are more likely than others to reject religion and fall a pray to the temptations of the world. The Rev. Asa Bullard has been gathering statistics to refute this proverb. Massachusetts and Connecticut furnished the field. In 448 ministers' and deacons' families there were 2,101 children over 15 years of age, of whom 1,404 were hopefully pious; 93 were in the ministry, or fitting for it, and only 34 dissipated. And all the remaining children, with very few exceptions, were respectable and useful citizens. Mr. Bullard challenges a comparison with these figures on the part of any other class or profession among parents.

## A Receipt for Preserving Boys.

We have receipts innumerable for preserving all kinds of fruits for a long period. Here is a good one for preserving *boys* for a whole lifetime—on a farm. Let every farmer who has boys try it. It is warranted to do no harm. Another thing; the boys want an interest in the business, and the sooner you give them an investment in the farm or its stock, the more likely you will be to make farmers out of them. It is true, the law gives you the right to the avails of their labors until they reach their majority. It may be true that these services are no more than a fair compensation for the expenses of their childhood. The intercourse of parents and children should not always be graded by legal scale. You do not want your son for a servant, but for a companion, and a support in your declining years. You want to attach him by affection and interests to the soil he cultivates. Begin then early to identify his interests with your business, as if he were under no obligations to you. If he fancies stock, give him what he likes, and let the increase be his. Especially encourage him to plant orchards or vineyards of the finest varieties of fruit. Teach him to bud, graft, prune, ripen and market all the fruits of your climate. Furnish him with all the books and facilities that he needs to study and to practice pomology and horticulture. If properly encouraged he will take an interest in these things very early, and before he is old enough to think of leaving your roof his tastes will be formed, and his course in life will be determined. His heart will go down into the soil with the root of every fruit tree that he plants; and the orchards and gardens of the old homestead, or of another close by, will be his paradise, from which nothing but necessity can drive him.—*Agriculturist.*

Babies.—We love little babies, and love everybody who does love babies. No man has music in his soul who don't love babies. Babies were made to be loved, especially girl babies, when they grow up. A man isn't worth a shuck who hasn't a baby, and the same rule applies to a woman. A baby is a spring day in winter, and if it is healthy and good natured, it is a bushel of sunshine no matter how cold the weather. A man cannot be hopeless as long as he loves babies, one at a time. We love babies, no matter how dirty they are. Babies are born to be dirty. We love babies because they *are* babies and because their mothers were lovable and lovely women. Our love for babies is only bounded by the number of babies in the world. We always look for babies; we do. We always have sorrowful feelings for mothers that have no babies and don't expect any. Women always look down-hearted who have no babies, and men who have no babies always gamble and drink whisky, and stay out nights trying to get music in their souls but they can't come it. Babies are babies and nothing can take their places. Pianos play out, and good living plays out, and beauty plays out, unless there's a baby in the house. We've tried it; we know, and we say there's nothing like a baby. Babies are a prolific subject, and we intend to talk more about the babies in the future. *Batavia Herald.*

Send your little child to bed happy. Whatever cares press, give it a warm good night kiss as it goes to its pillow. The memory of this, in the stormy years which may be in store for the little one, will be like Bethlehem's star to the bewildered shepherds. — "My father — my mother loved me!" Nothing can take away that blessed heart-balm. Lips parched with the world's fever will become dewy again at the thrill of youthful memories. Kiss your little child before it goes to sleep.—*Home Words.*

"Spy mirrors" attached to the windows of houses are becoming quite common in fashionable neighborhoods. They are suspended upon strong metal frames in such a way that a person can sit in the window out of view and see the callers and passers-by. The fashion originated in Holland, where they are so common that they are considered necessary adjuncts to every house, and are called "speigelen."

# Young Folks' Column.

## How Would You Have Done.

A prettier or more touching sight than I witnessed a few days since is seldom seen. A little brother and sister were trundling hoops in the yard when, neither seeing the other at the moment, they collided with such violence that I pitied their poor little heads from the bottom of my heart.

The sister, a child of very sensitive organization in every way, clasped her head instantly with her hands and cried bitterly. The brother, either slower to feel, or to express it, was a moment behind her in uttering his cry; but when he did utter it the sister looked at him in evident surprise that he, too, was hurt. Then throwing her arms around his neck, and choking back her own sobs, she kissed him again and again, begging him not to cry, assuring him she didn't mean to hurt him, and offering to give him a "nice swing."

Little boy, little girl, how would you have done? You and I may not naturally be as unselfish as little Mary, whose conduct was similar to this every day; but may we not all win more of the love of our friends, and the approval of our conscience, and of Heaven, by thinking less of our own comfort and gratification, and more of that of those around us?—*Rural New Yorker.*

## Two Faces.

I know a little girl who has two faces. When she is dressed up in her white dress and blue sash, and has on her blue kid shoes, and around her neck a string of pearl beads, then she looks so sweet and good that you would wish to kiss her. For she knows that company is going to call on her mother, and she expects that the ladies will say, "What a little darling!" or "What lovely curls!" or "What a sweet month!" and then kiss her little red lips, and perhaps give her some sugar plums. And the ladies who praise her think she is very lady-like too, for she always says, "Yes, mamma," and "No, mamma," when she ought, and says "Thank you," so sweetly, when anything is given her.

But when she is alone with her mother, then she is sometimes very naughty. If she cannot have what she would like, or cannot do just as she wishes, then she will pout and cry and scream; and no one would over think of kissing such homely lips, and no one would think her to be the same little girl who behaved so prettily in company. So, you see, this little girl has two faces. One she uses in company and puts on with her best dress; the other she wears when she is alone with her mother.

I know another little girl who has only one face, and that is always as sweet as a peach, and never so sweet as when alone with mamma. Which little girl do you like best? The one with two faces, or the other, who has one? And which will you be like?—*The Nursery.*

Looking into Heaven.—One day, while little five-year-old Daisy was walking out with her mamma, the sky became rapidly covered with heavy, black clouds, seriously threatening a storm. When hurrying anxiously along, the sun suddenly poured a flood of light through a rift in the clouds, reflecting brilliant rays down to the horizon. Daisy gazed upward with an intense expression, exclaiming—

"O, mamma! if I only could go down there, I know I could look directly into heaven."

"Down where?" inquired the mother.

"Why, down there, at the end of those bright streaks; I could look right up along that bright light, right into heaven, and see the angels!"

Begging His Pardon.—Mrs. R. had tried to impress on her boys that when they had any little difficulties among themselves, and the aggressor begged pardon, he should be forgiven on the spot, without having the matter referred to "the higher powers;" but one day Ken appealed to her, "Mother, Ivan struck me." "Well," says little Ivan, "I begged your pardon!" "But," said Ken, "you struck me several times." "And didn't I beg your pardon between every lick?" was the indignant inquiry.

That was a beautiful idea in the mind of a little girl, who, on beholding a rose bush, on the topmost stem of which a rose was fading, whilst below and around it three beautiful crimson buds were just unfolding their charms, at once and earnestly exclaimed to her brother, "See, William, these little buds have awakened in time to kiss their mother before she dies."

# Domestic Economy.

## Making Clothes at Home.

If you decide to make coat, vest, or pants yourself and the material of the outside is woolen, take off its selvage, and shrink the cloth. The advantage of this is that very little cloth being water-proof, this dampening evenly done, prepares the nap to receive all subsequent wettings without being spotted. And, also, as woolen cloth always shrinks in wetting, it is better to have it over before it is attached to linings that will probably always remain the same.

To accomplish this well, wring a sheet through warm water. Fold it, its whole length, through the middle. Spread it on a table, and lay upon it the cloth, very smoothly. Then fold cloth and sheet together, across their width. Let them lie thus an hour; if the cloth be very thick, two hours. At the end of that time remove the sheet and hang the cloth where it may dry smooth and straight.

In passing your hand over dressed cloth you will notice that a down stroke keeps the nap smooth; an upward one roughens it; so, in cutting, be sure that all parts lie the same way. Not only would a mistake in this cause portions of the garment to feel disagreeable to the touch, but make a difference in the shade of the color.

It is sometimes necessary to piece the cloth. This is called ranting; it is very careful work. See that the nap of each piece to be joined falls the right way. Bast the edges of the two together, in overstitch. Flatten this loose seam, and with a fine needle and silk pass close, short stitches across from edge to edge below the nap;—no stitch, not a speck of silk should be visible. It is slow, nice work; but with little practice it can be skillfully done. Dampen the seam and press it on the wrong side. A stronger way (it is generally done with thinner cloth) is to stitch the seam on the wrong side, like the usual seams, and then do the pass-stitches on the right side, as described above.

All buttons, and button-holes, and pocket corners, must be stayed with strips of stout linen, or silesia, laid between the lining and the outside through which the stitches are taken. Besides this, the corners of pockets should be stitched across twice, strongly, and barred in button-hole stitch.

You will need drilling, silesia, or linen for pockets and linings; also padding and canvas, to shape the coat and the vest,—as you will see by ripping an old one. Facings are strongest of alpaca; likewise bindings. Don't omit to sew leather shields—narrow strips of thin leather or thick kid—inside the hems of pantaloons: and along the lower edge, inside, of vest-fronts. These give a stiffness to those parts, and also protect the cloth from too great wear.

All seams are rubbed as flat as possible, dampened, and then pressed with a hot iron on the wrong side. If you do not wish a seam to show, scratch the nap in its channel, on the right side of the cloth, (using the point of your needle) till the seam is hidden. This before pressing. It will look well for some time, but is not so good a way as ranting.—*Western Rural.*

## Ammonia in the Household.

Sisters in household labors, have you any idea what a very useful thing ammonia is to have in the house? I will tell you how to use it. For washing paint put a tablespoonful in a quart of moderately hot water, dip in a flannel cloth, and with this simply wipe off the woodwork; no scrubbing will be necessary. For taking grease-spots from any fabric, use the ammonia nearly pure, then lay white blotting-paper over the spot and iron it lightly. In washing laces put about twelve drops in a pint of warm suds. To clean silver mix two teaspoonsful of ammonia in a quart of hot soapsuds, put in your silver-ware and wash it, using an old nail-brush or tooth-brush for the purpose. For cleaning hair-brushes, etc., simply shake the brushes up and down in a mixture of one teaspoonful of ammonia to one pint of hot water; when they are cleaned, rinse them in cold water and stand them in the wind or in a hot place to dry. For washing fingermarks from looking-glasses or windows, put a few drops of ammonia on a moist rag and make quick work of it. If you wish your house-plants to flourish, put a few drops of spirits of ammonia in every pint of water used in watering.

A teaspoonful in a basin of cold water will add much to the refreshing effects of a bath; nothing is better than ammonia-water for cleansing the hair. In every case rinse off the ammonia with clear water. Ten drops in a wine-glass of water is said to be an excellent remedy for headache and acidity of stomach, but I don't believe in newspaper doctoring, and so will not endorse the remedy. However, for a score of fair and square needed practical household purposes spirits of ammonia is invaluable, and I am not afraid to proclaim it. Farmers and chemists are profound concerning the native article in its free state, and admit its all-important services in the economy of nature; but farmers' wives throughout the country really know very little of the manifold uses that can be made of a pint of the spirits "kept in the house," bottled and labelled. I say emphatically, labelled, because it is a sin not to have all such things so conspicuously marked that no mistakes need occur.—*Hearth and Home.*

## The Art of Making Pies.

Of course, in this matter, as in every other branch of the culinary department, the best of material furnishes the elements of success. The finest grade of flour quite dry, and always thoroughly sifted, good butter and lard, as cold as possible, cold water, and a sharp knife. The molding board and pin are to be of marble or slate, in lieu of which we have seen used a large-sized platter, and a Farina cologne bottle filled with cold water. The process of making and baking should be done as expeditiously as possible.

In a suet crust, excellent for plain baked dumpling or meat pies, the weight of flour and minced veal suet are equal. This needs a little salt and must be wet with cold water.

A good wholesome potato crust consists of the same measurement of mealy potatoes, steamed and mashed, and sifted flour, wet with cream or rich new milk. When desirable to make very flaky crust, a scant teaspoonful of sal-volatile may be dissolved in the water with which the paste is to be wet. Sometimes a tablespoonful of alcohol or the white of an egg is used for the same purpose.

The fancy glaze with which pie crust and small cakes are often ornamented, is made by brushing the article when nearly done, with the white of an egg applied with a feather; over this is sifted some granulated sugar.

An excellent recipe which we have thoroughly tested will serve for a model of good pie crust. Place in an earthen dish one quart of sifted flour, into this mix thoroughly, by mincing with a knife, one cupful of hard lard and a pinch of salt; add sufficient water to barely make the crumbly particles adhere into a dough that may be rolled. Press it into a sheet a little over an eighth of an inch in thickness, always moving the rolling-pin from you; over this spread a third of a cup of butter to be used in bits, then sift over lightly a little flour, roll up, and proceed in the same way twice more, which will take in all the butter. Cover the plates smoothly with the crust, pressing it lightly in to fit the plate, dip the knife in water, and cut the edge evenly; if broad-rimmed plates are used, which look better for pies without an upper crust, cut the paste at the distance of an inch around the edge, and turn over the sections to form points.

Never butter pie plates, nor fill the crust until you are ready to put them into the oven.

A convenient way to prepare the crust is in the form of small tarts, or one large tart, either in the shape and size of a dinner-plate or a medium sized platter. The latter style is more novel. This may be baked and then filled with any variety of fresh fruit, strawberries, raspberries or sliced peaches, covered with sugar and cream, or with jam, jelly, preserves, or fresh green apple-sauce, highly flavored; over the latter ingredients is usually placed a meringue made of the whites of two eggs, four tablespoonsful of powdered sugar, the rind of an orange or lemon, well beaten, which may be piled up in any pretty form, then browned, by setting on the grate, in rather a cool oven, watching carefully, for the eggs burn quickly.—*Western Rural.*

Parlor Pea Vines.—Fill a wide-mouthed glass jar with water, and cover it over with a piece of "foundation," (the ladies will understand this;) cover that over with a layer of peas, pressing it down so that the peas will lie in the water; they will then swell and *sprout*, the roots growing down the water; their fine fibers presenting a beautiful appearance. Set this in a window and vines will grow up, which can be conducted to any height.

## Domestic Receipts.

Plum Jelly.—As the time is at hand when our lady readers will be putting up jellies, etc., we append the following for plum jelly:—Take as many plums as you have, and pour sufficient boiling water over them to cover them. Pour off the water immediately, draining them. Put your plums in a preserving kettle with boiling water enough to cover them again, and boil until the plums begin to open, and some juice is extracted. Then pour off the liquid and strain it, and add to each pint of juice one pound of white sugar; return it to the kettle and boil from 20 minutes to half an hour, as it may require, and you will have the most delicious jelly you ever tasted. The plums may be used for pies or sauce, and, if anything, are better after going through the above operation. The common wild plums do as well as any kind.

Boiled Indian Pudding.—Take sweet milk of sufficient quantity for the pudding desired; salt to the taste, and stir in Indian meal till a little milk will rise on the top by standing. If too thick it will be hard. Fill a pudding crock, and tie a cloth tightly over it. Put into boiling water sufficient to keep it covered, and boil steadily three hours. Fruit may be added, if desired. Serve with sweetened cream. This is an old-fashioned Connecticut pudding.

Fried Bread Sauce.—Mince a little lean ham, and put into a small stew-pan, with one chopped shallot, some grated nutmeg, mignonette pepper, and one-half pint of good gravy; simmer the whole on the stove-fire till reduced to half, then strain it with pressure through a tammy into another small stew-pan, containing four tablespoonsful of fried bread-crumbs of a light-brown color, and some chopped parsley, and a little essence of chicken, and the juice of one-half a lemon; stir the sauce till it boils, and serve. This kind of sauce is appropriate for all small birds, such as wheat-ears, ortolans, ruffs, reeves, etc., etc.

## Mechanical Hints.

How to Bronze Plaster-of-Paris Figures.—To bronze any plaster-of-paris bust or statue give it first a coating of varnish, taking care that every part is well covered. Let it stand out of the reach of dust until it is perfectly dry. Examine if carefully, and see how much of the varnish has been absorbed, and if any white spots appear, give another coating of varnish.

When the statue appears perfectly well covered, give it another and last coating of varnish, this time leaving it until about half dry, or until the finger, in touching it adheres with a *sticky feeling*. Place the statue on a clean sheet of paper, and with a soft camel's-hair brush, dust it all over with fine "golden bronze-powder." The powder that falls on the paper can be taken up on the brush and used again, until every part of the statue is bronzed. Dust all the loose powder from the statue with a clean brush, and you will be surprised at its beauty.

Several colors of the bronze-powder can be obtained, and used according to the the taste of the operator; and many little ornamental articles about the house, either iron or other articles, can be made to look like bronze in the manner above described.

[When bronze-powder is not at hand, the bronze shoe-varnish, for sale at most shoe shops, can be applied with excellent results. Battered images can readily be repaired with plaster-of-paris before the varnish is applied.]—*Hearth and Home.*

The Philosophy of Heating Nails.—Every one knows that cut nails are brittle and easily broken; but when heated to a red heat and then cooled slowly, they will generally clinch as well as wrought nails. Jacob Abbot thus explains the matter in Our Schoolday Visitor:—"Common nails, being cut out from a plate of iron by means of shears working with prodigious force, have the substance of the iron so compressed that they are somewhat brittle, and the points are apt to break off if we attempt to clinch them. But these common nails can be softened by heating them red hot in any common fire, and letting them cool slowly. The iron of nails, which is compressed and made hard by the action of the machine in which it is manufactured, is swelled out again by the heat of the fire and restored to its natural condition."

The first piano was made 153 years ago. The organ is probably over 1,000 years old. The clarionetto was invented about 200 years ago.

# Life Thoughts.

Language was given us that we might ay pleasant things to and of each other.

A good business habit and reputation is always money.

Labor to keep alive in your breast that little spark of celestial fire, *conscience.*

Gratitude is the music of the heart when its chords are swept by the breezes of kindness.

Blessed is the hand that prepares a pleasure for a child, for there is no saying when or where it may bloom forth.

Each day brings us its duties in the morning and carries them away with it in the evening.

Were we as eloquent as angels we should please some, more by listening than by talking.

True tears make men beautiful. True sorrows are, after all, but the seeds out of which come fairer joys. Sorrow is only the labor-pains when a joy is coming into birth.

No process is so fatal as that which would cast all men in one mould. Every human being is intended to have a character of his own, to be what no other is, to do what no other can do. Our common nature is to be enfolded in unbounded diversities. It is rich enough for infinite manifestations. It is to wear innumerable forms of beauty and glory.

Spare Moments.—Spare moments are the gold dust of time; and Young was writing a true as well as a striking line, when he affirmed that "sands make the mountain, moments make the year." Of all the portions of our life, the spare minutes are the most fruitful in evil or good. They are gaps through which temptations find easiest access to the garden.

## To Young Men.

It is easier to be a good business man than a poor one. Half the energy displayed in keeping ahead, that is required to catch up when behind, will save credit, give more time to business, and add to the reputation of your word. Honor your engagements. If you promise to meet a man, or to do a certain thing at a certain moment, be ready at the appointed time. If you have work to do, do it at once, cheerfully, and therefore more correctly and speedily, attend promptly to the matter on hand, and then as promptly go about your business. Do not stop to tell stories in business hours.

If you have a place of business, be found there when wanted. No man can get rich sitting around saloons and stores. Never "fool" on business matters. If you have to labor for a living, remember that one hour in the morning is better than two at night. If you employ others, be on hand, see that they attend to their duties, and direct with regularity, promptness, liberality. Do not meddle with any business you know nothing of. Never buy any article simply because the man who sells it will take it out in trade. Trade is money. Time is money. A good business habit and reputation is always money. Make your place of business pleasant and attractive; then stay there to wait on customers.

Never use quick words, or allow yourself to make hasty or ungentlemanly remarks to those in your employ; for to do so lessens their respect for you and your influence over them. Help yourself, and others will help you. Be faithful over the interests confided to your keeping, and all in good time your responsibilities will be increased. Do not be in too great haste to get rich. Do not build until you have arranged and laid a good foundation. Do not—as you hope or work for success—spend time in idleness. If your time is your own, business will suffer if you do. If it is given to another for pay, it belongs to him, and you have no more right to steal that than to steal money. Be obliging. Strive to avoid harsh words and personalities. Do not kick every stone in the path; more miles can be made in a day by going steadily on, than by stopping to kick. Pay as you go. A man of honor respects his word as he does his bond. Ask; never beg. Help others when you can, but never give when you cannot afford to, simply because it is fashionable. Learn to say no. No necessity for snapping it out dog fashion; but say it firmly and respectfully. Have but few confidants, and the fewer the better. Use your own brains rather than those of others. Learn to think and act for yourself. Be honest. Be vigilant. Try to keep ahead rather than behind the times. Young men, cut this out, and if there is folly in the argument, let us know.

## Patent Office Matters.

### New Publication of Patents, etc.

A late visit to the U. S. Patent Office, after an intervening space of three years, shows much improvement in the arrangement of affairs inside, and that business, in many particulars, is transacted more guardedly and rapidly. We recognized with pleasure most of the faces of the old examiners, a "little older grown," but seemingly riper and more replete in their official abilities.

We wish our government in all such important departments would cease its folly of changing its experienced servants periodically, for political reasons alone—a practice expensive, annoying, and be-littling to our national reputation.

### Publishing Patents in Full.

In a brief conversation with the Commissioner, Col. Leggett, we learned that after the 1st of July next, all patents issued will be printed separately, in pamphlet form, with the drawings, and sold at ten cents a copy. The size of the pages will be about 5 by 9 inches, or what is termed in the office "bill size." The present prices of printed copies varies from 50 cents to $1.50.

### Free Copies to Inventors.

An important circumstance for inventors in this change is the fact that the office, with much generosity, proposes to send every applicant for a patent, whether his petition is allowed or not, copies of all patents issued for the ensuing six months in the class in which his invention is placed. In some large classes this will give inventors an abundance of printed paper with much information that they are directly interested in.

### Distribution of "Public Docs."

This plan will effect a wiser distribution of the government's printing ink and papers than the old way of handing over to Congressmen the huge list of patent claims, with insignificant drawings, to be sent to their relatives of various grades, and political friends indiscriminately, [all of whom can vote, and, at least, make their X mark]. Some are used in filling up still-born book cases; other copies afford a few days amusement for the children, and a majority are finally used for lighting fires. or exchanged for wares with the tin peddlers who buy old rags and paper stock.

We are glad to see this move in a good direction, although we do not think it will prove a full success to send out the printed patents free in the way intended. It would be better, in our opinion, to send none to anybody unless solicited, but allow *everybody* to order copies of any class of patents for a nominal price, say one cent per page, which would more than pay the cost of printing in large numbers. We thank Commissioner Leggett for this action, however, which will mark an important era in the progress of the United States Patent Department, for with modifications it is bound to become a popular practice.

### A Much Needed Publication.

Colonel Leggett gave us a very correct opinion of a publication now most wanted by inventors and others, viz., a work which reviews the patents and inventions already made in each class and division, showing the present attainments, whereby persons interested in certain kind of inventions may readily obtain the information *they* specially desire without purchasing and being inconvenienced by voluminous pages of no value to *them* whatever. Such a work on American patents, given in bound volumes up to the present time, and the review continued in frequently issued pamphlets or circulars, for each division, so that each class could be subscribed for separately, would, in our opinion, become immensely popular and well patronized.

The capital city—headquarters of the great department—with its numerous solicitors, is *noted* for *no* periodicals by individuals for the benefit of mechanics and inventors.

I have had interesting and pleasant interviews with the officials in the various offices in the patent office, and have heard many plainly spoken compliments for the more than usual originality and ingenuity manifested by our Pacific coast inventors, towards whom a liberal feeling seems to prevail. The ready and just attention which our clients' applications have lately met, and the satisfaction universally expressed at the department in regard to the complete preparation of our cases, afford much gratification in return for our long diligence in doing our duty conscientiously and fully towards a noble class of patrons, *i. e.*, "INVENTORS." D.

Washington, June 3d, 1871.

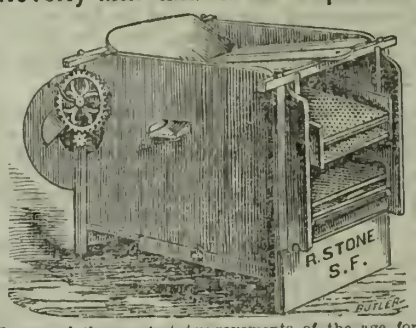
## California Silk Culture and Manufacture.

We clip the following from the *Bulletin* of the 26th inst.

Isaac N. Hoag, the Secratary of the State Agricultural Society, has just received the first order for State grown silk to be reeled into filature at the factory erected at South San Francisco. Three hundred and fifty pounds of silk in the cocoon was received from Sacramento on Saturday, and is now in process of reeling. The experiment will soon enable the California Silk Manufacturing Company to fix standard prices for the crude silk, as it shall be graded under the judgment of experience. The industry of silk growing will expand immensely and other silk manufactories will shortly spring into existence. We have been informed that the capacity of the factory at Bay View is only sufficient to manufacture between four and five hundred pounds of silk per week. This result would warrant an annual product of about 23,000 pounds of silk in the year. All converted into sewing silks, and silk trams and organzine for weavers. It is stated that a company of English gentleman who have been waiting for the operations of this factory to get their materials therefrom, are now preparing to start their looms which they have imported from England. They intend to manufacture ribbons. In a little time all the silk textiles will be woven here.

The commendable efforts employed to bring into existence a manufactory of silk in this city, and which has now attained an almost successful accomplishment, should induce our wealthy capitalists to come forward and aid in the erection of silk weaving factories. We shall soon have among us a number of French silk artisans, drawn here from our newspaper notices of the adaptability of the climate for the growing and manufacture of silk, and also as a result of the Franco-Prussian war.


THE PATENT
**Novelty Mill and Grain Separator**




Is one of the greatest improvements of the age for cleaning and separating Grain, while it combines all the essential qualities of a first-class Fanning Mill. It also far excels anything that has been invented for the separation of Grain. It has been thoroughly tested on all the different kinds of mixed Grain. It takes out Mustard, Grass Seeds, Barley and Oats, and makes two distinct qualities of wheat if desired.

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Dealer in improved and unimproved Farms, Grazing and Timber lands. Particular attention given to procuring small Farms and Homesteads for purchasers, claims for pre-emptors &c., in every part of the State.
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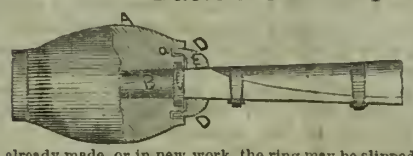
GRAY & HAVEN,
ATTORNEYS AND COUNSELORS AT LAW,
In Building of Pacific Insurance Co., N. E. corner California and Leidesdorff streets,
27v16 SAN FRANCISCO.

WIESTER & CO.,
No. 17 New Montgomery Street (Grand Hotel), San Francisco.
**PATENTS BOUGHT AND SOLD ON COMMISSION.**

**Patent Sand-Caps for Hubs of Vehicles.**



The invention consists of a ring of metal which is made conical in form and has its smaller end attached to the axle near the collar. The edge of the larger end projects into a groove, which is formed in the inner end of the hub, and thus effectually protects the collar and the axle-box from sand and dust. In the illustration, *A* is the hub of the wheel, *B* the axle, which may be fitted in any of the ordinary ways, *C* the collar, and *E* a ring of wood or metal, which may be put on by removing *C*. In the case of axles already made, or in new work, the ring may be slipped on before the axle is welded up. Town, County, Shop and State Rights for Sale.

**A New Patent Atmospheric Attachment to Dental Plates.**

Can be applied to both New and Old Plates, so as to retain them firmly in the mouth while eating or talking; superior to any thing ever before invented, cost of applying it small, and the greatest improvement immediately felt by the wearer.

All who have badly-fitting plates can, by the application of this Attachment, wear them with perfect comfort and usefulness while eating, talking, etc. State, County and Office Rights for Sale.

**Hill's Grate Bar.**

This Bar will withstand 800 degrees more heat than any other Bar now in use. It is unequalled in durability. It generates more steam from the same quantity of coal, making a saving of from 10 to 15 per cent. in fuel. It has been examined and used by some of the most scientific Engineers in the United States, and pronounced the best Grate Bar extant for marine or land boilers. The Patent Right to the Pacific Coast is placed in our hands for sale. A complete model can be seen at our office, or a descriptive circular will be sent on application.

**A New Potato Digger.**

County Rights for Sale and one Digger free.

**A New Patent Stencil Plate that will Mark any Name or Number.**

**A Complete Self-acting Nut Roaster.**

**The Best Horse Hay Rake ever invented.** County Rights for Sale.

**New Gas Light.**

This Light takes the place of the Candle, the Kerosene Lamp and Coal Gas. Each Lamp is a perfect Gas Factory, making its own gas as fast as it is required, It is a safe, cheap and beautiful light. Circulars and full particulars sent on application.

**The Triumph Washing Machine.**

He who finds a good wife finds a "good thing"—so we have heard it said—and he who finds a Washing Machine such as the one invented by Mr. Hockabont, finds a thing that will do to talk about. The fact is, this Machine is beginning to be talked about a great deal, and the more it is talked about the more fully people are becoming convinced that there is at least one Washing Machine that is not a humbug. It is simple in construction, and more simple in its operation. All that is required is to feed it with clothes and turn the crank. It is provided with a heating chamber which keeps the water hot and strains the clothes. While in operation there are three rollers which pass over the clothes very rapidly yet so gently as not to break the buttons or injure the garments. It would be difficult to enumerate in a brief advertisement all the superior merits of this novel invention. It can be built by any ordinary mechanic at a moderate cost and allow a handsome profit. State and County Rights for sale. A complete working model and large machine can be seen at our office.

**Lusher's Vegetable Cutter.**

There are few inventions for which there is a more general want than a good, cheap and rapid Vegetable Cutter. We think the one recently patented by John Lusher, of Indiana, fully meets this want. It costs but a trifle, never colors or rusts, will last many years and always keep sharp. It operates equally well on Potatoes, Cabbage, Turnips, Beets, Cucumbers, etc., cutting six slices at each movement of the hand. It can be made by any Tinsmith, and at a trifling cost. State, County or Shop Rights for Sale. Circulars sent on application. A sample can be seen at our office.

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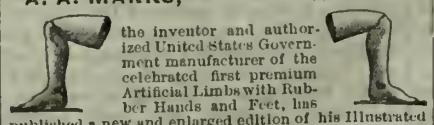

the inventor and authorized United States Government manufacturer of the celebrated first premium Artificial Limbs with Rubber Hands and Feet, has published a new and enlarged edition of his Illustrated Pamphlet, of importance to all who have suffered amputations, especially to officers and soldiers who lost their limbs in service. Copies sent free to applicants
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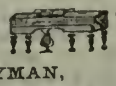
**Patent Agraffe Pianos,**
GRAND, SQUARE AND UPRIGHT.

Pianos to Let.



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ma18-tf Opposite old Capitol, SACRAMENTO.

Of a far Higher Class than any other proprietary medicine of the day stands

**Tarrant's Effervescent Seltzer Aperient,**

And for this reason: it is an exact counterpart of one of the most valuable natural medicines in the world. We refer to the great Seltzer Spring of Germany, to which thousands of the dyspeptic, the bilious, the rheumatic, and the victims of venal diseases resort annually, and return to their homes convalescent or cured. The Aperient is one of the first, and by far the most successful, of all the efforts made to reproduce, in a portable form, the popular mineral waters of Europe. SEE THAT YOU PURCHASE ONLY THE GENUINE ARTICLE.

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OF BATTLES, A History of the Franco-German War. By Brockett.
Accurate, reliable and complete. The only one published. Send $1.50 for outfit, and secure the best territory at once. Address J. W. GOODSPEED & CO., New York or Chicago. ap15-3m

## California Industrial Fairs for 1871.

The State Fair begins on the 18th, and ends on the 23d of September, at Sacramento.

The San Francisco Mechanics' Institute Fair begins on the 8th of August, and continues four weeks.

The San Joaquin Valley Agricultural Fair begins on the 12th, and ends on the 15th of September, at Stockton.

The Upper Sacramento Valley Agricultural Society's Fair begins on the 26th of September, at Chico.

The Santa Clara Valley Agricultural Society's Fair begins August 28th, and ends September 1st, at San Jose.

The Sonoma and Marin District Agricultural Fair will be held on the 25th of September, and continue six days, at Petaluma.

The times of the other Fairs will be inserted as received, and kept standing until the several Exhibitions shall take place.

# CITY MARKET REPORT.

## DOMESTIC PRODUCE AT WHOLESALE.

[The prices given below are those for entire consignments from first hands, unless otherwise specified.]

SAN FRANCISCO, Thurs., A. M., June 29th.

FLOUR—The market still continues quiet with little demand for either export or local use. We quote no change in current rates, although there is said be some cutting under on quoted prices. The market is getting slightly demoralized.

Transactions embrace 2,500 bbls. California extra, 2,000 bbls. Oregon extra.

We quote superfine, $6.37½@6.50; extra, $7.37½@7.50. Standard Oregon brands may be quoted $7.12½@7.25. Inferior grades are reported as low as $6.75.

WHEAT—Is still without demand for export, and with but little call for local use. We note but little change in prices since our last review. Good milling may be quoted at from $2.40@$2.45; other grades $2.30@2.35. Sales of 5,000 sacks have been reported, during the week, at current rates.

The Liverpool market was telegraphed on Wednesday at 11s. 9d. a decline since our last of 2d.—New York rates are given at $1.65.

BARLEY—Has been in fair demand for both feed and brewing, at slightly enhanced rates, in consequence of light receipts. Sales during the week have aggregated about 10,000 sks. The range of the market may be quoted at $1.85@1.95.

OATS—Are still in limited demand at reduced rates. Sales of 4,000 sacks are reported at from $1.65@1.85 for light to good, and $1.90@1.95 for choice.

CORN—The market may be quoted at $2.10@2.20, firm, with a large supply—an advance.

CORNMEAL—Is quotable at $2.50@3.50, according to quality.

BUCKWHEAT—Still quotable at $3.

RYE—Nominal at $2.50 for choice.

FEED—We quote: STRAW, $8@9; BRAN, $00.00@27.50; MIDDLINGS, $37.50@40.00; OIL CAKE MEAL $40.

HAY—The receipts are fair with good demand. We quote ordinary to choice at $15.00@$22.00 ₱ ton.

HONEY—Is coming in freely. We quote Los Angeles comb 13@14c. Potter's in 2-lb cans, $4.50 per doz.

POTATOES—We quote current rates $1.00@1.25. Fancy lots $1.30@1.37

HOPS—Demand light—prices nominal at 9@12½c.

HIDES—We quote Dry, slaughterer's stock, 17@18½c; Salted, 8@9½c. Sales during the week 2,170 Cal. dry, and 1,690 salted.

WOOL—The market is quiet on account of light receipts, but prices firm. Oregon receipts are fair. We quote the range of fair to choice shipping grades at 28@33c; inferior grades 26@30c; while fancy lots, as heretofore are still taken at an advance of regular quotations. Sales of 220,000 pounds are reported for the week.

TALLOW—The extremes may be quoted from 7¼@8¾c. A sale of 36,000 lbs. is reported at 7½@8¾c.

SEEDS—Flax 3@3½c., Canary, 7@8c., Alfalfa, 16c.

PROVISIONS—California Bacon 14½@15c; Oregon, 14@15; Chicago 14½c; California Hams 14@15; Oregon do, 15@15½c; California Sugar-cured Hams, 17@18c; Eastern do, 18@20c; Eastern do, 18@19c; California Smoked Beef, 13@14c.

BEANS.—Extremes of quotations—Bayo, $2.75@$3.00; Butter, small White and Pea, $2.12@$2.37; Pink, $1.75@2.00. The growing crop is promising and present prices mostly nominal.

NUTS—California Almonds, 10@15c for hard and 20@25c for soft shell; Peanuts, 7@8c; Hickory and Walnuts, 12½c; Pecan, 23@25c ₱ lb. Cocoanuts $15@16 per hundred.

FRESH MEAT—We quote slaughterer's rates, as follows:—

BEEF—American, 1st quality, 8@9c ₱ lb.
Do (very choice) 10c ₱ lb.
Do 2d quality 6@7 ₱ lb
Do 3d do 4@5c ₱ lb.

VEAL—Extremes, 6@9c.

MUTTON—4½@5c ₱ lb.

LAMB—May be quoted at from 6@6½c ₱ lb.

PORK—Undressed is quotable at 5@6½c. dressed, 8@9½—a decline of about one cent.

POULTRY, ETC.—Is in limited demand Hens $6.50@7.00; Roosters $6@7; Ducks, tame, $6@7 ₱ doz; geese, tame, $2.00@2.12½ ₱ pair; live turkeys, 18@20c ₱ lb.

WILD GAME—Hare, $1.50@$2.00;

DAIRY PRODUCTS—California Butter, fresh, in rolls, may be quoted at 27½@30c; California firkin butter, 25@30c. Eastern firkin 20@30c.

CHEESE—In fair supply, California new, 10@14c., Eastern, 16@17c. for new.

EGGS—California fresh, 29@30c.

LARD—California Lard, 11-lb tins, 14@15c; Eastern do. 14c in bulk, and 14¼@15c in tins

### GENERAL MERCHANDISE.

AGRICULTURAL IMPLEMENTS—Business in this line is becoming quiet. At the same time stocks of all kinds are said to be complete, which are sold at reasonable prices.

BUILDING AND FENCING MATERIALS—In fair demand for export—local demand more quiet. Cargoes of Oregon sell as follows: Rough, $14@15; Dressed, $24; Spruce, $16.50. The following cargo rates for Redwood Lumber have been established by the R. W. Lumber Association:

| | Merchantable. | Refuse. |
|---|---|---|
| Rough | $15 00 | $11 00 |
| Surfaced | 28 00 | 18 00 |
| Tongued and grooved | 28 00 | 18 00 |
| Tongued and grooved, beaded | 28 00 | 18 00 |
| Rustic, worked | 31 00 | 20 00 |
| Siding and battens, ½-inch | 20 00 | 14 00 |
| Surfaced, ½-inch | 25 00 | 18 00 |
| Picket, rough | 14 00 | ..... |
| Picket, rough, pointed | 16 00 | ..... |
| Picket, dressed | 22 50 | ..... |

DRIED FRUITS—In moderate request. We quote the market as follows: Cal. Dried Apples, 10@12c; Oregon do, —; Languedoc Almonds; 25c; Figs, Smyrna, 15@20c; Prunes, German, 12c ₱ lb; Raisins, layer, $3.50@4.25 per box; Currants, Zante, 10½@11½c.; 50c.

### TABLE OF MISCELLANEOUS.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sugar, crsh'd, lb | $ 14¾@ | $ 15 | Hemp Seed, lb, $ | 7 | @ | 9 |
| Hawaiian, do. | 9 @ | 12 | Castor Beans, lb. | 4 | @ | 4½ |
| Coffee, Cos. R, lb | 15½ a | 16 | Castor Oil, gal. | 1 75 | @ | 2 00 |
| Rio, do | 16 @ | | Linseed Oil, gal. | 1 05 | @ | 1 10 |
| Tea, Japan, ₱ lb. | 50 @ | 90 | Broom Corn, ₱ lb | 3 | @ | 5 |
| Green, do | 50 @ | 1 00 | Beeswax, ₱ lb | 27 | @ | 30 |
| Rice, Haw'n, ₱ lb | 8½@ | 9 | Peanuts, ₱ lb | 5 | @ | 7 |
| China, do | 6 @ | 7½ | Corn Meal, cwt. | 2 50 | @ | 4 00 |
| Coal Oil, ₱ gal. | 50 @ | 60 | Onions, cwt. | 1 50 | @ | 3 50 |
| Candles, ₱ lb | 15 @ | 18 | | | | |

## San Francisco Retail Market Rates.

FRIDAY, June 30, 1871.

### MISCELLANEOUS.

| | | | | | | |
|---|---|---|---|---|---|---|
| Butter, Cal fr. lb | 35 @ | 45 | Wool Sacks, new | 40 | @ | 90 |
| Pickled, Cal. lb | 35 @ | | Second-hnd do | 67½@ | | 70 |
| do Oregon, lb. | @ | | Wheat-sks, 22x36 | 15 | @ | 16 |
| Honey, ₱ lb. | 25 @ | 30 | Potato G'y Bags. | 23 | @ | 24 |
| Cheese, ₱ lb | 20 @ | 25 | Second-hnd do | 15 | @ | 16 |
| Eggs, per doz. | 30 @ | 35 | Deer Skins, ₱ lb. | 15 | @ | 22 |
| Lard, ₱ lb | 18 @ | 20 | Sheep sks, wl on | 50 | @ | 75 |
| Sugar, cr., 6½ lb. | 1 00 @ | | Sheep sks, plain. | 12½@ | | 25 |
| Brown, do, ₱ lb | 10 @ | 13 | Goat skins, each. | 25 | @ | 40 |
| Beet, do | 1 00 @ | | Dry Cal. Hides | Weak | | 18½ |
| Sugar, Map. lb. | 25 @ | 30 | Salted do | Dull | | |
| Plums, dried, lb. | 15 @ | 25 | Dry Mex. Hides. | 15 @ | | 16 |
| Peaches, dried, * | 15 @ | | Salted do | 9 @ | | |

### PRODUCE, ETC.

| | | | | | | |
|---|---|---|---|---|---|---|
| Codfish, dry, lb. | 6 00 @ | 12½ | Barley, cwt. | 1 75 | @ | 1 85 |
| Flour, ex, ₱ bbl. | 7 50 @ | 7 75 | Beans, cwt | 2 50 | @ | 3 00 |
| Superfine, do. | 5 50 @ | 6 00 | Potatoes, owt. | 1 25 | @ | 1 50 |
| Corn Meal, 100 lb. | 3 00 @ | 3 25 | Potatoes, new | 1 00 | @ | 1 50 |
| Wheat, ₱ 100 lbs. | 2 35 @ | 2 50 | Hay, ₱ ton | 16 50 | @ | 20 75 |
| Oats, ₱ 100 lbs. | 1 90 @ | 2 10 | Live Oak Wood. | 10 00 | @ | 12 00 |

### FRUITS, VEGETABLES, ETC.

| | | | | | | |
|---|---|---|---|---|---|---|
| Pine Apples, † | 5 00 @ | 9 00 | Cauliflower, † | 2 50 | @ | 1 25 |
| Bananas, ₱ lb | 3 00@ | 5 00 | Cabbage, ₱ doz. | 3 00 | @ | 1 50 |
| Cal. Walnuts, lb. | @ | 20 | Carots, ₱ doz. | 10 | @ | 25 |
| Cranberries, ₱ g | 75 @ | 1 00 | Celery, ₱ doz. | 75 | @ | 1 00 |
| Cranberries, O.¶ | @ | 1 00 | Cress, ₱ doz bun | 20 | @ | 25 |
| Apples, Early, bx | 50 @ | 1 25 | Dried Herbs, b'h | 25 | @ | 50 |
| Red Astra'n, | 1 50 @ | 2 50 | Egg Plant | | @ | 25 |
| Red June | 2 00 @ | 2 50 | Garlics | 5 | @ | 8 |
| Pears, table, ₱ bx | 75 @ | 1 25 | Green Peas, ₱ lb | | @ | 6 |
| Plums, Cherry,* | 6 @ | 8 | Green Corn, doz. | 25 | @ | 35 |
| June, ₱ lb | 10 @ | 12½ | Sugar Peas, ₱ lb | | @ | 6 |
| Apricots, Royal* | 3 @ | 4 | Lettuce, ₱ doz. | 12 | @ | 25 |
| Moorpark, ₱ lb | 3 @ | 5 | Musbrooms, ₱ lb | 25 | @ | 50 |
| White, ₱ lb | 2½@ | 4 | Horseradish, ₱ lb | | @ | 20 |
| Cherries, lb | 5 @ | 10 | Okra, dried, ₱ lb | | @ | 50 |
| Currants, lb | 6 @ | 8 | Okra, green, ₱ lb | 50 | @ | 75 |
| Gooseberries, lb. | 3 @ | 8 | Pumpkins, ₱ lb. | 3 | @ | 4 |
| Raspberries, lb | 18 @ | 20 | Parsnips, † bnchs | | @ | 25 |
| Strawberries, lb. | @ | | Parsley | | @ | 25 |
| Blackberries, lb | 8 @ | | Pickles, ₱ gal. | 50 | @ | 75 |
| Oranges, ₱ cwt. | 30 00 @ | | Rhubarb, ₱ lb | 6 | @ | |
| Lemons, ₱ cwt. | 5 00 @ | 7 00 | Radishes, † buns | | @ | 25 |
| Limes, cwt. | 25 00 @ | 30 00 | Green Peppers,* | | @ | 25 |
| Figs, dried, ₱ lb. | @ | | Red, do | | @ | 25 |
| Asparagus, wb.* | 6 @ | 10 | Summer Squash | 8 | | |
| Apricots, lb | 6 @ | 10 | Marrowfat, do. | | @ | 6 |
| Artichokes, doz. | 50 @ | 75 | Hubbard, do. | | @ | 5 |
| Brussel's sprts, * | @ | 15 | String Beans, lb. | 6 | @ | 8 |
| Beets, ₱ doz. | 20 @ | 25 | Dry Lima, shl. | | @ | 8 |
| Potatoes, ₱ lb | 2 @ | 3 | Spinage, ₱ bskt. | 25 | @ | 50 |
| Potatoes, sweet,* | @ | | Salsify, ₱ bunch | 12 | @ | 25 |
| Potatoes, new | 4 @ | | Turnips, ₱ doz. | | @ | 25 |
| Broccoli, ₱ doz. | 1 50 @ | 2 00 | New Tomatoes,* | 6 | @ | 8 |

### POULTRY, GAME, MEATS, ETC.

| | | | | | | |
|---|---|---|---|---|---|---|
| Chickens, apiece | 60 @ | 75 | Bacon, Cal., ₱ lb | 18 | @ | 20 |
| Turkeys, ₱ lb | 20 @ | 25 | Oregon, do | 18 | @ | 20 |
| Ducks, wild, ₱ p | | | Hams, Cal, ₱ lb. | 18 | @ | 20 |
| Tame, do | 1 50 @ | | Hams, Cross' s c | | @ | 25 |
| Teal, ₱ doz. | | | Choice D'ffield | | @ | 25 |
| Geese, wild, each | @ | | Whittaker's | | @ | 25 |
| Tame, ₱ pair | 2 50 @ | 3 00 | Johnson's Or. | | @ | 25 |
| From Chicago. | @ | | Salmon, ₱ lb | 10 | @ | 12½ |
| Hens, each | 75 @ | 85 | Smoked, new,* | 10 | @ | 12 |
| Snipe, ₱ doz. | @ | | Pickled, ₱ lb. | 6 | @ | 8 |
| English, do | @ | | Rock Cod, ₱ lb. | 10 | @ | 12 |
| Venison, ₱ lb | @ | | Kingfish, ₱ lb | 10 | @ | 15 |
| Quails, ₱ doz | | | Perch, s water, lb | 10 | @ | 12½ |
| Pigeons, dom. do | 3 00 @ | 3 50 | Fresh water, lb | 12½@ | | 15 |
| Wild, do | 1 50 @ | 2 00 | Lake Big. Trout* | 20 | @ | 25 |
| Hares, each | 40 @ | 50 | Smelts, ₱ lb | 6 | @ | 8 |
| Rabbits, tame | 50 @ | 1 00 | Herring, fresh | | | |
| Wild, do, ₱ dz. | 1 75 @ | 2 00 | Sm'kd, per 100 | | @ | 1 00 |
| Squirrel, ₱ pair. | 25 @ | 38 | Tomcod, ₱ lb | 15 | @ | 20 |
| Beef, tend, ₱ lb. | 20 @ | 25 | Terrapin, ₱ doz. | 3 00 | @ | 4 00 |
| Sirloin and rib | 18 @ | 20 | Mackerel, p'k, ea | | | |
| Corned, ₱ lb | 10 @ | 12 | Fresh, do | | | |
| Smoked, ₱ lb | 15 @ | 18 | Sea Bass, ₱ lb | | @ | |
| Pork, rib, etc., lb | 12½@ | 15 | Halibut | 62 | @ | 75 |
| Chops, do, ₱ lb | 12 @ | 15 | Sturgeon, ₱ lb | 4 | @ | 5 |
| Veal, ₱ lb | 15 @ | 20 | Oysters, ₱ 100 | 1 00 | @ | 1 25 |
| Cutlet, do | @ | 20 | Cbesp. ₱ doz. | | @ | 1 00 |
| Mutton chops,* | 12½@ | 15 | Turbot | | @ | 50 |
| Leg, ₱ lb | 12½@ | | Crabs ₱ doz | | @ | 1 00 |
| Lamb, ₱ lb | @ | 12½ | Soft Shell | 37 | @ | 50 |
| Tongues, beef, ea | @ | 75 | Shrimps | 10 | @ | 12 |
| Tongues, pig, ea | @ | 15 | Pompino, ₱ lb. | 1 00 | @ | |

* Per lb. † Per dozen. ¶ Per gallon.

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## Leather Market Report.

[Corrected weekly by Dolliver & Bro., No. 109. Post st.]

SAN FRANCISCO, Thursday, June 29.

SOLE LEATHER.—Price still continues the same, there being a scarcity of light weights.

| | |
|---|---|
| City Tanned Leather, ₱ lb | 28@30 |
| Santa Cruz Leather, ₱ lb | 26@30 |
| Country Leather, ₱ lb | 25@28 |

All French goods still have an upward tendency, with a growing scarcity of leading stocks. No change in domestic skins.

| | | |
|---|---|---|
| Jodot, 8 Kil., per doz | $62 00@ | |
| Jodot, 11 to 19 Kil., per doz | 82 00@ | 96 00 |
| Jodot, second choice. 11 to 15 Kil. ₱ doz. | 68 00@ | 88 00 |
| Lemoine, 16 to 19 Kil., ₱ doz | 96 00@ | |
| Levin, 12 and 13 Kil., per doz. | 68 00@ | 70 00 |
| Cornellian, 16 Kil., per doz. | 72 00@ | |
| Cornellian, 12 to 14 Kil., per doz. | 68 00@ | 70 |
| Ogerau Calf, ₱ doz. | 54 00@ | |
| Mercier Calf, 16 Kil., per doz | 65 00@ | |
| Common French Calf Skins, ₱ doz. | 35 00@ | 75 00 |
| French Kips, ₱ lb. | 1 10@ | 1 30 |
| California Kip, ₱ doz | 60 00@ | 75 00 |
| Eastern Wheel Stuffed Calf, ₱ lb | 80@ | 1 25 |
| Eastern Bench Stuffed Calf, ₱ lb | 1 10@ | 1 25 |
| Eastern Calf for Backs, ₱ lb | 1 15@ | 1 25 |
| Sheep Roans for Topping, all colors, ₱ doz. | 8 50@ | 13 00 |
| Sheep Roans for Linings, ₱ doz. | 5 50@ | 10 50 |
| California Russett Sheep Linings | 1 75@ | 5 50 |
| Best Jodot Calf Boot Legs, ₱ pair | 5 25 | |
| Good French Calf Boot Legs, ₱ pair | 4 50@ | 5 00 |
| French Calf Boot Legs, ₱ pair | 4 00 | |
| Harness Leather, ₱ lb | 30@ | 37½ |
| Fair Bridle Leather, ₱ doz. | 48 00@ | 72 00 |
| Skirting Leather, ₱ lb | 33@ | 37½ |
| Welt Leather, ₱ doz | 30 00@ | 50 00 |
| Buff Leather, ₱ foot | 20@ | 24 |
| Wax Side Leather, ₱ foot | 18@ | 20 |

## Our Printed Mail List.

Subscribers will notice that their names are printed on colored paper and pasted upon each copy of the PRESS. This is done by machinery, to expedite the issue of our paper, the regular edition of which has become too large to be convenient to send out by the old method of writing the names. The figures found on the right of the pasted slips represent the date to which the subscriber has paid. For instance, 21sp70 shows that our patron has paid his subscription up to the 21st of September, 1870; 4jy72, that he has paid to the 4th of January, 1872; 4j10, to the 4th of July, 1870. The inverted letters occasionally used are marks of reference, simply for the convenience of the publishers.

If errors in the names or accounts of subscribers occur at any time an early notice will secure their immediate correction.

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THOS. POYZER—California.
WM. J. CLARK—California.
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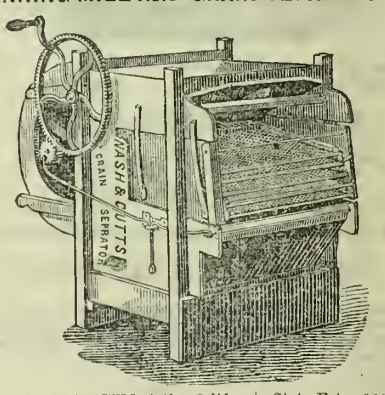


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| Owners' Names. | No. | Age. | Breed. | Sheared. | Scoured. |
|---|---|---|---|---|---|
| S. W. Crandall | 1 | 2 | Merino. | 19 2½ | 8.2¼ |
| Chamberlain | 2 | 2 | " | 8.10½ | 4 ⅓ |
| A. H. Clapp | 3 | 4 | " | 10.3½ | 5 6 |
| McMullen | 4 | | " | 16.3½ | 6 4½ |
| W. Cole | 5 | 1 | " | 13.7½ | 5 2½ |
| W. H. Holmes | 6 | 2 | " | 18 7 | 7.13½ |
| O. Bonan | 7 | 2 | " | 16 6 | 6.9 |
| J. D. Wing | 8 | 1 | Cotswold. | 18 9 | 11.27 |
| D. H. Barnes | 9 | 4 | " | 11.12 | 8.7 |
| J. D. Wing | 10 | 2 | " | 19 4½ | 10 6 |

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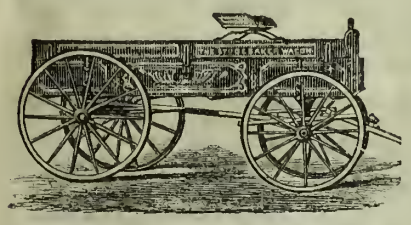

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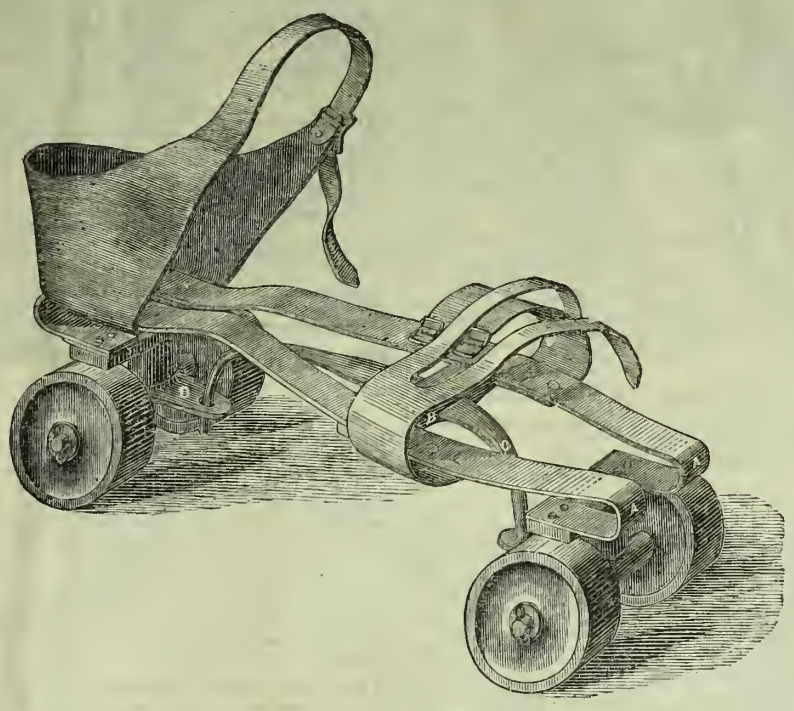

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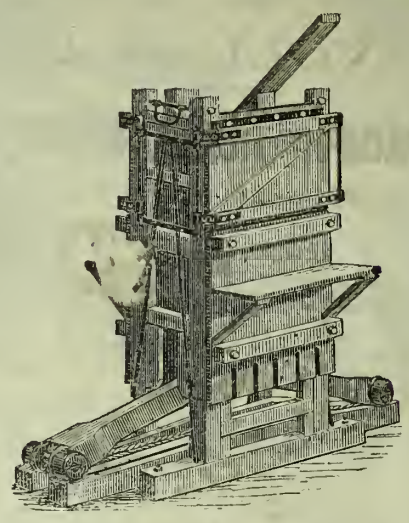

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# INDEX

— TO —

# VOLUME I

— OF THE —

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From January 1st to July 1st, 1871.


A

PAGE.

About Smoked Babies.... 394
Agricultural Represent'n 343
Agricult'l Excitements... 36
Agricultural Notes.. 101, 107, 133, 149, 165, 181, 197, 213, 229, 245, 261, 277, 293, 309, 325, 347, 357, 373, 389.
Agricultural Communities, Needs of..4, 36, 68, 116
Agricultural History..... 52
Agricultural Grounds, Ornamenting of..... ..... 85
Agricultural Society, St'e 28
Agricultural Commissioners' Visit .... ...... 392
Agriculture, State Board. 152
Agricul'ral, Report..57, 63 86
Agriculture, Progressive. 72
Agriculture, Short Papers 84, 100, 132, 156, 214
Agriculture, Diversified.. 209
Air, or Something Else... 311
Alder, The........ ...... 69
Alkali Soils, Reclaiming. 40
Alkali..................... 275
Amador Co., Travel in.... 211
Appetites, Artificial...... 235
Appetites, Eating Without ............ .... 327
Apples, Facts About ... . 372
Apples, Good.............. 225
Apple, Tree, Eve's........ 372
Aquarium, Immense..... 311
Arizona, Better Communication with..... ..... 179
Arizona, Agriculture In.. 134
*Artificial Limbs......... 310
Artesian Wells............ 120
A Soft Answer Turneth away Wrath............ 96
Asparagus, How to Raise it..................... 244
As the Twig is Bent, etc.. 218
Aunt Mary's Games....... 295
Australia, Industrial Progress..................... 227

B

Babies, Dressing.......... 58
*Baking by Machinery... 339
Bear Ye One Another's Burthens........ ....... 218
Beans without Pork. .... 299
Beef Dried................ 43
*Bee, The Sting of........ 391
Bees, Food for............ 53
Bees, Chloroforming..... 324
Bees, To Introduce Italian 324
Be Just before You're Generous................ 28.
Billiousness............... 4
*Blackberry, The Lawton 322
Bones Influenced by Food 311
*Boot Machine............ 339
Bottle of Oil............... 391
Boy's Triumph, The...... 122
Boys and Girls.. ...... ... 362
Brannan and His Projects 105
Bread Fruit Tree, A New 11
Breadstuffs, Consumption of......................... 306
Bread, New............... 139
Bread, Healthful Economy in....................... 219
Buckwheat Cakes........ 26
Buckwheat, Poisonous... 53
Building, Faults in ....... 84
Bulbs, Their Culture...... 25
Business, Chances ....... 390

C

Cabinet in Alameda....... 55
Cake Making. ............ 123
California and Oregon Personified ............ 371
California, When to Visit. 369
Cancer.................105, 231
Car, A New Palace....... 327
*Car Seats, Blood's Patent 73
Cast Thy Bread upon the Waters..................... 170
Catarrh........ ....... .. 199
Cattle, Short Horn....... 81
Cat I, Starving........... 117
*Cattle, Ayershires....... 305
Cattle, Short Horn....... 305
Castor Bean...........217, 291
*Cemetery, A Printers' .. 281
Cereals, Comparative Product of............ ..... 376
Chapter for the Month.74, 138, 202, 298
Child Angels............... 234
Childless Households..... 74
Children and Flowers.... 74
Cinchona Tree in Cal.... 291
City and Country......... 67
*Circle, Drawing a........ 156
Circles, Why Please the Eye....................... 156
Climates, Comparison of. 376
Climate on Man .......... 327
Cochineal Insect......275, 331
Colors on Health.......... 32
Colonization Movements. 54
Consumption, Pork and Alcohol Bad for.......... 375
Cooking and Eating....... 267
Cooking, Instruction in.. 312
Cooking, a Science....... 36
*Colusa and Yolo County, Travel in ................ 3
*Corn Husking............ 22
*Corn Sheller...........38 401
Corned Beef, Boiled...... 279
Cotton Culture..6, 70, 312. 406
Cradle, Don't Rock the... 359
*Chromos.................. 4
*Chromos, How Made.... 9
Crop that Never Fails... 276
*Crown of New England. 337
*Country House........... 49
Croup, Iced Water in..... 167
Cucumbers, Have Plenty 124
Cultivation, Good ........ 164

D

Dairy Stock................ 372
Dairy Products.... ...... 372
Dairying in Santa Cruz... 101
Descent of Man (poetry). 284
Desert, Cultivation of.... 35
Devils' Lake, Visit to.122, 247
Diamonds for Drilling.... 246
Diamonds, Searching for. 361
Diet and Endurance...... 279
Diet........................ 391
Digestion, Aids to.....135, 391
Dinner Time ............. 390
Disease and Carelessness. 375
Dishes, Mixed ........... 139
Dishes, How I Wash. .... 315
*Door Fastener. A Pocket 339
Domestic Industry........ 153
Donner Tragedy.. 42, 188, 194, 259
*Down Stream............ 252
Down the Coast.......259, 304
Drains, Sod .............. 28
Drouths, Lessons from... 29
Drunkenness, Philosophy 279
Dyspepsia................. 295
Dyspepsia, its Remedies . 39

E

Earthquake, Suggestion.. 209
*Eastward Bound..19, 36, 51, 67, 83.
Eating Without Appetite 171

PAGE.

Eating TO ..... 215
Eating and ...... 266
Eat, What ......e...... 283
Eat, How .......... 283
Eating Economically..... 313
Eating, Philosophy of.... 251
*Eclipse of 1870..... ..... 374
*Editorial Notes Eastward...265, 313, 329, 345, 361, 377, 393
Electricity, Steam vs.... 199
*Ellipsograph...... ....... 212
Eggs, How Many......... 164
Eggs, Packing.. ........ 164
*Engine, Ware's Traction. 201
Exhibition, Horticultural 65
*Eyes of Insects.......... 378
Eyes, Sore................ 135

F

Fairs, Exhibit at the..... 289
Fainting, Apoplexy ...... 103
Fallowing, Summer....89. 344
Farm House Chat.100, 182, 214
Farm, A Young Man Wants a................. 119
Farm, How to Make it Pay..... ................. 121
Farm, Uncle Sam's..... .. 230
Farm Wagon, Improved. 241
Farm Wagon, Studebaker 225
Farm, Home's Pleasant.. 247
Farm, A Settled Policy on 326
Farm, Novelties........21, 356
Farm, Requirements of a Successful.............. 372
Farmers, To Eastern...... 24
Farmers. Prosperity to... 56
Farmers and Miners...... 211
Farmers' Wives.......... 326
Farmers' Club, Santa Cruz..92, 140, 166, 220, 252, 300, 342, 380.
Farmer. Advice from an Experienced............ 148
Farmers, Hints to.....276, 294
Farmers' Sons............ 342
Farming, Novel........... 81
Farming, Unsuccessful... 36
Farming, Why it does not Pay....................... 131
Farming, Experimental in Tulare................. 148
Farming, Thorough... .. 247
Fashions, The............. 23
Fat vs. Lean People...... 295
Fata Morgana............. 227
Fence Question........... 360
Ferret, its Usefulness..... 230
*Fire Extinguisher. ..... 121
Fire Escape, A New...... 198
Fish as Food.............. 283
Flannel, Wearing... ..... 375
Flax, New Zealand....124, 140, 156, 169.
Floor, How to Sweep..... 347
Florists. Interesting to... 25
*Flour Mill, Improved.... 102
Flowers, Soil for.......... 105
Flowers, An. for Garden. 284
Flowers, How to Collect their Odors............ 395
Forest Culture, Artificial. 169
Forks and Sawmills ...... 187
Fretting, a Habit..... ... 187
Frogs, Dressing for Food. 187
Frying Meat and Potatoes 107
Fruit Culture, Variety in. 308
Fruit Trees, Trimming... 372
*Fruit and Vegetables in California................. I
Fruit Market, Our Future 348
Fruits, Exchange of....... 369
Fruits, instead of Medicine 359
Fuchia, The............... 284
Fuel, Granular............ 19

G

Game, Introduct'n in Cal. 72
Game, Hints in Cooking.. 107
Gardens, Farmers'..28, 41, 88, 120.
Gardening, Practical Experience in.... ......... 276
Geological State Survey . 232
Girls and Matrimony..... 170
Goats, Angora and Common......................... 356
Gold Medals............... 296
Gold Fish, Breeding of... 393
Gooseberries, To Prevent Mildew on............... 348
*Gopher Trap....... ..... 196
Gophers, How to Destroy 230
Gopher and Squirrel Sks. 358
Gough, John B............ 316
Grandmother Da e's Stories......................... 266
Grape Growing in Mt'ns. 231
Grape Growing, Profits of 22
*Grape, White Concord.. 145
Grape. The Ouachita..... 63
Grape Vines, A New Idea 22
Grape Vines, Training and Pruning......... ... 117
Grape Vines, Cut Worms Destroying. ............ 295
Grape Vines. Sulphur on.. 337
Grape Culture in the Foot Hills....................... 70
Grasses, About....168, 180, 201, 216, 376.
Grasshoppers, Protecting Trees from............. 275
Growing Old Gracefully.. 250

H

Hands, Delicate.......... 219
Hard Times and High Prices........ ......... 88
*Harvesting Machine, McCormick.... ........ 137
Haymaking, Philosophy. 388
*Hay Press, Eagle........ 196
*Hay Rake, Improved.... 247
Health.................... 59
Hedges, or Live Fences.. 152
Helpful Ela............... 106
Helpful Harrie........... 362
Hidden Life............... 278
Hogs, Currying o........ .. 5
Hogs, Clean and Dirty ... 5
How to Raise Large Porkers.................. 228
Hogs, Variety of Food for 228
Hog Raising in Los Angeles County............ 228
Hog, How He Sweats .... 228
Home Life................ 234
Home of Your Own, A.. ..116
Homes, Pleasant.......... 247
Homes, Rural............. 289
*Horse. The Percheron... 160, 276, 323, 369, 371.
*Hose Sprinkler.......... 230
Hotel Life in '49.......... 44
Housekeeping, A Story .. 23
Housekeepers, Hints..267, 299
Housekeepers, Scientific Knowledge Important.. 395
Houses, Bookless......... 23
*Hubs and Axles, Improvement in......... .. 227
Humboldt County, Agricultural Valleys of..140, 201
Humorous....108, 172, 236, 252, 284, 364.

I

Ice Boats..... ............ 103
*Idleness, Busy.......... 209
Immigrant Union, Cal.... 310

PAGE.

Information Wanted..132, 200
Inbreeding, Penalty Universal ..... .............. 152
Industry, Pacific Coast... 37
Insects Injurious to Vegetation... ............... 201
Institute, Mechanics'.... 172
Institute, Mechanics' Reception ................ 218
Invalids, Climates for.... 311
Ironing Made Easy....... 379
Irrigation, Winter........ 25
Irrigation, Ditches... .... 232
Irrigation, Successful.... 251
Irrigation in Northern Italy....................... 291
Irrigation a Necessity..... 292
Irrigation by Iron Pipes.. 307
Irrigation by Windmills.. 307
Irrigation, Facts about... 307
Irrigation, Important Enterprise.................. 316
Irrigation. Time, etc...... 355
It's an Ill Wind that Blows Nobody Good.... 138

J

John Eustace ............ 186

K

Kitchen, Wood for....... 139
*Kitchen, Chemistry of... 347

L

Lambskins, to Produce... 299
Land Matters....76, 92, 275 387
Land Decision..... ...... 246
Land Purification of....... 395
*Lantern, Hughe's Patent 54
*Lantern, The Novelty... 87
*Lantern, The Tabular... 164
*Lawn Mower............ 41
Lawn, How to Make..... 84
Lectures, Popular.—
Vaporization and Elastic Force of Steam........39 71
Evaporation & Rain Fall 55
Chemistry and Its Application..119, 135, 151, 167, 183 199
The Classics Allied to the Sciences................. 263
The Latin We Speak..... 279
The Greek We Speak.... 295
The Study of Modern Languages .............311 327
Deadly Weapons and Fire Arms..................... 375
War Correspondents..... 391
The Study of English..... 407
Life, Labor for Long..... 391
Life Thoughts, 11th page of every number.
Locomotive, The First... 67
Los Angeles, Great Valley of. ..................... 371
Laurel Wood, Disappearing....................... 393
Lotteries vs. Industries.. 374
Love is Mightier Than Fear...................... 202
Lower California......... 387

M

Markets. See 12th page each number.
Manures, An Essay....196 212
Manuring Lands in Cal... 4
Manufactory, A Huge.... 99
Marriage, A True......... 378
Mariposa Co., Travel in.. 118
Marin Co., Travel In...... 259
Meat Frying.............. 107
Meat Curing.............. 107
Meats, Cold................ 157
Meats, How to Buy....... 219
Meats, Eating Raw....... 251
Mechanical Progress, 2d page of every number.
Medical Convention...... 273
Medical Application...... 241
Melons vs. Beets for Sugar.. .................... 12
Melon Sugar Making..... 102
Merced Co., Travel in.... 99
Milk Adulteartion, How to Detect. ................ 332
Milk, Its Adulteration.... 235
Mint, The New............ 268
Montana, Agriculture in 67, 230.
Monterey Co., Travel in.92 114
Mothers Responsibility, A 154
Mulberry for Shade Trees 37
Mulberry Seed, Collecting and Planting ....... 225
Mustard Seed, How to Save.................... 392
Mutton, How to have Good...................... 267
My Neighbor.............. 330

N

Napa, 20 Years Ago....... 39
Native Sense vs. Book Learning................ 358
Neuralgia .... ....... .... 151
New Year, The Bright... 10
Norman Horse. See Horse Percheron,

O

*Olympic Games.......... 294
Opium, Culture of........ 20
*Orange Culture.......... 97
Orchard, Management of 208
Orchills .................. 104
Osage Orange. How to Propagate............... 184
Oysters, The Young of.... 60
Oysters In the Kitchen... 363

P

Paris. The Seige of....... 358
*Parks, One of Our....... 13
*Peabody George......... 390
Pear Culture.............. 308
*Pelican Flower.......... 105
Petaluma Home Institute 243
Plow, Sentiment from... 11
Plow. Singular Looking . 20
*Plow, The Fulton...... . 89
Plow, Steam for Tules... 209
*Plow Swivels........... 387
Plain Talk.... .......... 300
Plowing, Deep vs. Shallow..................... 89
Plowing Tournament. ... 180
Plowing Match at State Fair........... ......... 281
Plowing New Lands...... 376
*Pompei, Family Scene in 129
Poppy, Cultivation of.... 5
Premiums for Fruit....... 161
Prevention vs. Cure...... 359
*Printing Press. Autographic................ 212
*Proof Galley. Printers'.. 179
Politics and Industries... 344
Population, S. F.......... 294
Pork, Unclean............ 315
Pot on the Fire........... 251
Poultry, Our Presentation 83
Poultry, As a Business... 134
Poultry, Points in......... 134
*Poultry, Deterioration in 134
Poultry Raising. ......... 134
*Poultry Yards. Choice.. 185
Poultry Choice........... 216
Poultry, Advantages of Blooded.................... 5
Poultry, Thoroughbred in Sonoma................. 260
Poultry, Improving the Stock................... 292
How to Raise Turkeys.. 228
Profitable Fowls......... 228
Royal Java, New Variety..................... 228
Choice Poultry.......... 292
How to Distinguish the Breeds............... 293
Public Grounds....... ... 168
Putrid Food, Use of....... 203
Pyramids of Egypt....... 375

R

Raspberries............... 348
Rats, How to Get Rid of. 155
Raisins, Cal.............21 145
Raisin and Prune Culture 185
Railroad, The First... ... 67
Railroad, Northern Pacific.......... ......... 241
Railroad Narrow Gauge. 313
Railroad Progress........ 380
Ramie in Cal...... 20, 129 177
Rainy Season for 20 years 28
Rain Theory, Mendenhall's.............204, 300 332
Rain Fall in Stanislaus... 348
*Reaper and Mower, McCormick's........ ....70 249
*Reaper and Mower, The World...... ...... ..... 353
Receipts, Household and Mechanical, 11th page of every number.
Redwood, Thinned Out... 389
Remarkable Body of Water.... ................ 99
Rice, How Chinese Cook. 347
Right words from Right Source . ............. 276
Right & Left Theory..396, 403
*Road Steamer, Thompson's............ ....... 17
*Road Scraper..... ...... 153
Road Steamer for City Locomotion............ 228
Road Steamer, A New.... 342
Roble, Something About. 355
Rodent, Our Irrepressible 182
Rose, The Moss......... .. 284
Roses, Their Culture... . 25

S

Sage and Desert.. ....... 118
Sailor, A Woman......... 106
Salt Making in Alameda County.... ............... 70
San Bernardino Co...... 329
San Diego, Letter from.. 60
San Diego Correspondence..............131, 406
San Diego, Ag. Prospects in................... ..... 131
San Diego County Cajon Ranch................. 355
*Sand Caps for Wheel Hubs.................... 326
San Joaquin Co. Travel in 36, 69
San Joaquin County Resources................. 148
San Mateo... ........... 44
Sanitarium, Our.......... 364
Sanitary Effects of Coal Oil.................... 371
Santa Barbara as a Sanitarium ....... ........ 343
Santa Cruz, Letter from. 116
*Sash Tightner........... 339
Saved by a Shadow...... 58
Savings Banks............ 261
Saws, Filing.............. 65
Scientific Progress. 2d page of every number.
Season, Prospect of....... 65
Second-Class Cars, Travel in.................... 246
Seed Good, Importance of .................... 72
Seed Grass, Covering..... 247
Seminary, Sacramento... 393
Settlers, Interesting to... 355
*Sewing Machine, Lamp for............ ......... 44
*Sewing Machine, Tension Wheel for.......... 164
*Sewing Machine, Bobbin Winder................. 297
Sewing Machine Improvement .................... 316
Sheep Herding........... 21
*Sheep, The Southdown. 265
*Sheep, The Cotswold.... 289
Sheep, Importation of Full Bloods............. 312
Sheep Husbandry........ 37
Sheep Husbandry a Necessity.................. 223
Sheep Washing........... 340
Sheep Raising in Cal..... 223
Sheep Raising, Profit of.. 310
Sheep, Interesting Facts. 356
*Sheep, Disease of the Biflex Canal. ....... ... 356
Sheep, Fine............... 369
Shoes High Heeled....... 26
Sickness, What it Costs... 215
Silk Culture.....12, 40, 217 244
Silk Culture In the Mis... 212
Silk Culture in Utah..... 184
Silk Culture In New Zealand....... ............ 249
Silkworm, Feeding of Worms................. 262
Silk and Fish In Napa.... 52
Silk Project, A New...... 57
Silk Business, Progress of 249
*Silkworms.... .......... 273
Silk, Eggs from Japan... 293
Silkworm In Cal ......... 316
Silk, Spinning the Cocoons 324
Silk Manufacturing Co... 340
*Skates, Boone's.......... 257
*Skull, Calaveras......... 174
*Skin and its Functions.75 91
Sleep, Sound.... ......... 359
Sleep, Rules for.......... 375
Sleeping Coaches, New Erie ........... ....... 278
Small Fruit, Culture of... 322
*Snelling, History of..... 113
Sorghum Seed, Utilizing. 299
Soaps. To Make Good..... 118
Soaps, Make Your Own.. 155
Soups...................... 219
Spring Sickness, How to Prevent.... ............ 215
Squirrel Wisdom.......... 250
State Fair for 1871........ 257
State Fair Premium List. 71, 268.
State Fair, Eastern Visitors...................... 312
Stanislaus Co. Travel In.83 179
Starving Stock........... 156
"Stick".... ............. 355
*Stilts, A People on ...... 177
Stimulants, Effects of..... 391
Stock, Summer Ranges for 307
Stock, Full Blooded...... 328
Stomach, Water In the... 231
Stomach, What goes Into 295
Stone Making, Artificial.. 183
Stones, Ornamental of Nevada................... 361
Strawberries In Cal..... . 326
Strawberry Chests........ 358
Strawberries on High Bushes........... ....... 390
Stumps and Weeds, To Get Rid of.............. 121
*Studebaker Farm Wagon ....................225 260
Subterranean Stream.... 380
Sugar Supply..... ........ 215
Sugar Culture, Domestic. 200
Sugar Starch, etc......... 245
Sugar Beet. A Suggestion 6
Sugar Beet, Its Prospect. 8
Sugar Beet In Cal......... 21
Sugar Beet Interest...... 41
Sugar Beet, Its Profits... 53
Sugar Beet in San Jose... 85
Sugar Beet. Alvarado.... 145
Sugar Beet, The Interest. 296
Sugaries, Beet, Large and Small.................... 44
*Sunset on the Coast..... 65
Sunshine.................. 11
Sunshine. Benefit of...... 279
Surgical Success, Important.......................231
Swamp Land Titles.....76 92

T

Tahoe, Lake............. 7
Telegraphic Instrument. The First............... 377
Tea Tree. The Oregon.... 21
Tea and Silk Culture..... 225
Tea and Coffee Plant... . 307
Tea Drinkers, Comfort for 3.7
The Broken Window..... 234
The Doctor's Story....... 74
The Bunch of Lilacs...... 314
The Four Leaved Clover. 378
Teeth, Cause of Poor... . 311
Toads After a Shower.... 218
Toe Nails, Ingrowing..... 231
Transcontinental Traffic. 252
Tree Culture in Cal...... 193
Tree Culture, Cupressus Lawsonia................ 21
*Tree Planting, New Method.......... ....... .... 85
Tree Planting In Cal.... 1
Tree Pruning.......... .. 24

PAGE.

Trees, Forest, Cultivation of..... ............ 111
Trees, Pruning........... 124
Trees, Setting............ 168
Trees, Planting.......... 169
Tulare Co., What We See in........ ............... 232
Turkey, How to Bone.... 91
Tuolumne Co. Travel In. 131, 147.
Two-Horse Teams........ 243

U

Ulcer, Cured by a Dog.... 183
University, The State.... 55
Unemployed, A Few Words to..... .......... 192
Up Country Letters......58 75, 106, 122, 138, 188.

V

Vaccination............... 167
*Vehicles, Improvements in. ....... ............ 124
Vermont, Cattle and Fish Culture In. ............ 204
Vine, The Cultivation of. 136
Vineyard, Planting ...... 104
Vineyard, Decreasing the 232
Vineyard, Summer Pruning ... . ..... ....... 236
Vineyard, Third Year.... 308
Vinegar, A Good Article. 283
Vintage Prospect......... 308

W

Wagons, Cal. vs. Eastern 280, 340.

PAGE.

Walking, Uses of......... 270
Washing Dishes, Beecher on...... ................ 106
Was it a Dream.......... 10
*Water Lifter............ 278
Water, Our Supply ..... 291
Weed, Product of a Single. ......... ........ 84
Wells, Gas, of Erie, N. Y. 270
Whaling Incident at Monterey .................. 71
What we Want...... .... 56
What Aunt Mary Says... 155
What the Women Dream About ......... .... ... 346
Wheat, Diff. bet. Spring and Winter............ 56
Wheat, Hill Culture. .... 177
Wheat Market, The...... 136
Wheat Crop, Our. What of It.. ............ ... 348
Wheat, A Grain of........ 263
Wine, Ageing of......392, 401
Wood Preserving......... 231
Wool, The Season........ 278
Wool, Frauds Practiced. 270
Wool Washing............ 340
Womans Influence... ... 20
*Wulfenia, The Kidney Leaved .......... .... 25

Y

Yellow Stone Lake....... 345
*Yosemite, Hill's......... 9
Yosemite Valley......... 280

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"PACIFIC RURAL PRESS".—The PACIFIC RURAL PRESS of Saturday, which has just come to hand, contains a great amount of matter which will be of interest to farmers, manufacturers and mechanics. The subscription price—$4 per annum—is certainly a trifling sum for this model paper—devoted as it is to the best interests of the farmer on the Pacific Coast. We predict success to the PRESS.—*Independent.*

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Publishers Patent Agents and Engravers, No. 414 Clay st., San Francisco. Nov. 21, 1870.

## A CARD.

DECEMBER, 1870.

Having seen the prospectus of the PACIFIC RURAL PRESS, and believing there is great need in our comparatively new agricultural districts of such a journal as therein proposed, the undersigned do not hesitate to state that from the standing reputation and success of its publishers, (Messrs. Dewey & Co., proprietors of the SCENTIFIC PRESS,) we believe the new journal will be worthy of universal trial by our agricultural and rural population, and that its publication will be fruitful of much usefulness to its subscribers and in forwarding the development of our natural wealth and prolific resources.

CHAS. F. REED, President State Agricultural Society.
DR. J. S. CURTIS, Yolo Co.
WM. H. PARKS, late Prest. North'n Dist. Ag. Society.
ROB'T BECK, Sec'y Cal State Agricultural Society.
C. T. WHEELER, Member State Board of Agriculture.
ROB'T HAMILTON, member St. Board of Agriculture.
E MILLS, Member State Board of Agriculture.
I. N. HOAG, late Sec'y State Agricultural Society.
O. C. WHEELER, formerly Sec. State Agricultural Soc.
G. N SWEZY, Prest. North'n Dist. Ag. Society of Cal.
J. K. DOOK, Prest. San Joaquin Agricultural Society.
ROB'T WATT, State Controller.
JOHN BIDWELL, formerly Prest. Upper Sacramento Ag. Society.
EZRA S. CARR, Prof. of Agriculture and Ag. Chem., Cal. State University.
E. J HOLDEN, formerly Prest. San Joaquin Ag. Society.
HARMEN BAY, Prest. Upper Sacramento Ag. Society.
E. HALLET, Secy. Upper Sac. Ag. Society.
R. B. SWAIN, Prest Chamber of Commerce, S. F.
H. N. BOLANDER, Prest Bay Dist. Hort'l Society.
A. S HALLIDIE, Mechanics' Institute of the city of S. F.
HENRY KIMBALL, Prest. Odd Fellows Library, As'n S.F.

SCIENTIFIC AND RURAL PRESS.—L. P. McCarty, traveling and corresponding agent for the "Scientific" and "Rural Press," papers published by Dewey & Co., San Francisco, was in town this week soliciting subscriptions.....Miners and farmers can get more information from these journals in relation to their special vocations than from any other publications now being issued in the State..... The "Rural" was commenced with the year and promises to become a very popular agricultural paper, having already gained an extensive circulation.—[Sonora Democrat.

RURAL PRESS.—L. P. McCarty, traveling agent for the San Francisco "Rural Press," is now in this town soliciting subscribers and collecting statistics and other information for the paper.....The "Rural" is a large, well-conducted paper, containing a great variety of important information to the farmer, gardener, mechanic, or merchant, and we are pleased to see that it is attaining a large circulation throughout the State.—[San Joaquin Argus, Snelling,

THE "Scientific Press," of San Francisco, is a journal that is in full sympathy and action with the progress of the age; while it notices all the late scientific discoveries and improvements, it does not neglect "the weightier matters of the law," the wonderful agricultural, mechanical, mining, and railroad progress at this time in our great and enterprising Pacific States.—[N. Y. World.

NEW PUBLICATION.—The "Pacific Rural Press" is devoted to the agricultural interests of the State, and from the extensive and reliable means of acquiring information possessed by Dewey & Co., through their correspondents, we have no doubt this paper will be, as its first number promises, a desirable acquisition to the farming public.—[Lower Lake Bulletin.

ALKALINE SOILS.—We have not seen the last number of the "PACIFIC RURAL PRESS" but learn from the Sacramento "UNION" that that journal has a very instructive article on the various methods of relieving alkaline soils from the superabundance of salts which they contain.—[Daily Enterprise, Virginia, Nev.

PACIFIC RURAL PRESS.—The paper will be quarto in form, and contain in each issue sixty-four columns of matter, and be devoted principally to agricultural and horticultural matters. The subscription is $4 per annum: clubs of ten $3. Address Dewey & Co., 414 Clay street, San Francisco.—[Placer Herald.

NEW PAPER.—The "Pacific Rural," published by Dewey & Co., in San Francisco, is devoted to agriculture, and fills a void long felt in its department of literature on the Pacific Coast.....We wish it success.....It should be on the table of every farmer and mechanic in California.—

THE RURAL is an excellent paper for the farmers and orchardists of California, and of this fact they will be convinced by an examination of the paper.—[Grass Valley Union.

SCIENTIFIC PRESS.—This excellent journal, published at San Francisco, entered upon its 22d volume last Saturday. It should be well supported by the miners and mechanics of the State.—[Amador Dispatch

## What our Neighbors say of the Pacific Rural Press.

It is a beautiful and valuable sheet.—*San Jose Ind,*

The first No. evinces marked editorial ability.....Fills up a vacancy that has been felt in our agricultural department. ....With its publishers there is no such word as fail.—*Mt. Messenger.*

We believe every subscriber will be satisfied with the investment of the price of subscription, $4.—[*Sonora Dem.*

It is a work which no farmer should be without.—[*Yreka Union.*

An admirable specimen both as to execution and contents. ... Contains a large amount and great variety of attractive reading matter and several excellent illustrations.—[*Stockton Daily Ind.*

A large 16-page weekly. The Rural Press will be to the Pacific coast what Moore's Rural New Yorker is to the Middle and Northern States.—[*Encinal Alameda.*

Any intelligent farmer in the State will consider his money well invested by subscribing for the new paper. "Honest, intelligent and correct information will be faithfully given in behalf of and urging an improved cultivation of the soil, a greater diversity of products, better breeds of stock, better varieties of fruits, the culture of new products, the creation of new home industries, the adoption of improved implements, and happier and higher aims in life." —[*Encinal.*

They can, if they will, make it a creditable work. [We will that.] It opens well.

Excellent paper and type—and a first-class agricultural journal.. Its merits entitle it to a large circulation, which we apprehend it will speedily obtain.—[*Vallejo Recorder.*

We announce with pleasure the new paper by Dewey & Co., proprietors of that peerless paper, the Scientific Press.—[*Arizona Miner.*

We think the rural people of the Pacific Coast will have an organ second to none in the country.—[*Idaho Statesman.*

Just the kind needed on this coast, and merits an extended circulation.—[*Red Bluff Independent.*

PACIFIC RURAL PRESS, published by A. T. Dewey, W. B. Ewer, G. H. Strong and J. L. Boone. The paper is a success, and will supply a want long needed.

It has already attained to a large circulation....

Is running over with entertaining and instructive reading matter, and embellished with numerous engravings.

The heading is beautiful and appropriate.—[*Pajaronian.*

We cordially welcome it. The publishers, believing that the agricultural enterprises of this coast were sufficient to support a publication wholly devoted to its interests, determined to confine the *Scientific Press* to mining and mechanical arts, and have therefore started the *Pacific Rural Press.*

If the first number is to be taken as an earnest of what will follow, each week, we can advisedly say to all interested in agricultural pursuits..subscribe.—[*Vallejo Chronicle.*

Dewey & Co., publishers, have unusual facilities for publishing a superior paper for the farming community, and they are men of energy to do it.—[*Evangel, S. F.*

Such a paper has been in demand on this coast for some time, and we judge from the amount of agricultural information which it contains, that it fills the bill.

We notice that I. N. Hoag, of Yolo county, has been selected as one of the contributors to its pages.

It is the duty of the farmers to sustain it, and try and make it a success, which we believe will be done.—[*Yolo Mail.*

We have received this new home and farm journal, and like it well.

The publishers seem determined to make a popular, first-class rural home journal, well filled with interesting and elevating reading, with no unchastenese in either reading or advertising matter.

Having the countenance and encouragement of the prominent and most active agriculturists in California, and long experience in the publication of the "Scientific Press"—which will be continued entirely independent of the "Rural Press"—the public have ample assurance that the new effort to establish a first-class farm journal on this coast will prove a success.

Dewey & Co., San Francisco, are the publishers, and the price is low—$4 a year; or to a club of 10 or more, $3. Sample copies sent on receipt of a postage stamp.—["Alpine Miner."

The "Rural Press" will supply a want long felt in California, and we predict that it will acquire a large circulation among our agricultural population.

Unlike many so-called "agricultural" papers, it will not be exclusively devoted to horse-racing, prize-fighting, yachting, etc., but will be a respectable family journal.—[Democrat, Downieville.

We judge that it will meet the requirements of agriculturists. As publishers of the "Scientific Press," the name of Dewey & Co. is a guarantee that this new publication will meet with favor.—[Alpine Chronicle.

The farmer, horticulturist, the home circle and the housewife will find in it just the articles that will be pleasing and profitable to them.—[Christian Advocate, S. F.

It will represent the agricultural interests of California and the Pacific Slope. * * * With so much ability as to command a wide circulation and influence.—[Helena, (M. T.) Gaz.

Will be found worthy the patronage of the people of this State.—[Argus, Snelling.

We heartily welcome the new publication.

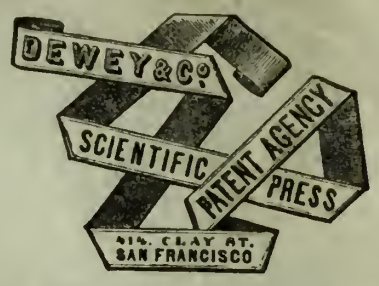
The interests of our own county are about equally divided between mining and farming.

Not a farmer in it, however well informed, but may learn something of value pertaining to his business, from an ably conducted paper, specially devoted to the consideration of the peculiar conditions of soil, climate and seasons of the Pacific Coast.

From the well known ability and energy of the publishers, we doubt not that the "Rural Press" will fulfill all these conditions.—[Iuyo Independent.

FROM A CORRESPONDENT.—I have seen your "Pacific Rural," and I never tire of looking at and studying its "head and front." It is a *taking* picture, and will induce many to take the paper. The contents are No. 1, also. W. H. M.

Send in your subscriptions at once to Dewey & Co., publishers, No. 414 Clay street, San Francisco.

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No. 414 Clay street, S. F.

NEW AGRICULTURAL PAPER.—No. 5 of the "Pacific Rural Press" came to hand this week, fully sustaining its former issues, and "speaking great credit" for the proprietors who have fairly established the "best" agricultural paper on this coast.... The editorials are written by an experienced hand, and can, therefore, be relied upon as correct.....The subject matter each number contains is worth more than the price of subscription.....We hail this advent in the agricultural field, and bespeak for the proprietors success in their enterprise, as the State and Coast has now a paper "fully up to the occasion," and one which cannot fail to become valuable and interesting. Price per year—$4.00.....We especially commend this new agricultural journal to our friends in Sierra Valley, not only as a repository of useful information, but also as a beautiful pictorial for their parlor tables.—[Mt. Messenger, Downieville.

NEWSPAPERS.—The San Francisco "Scientific Press," a journal that has accomplished more for the miners of this coast than all the professors and mining sharps from New Mexico to Dakota, has completed its 21st volume, and promises to continue its good work of instructing miners, mill-men and others, and making known the mineral resources of the mining States and Territories. The "Press" has the best wishes of one Arizona "Miner," for long life and great prosperity.....Its enterprising publishers, Dewey & Co., have just issued the first (sample) number of their new agricultural paper, "The Pacific Rural Press," which promises to be as useful to farmers, gardeners, etc., as their other "Press" has been to miners.—[Arizona Miner

YES, GIVE IT A TRIAL. This new publication is the best agricultural paper on the Pacific Coast. Our farmers will find it a valuable companion. It is issued by the publishers of the Scientific Press.—[Santa Cruz Times.

# A Pacific States Illustrated Home Journal.